

DECCAN HERALD 5/9/68 ✓

## Supervisors to monitor anganwadis' functioning

DH News Service

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The State Government has begun the process of recruiting 1,500 supervisors to monitor the functioning of 40,000 anganwadis in the State.

The Finance Department has now given permission to fill these posts which have been vacant for many years. The Department of Personnel & Administration Reforms is framing rules and there are now 450 supervisors.

Speaking to reporters, Minister for Women and Child Welfare Motamma said the women would be directly recruited for these posts and degree holders in sociology and home science would be preferred.

Under the Integrated Child Development Scheme, the government is spending Rs 1.25 daily for every pregnant woman, nursing mother and child in the age group of 3-6 years to provide nutritious food. This year the allocation has been hiked to Rs 1.50. The food is being supplied to people below the poverty line through anganwadis.

Energy foods such as sprouted grams, sweet pongal, egg etc would be provided. Zilla panchayats have already called tenders to give contract for supplying the food. As many as 13 lakh children would be covered under this scheme, she added.

Under the Prime Minister Gramodyog Yojane, weaning food for kids in the age group of 6 months to three years is provided.

For each baby, 80 paise is spent and the total grant is Rs 30 crore. Sprouted ragi power mixed with jaggery is being distributed as baby food. In all, 26 lakh poor children are provided with nutritious food by the government for which Rs 113 crore is spent annually.

**ANGANWADI:** She also said compared to other states, anganwadis are functioning well in Karnataka and even the central team during its visit to the State to assess the drought recently expressed satisfaction over the performance of anganwadis.

Asked whether the honourarium for anganwadi workers would be increased, the Minister said it may go by Rs 100 to 150 in the next current financial year. At present Rs 750 was the honourarium per month, she pointed out.

**STREE SHAKTI:** Referring to the successful scheme Stree Shakti of her department, Ms Motamma said there were 70,000 self-help groups of women and 14,21,626 were members. In the last ten months, Rs 21 crore has been saved by women and 62,604 groups have opened bank accounts. The interest paid on lending by the members was four per cent, she said. She also said for each group, the government is providing a grant of Rs 5,000 for each group and the total budget is Rs 22 crore.

Referring to another scheme Santwana, she said the scheme which gives shelter for women in distress, would be launched in 14 more districts. Now the scheme is operative in six districts.

NAME AND ADDRESS OF CDPO'S  
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ವ್ಯತಿ ತರಬೇತಿಯ ಮೂರು ತಿಂಗಳ ವೇಳಾಪಟ್ಟಿ

ಓರಿಂಟೆಂಡೀಶನ್

1ನೇ ದಿನ

- 10.00 - 1.00 : ಖಾಲಿ ಮಕ್ಕಳು, ರಾಜ್ಯ, ಅರಣ್ಯ ಮುಖಾಂತರ ಪರಿಚಯಿಸುವಿಕೆ.  
 2.00 - 3.30 : ಪರಿಸ್ಥಿತಿ ಪರಿಚಯಿಸಿಕೊಳ್ಳುವಿಕೆ.  
 3.30 - 5.00 : ಪಟ್ಟಣಕ್ಕೆ ದಿಡ್ಡಿ

2ನೇ ದಿನ

- 10.00 - 1.00 : ತರಬೇತಿ ಕೇಂದ್ರದ ಬಗ್ಗೆ ಪರಿಚಯ  
 2.00 - 3.30 : ತರಬೇತಿ ಕಾರ್ಯಕ್ರಮದ ಬಗ್ಗೆ ಪರಿಚಯ. ಸಭಾಂಗಣಗಳನ್ನು  
 ದಿಡ್ಡಿಸಿಕೊಳ್ಳುವ ಪಟ್ಟಣವಿಳಿಗಳು, ಪ್ರತಿ ದಿನದ ದಿವಸದಿಯನ್ನು  
 ಪರಿಚಯಿಸಿಕೊಳ್ಳುವಿಕೆ.  
 3.30 - 5.00 : ಪರಿಸ್ಥಿತಿ - ಸಾಕೆ ಪ್ರವೇಶ ಮೂಲಕ ಕಾರ್ಯಕ್ರಮಗಳು.

3ನೇ ದಿನ

- 9.30 - 10.00 : ಸಂಭೋಧನೆ  
 10.30 - 11.15 : ಭಾಷಣಗಳ ಮಕ್ಕಳ ಸಾಧನಮಾನ  
 11.15 - 11.30 : ಅಭಿ  
 11.30 - 1.00 : ಭಾಷಣಗಳ ಮಕ್ಕಳ ಸಾಧನಮಾನ (ಮುಂದುವರಿಯುವುದು)  
 1.00 - 2.00 : ಅಭಿ  
 2.00 - 5.00 : ಭಾಷಣಗಳ ಮಕ್ಕಳ ಸಾಧನಮಾನ  
 - ಆರೋಗ್ಯ ಸಾಕಾಣಿಕೆ ಪಟ್ಟಣವಾಂಶ  
 - ಅಭಿ  
 - ಸಾಮಾಜಿಕ ಸಾಕಾಣಿಕೆ ಅಭಿ  
 (ವಿಷಯಗಳ ಬಗ್ಗೆ ಪರ್ಸಿ, ರೋಲ್ ಪಿನ್)

4ನೇ ದಿನ

- 9.30 - 10.00 : ತರಬೇತಿಯ ವಿಷಯಗಳ ಬಗ್ಗೆ ರಾಜ್ಯ  
 10.00-11.15 : ಮಕ್ಕಳ ದಿವಸದಿಯ ಕಾರ್ಯಕ್ರಮಗಳ ಅಭಿವೃದ್ಧಿ  
 11.15 -11.30 : ಅಭಿ  
 11.30 -1.00 : ಮಕ್ಕಳ ದಿವಸದಿಯ ಕಾರ್ಯಕ್ರಮಗಳ ಸಂಪನ್ಮೂಲ (ಮುಂದುವರಿಯುವುದು)  
 1.00-2.00 : ಸ್ವೀಕರಿಸಿದ ವಿಷಯ  
 2.00-3.30 : ಸಮಗ್ರ ಸಾಕಾಣಿಕೆ ಯೋಜನೆಯ ಬಗ್ಗೆ ಪರಿಚಯ.  
 3.30-5.00 : ಸಮಗ್ರ ಸಾಕಾಣಿಕೆ ಯೋಜನೆಯ ಬಗ್ಗೆ ಪರಿಸ್ಥಿತಿ ಕಾರ್ಯಕ್ರಮ.

5ನೇ ದಿನ

- 10.00 - 1.00 : ನಮ್ಮ ಬಾಲವಿಕಾಸ ಯೋಜನೆಗೆ ಫಲಿ  
- ಯೋಜನೆಯ ಕಛೇರಿ  
- ಪ್ರಾಥಮಿಕ ಆರೋಗ್ಯ ಘಟಕ  
- ಅಂಗನವಾಡಿ ಕೇಂದ್ರ
- 1.00 - 2.00 : ಭೋಜನ ವಿಲಾಸು
- 2.00 - 3.15 : ನಮ್ಮ ಬಾಲ ವಿಕಾಸ ಯೋಜನೆಯಲ್ಲಿ ಅಂಗನವಾಡಿ ಕಾರ್ಯಕರ್ತೆಯರ ಪಾತ್ರ
- 3.15 - 3.30 : ತರಬೇತಿಯ ವಿಷಯಗಳ ಬಗ್ಗೆ ಮಾತು.
- 3.30 - 5.00 : ನಮ್ಮ ಬಾಲ ವಿಕಾಸ ಯೋಜನೆಯಲ್ಲಿ ಅಂಗನವಾಡಿ ಕಾರ್ಯಕರ್ತೆಯರ ಪಾತ್ರ (ಮುಂದುವರಿಯುವುದು).

6ನೇ ದಿನ

- 9.30 - 10.00 : ಪ್ರಾರಂಭ
- 10.00 - 11.30 : ನವೋದಯವನ್ನು ನಡೆಸುವುದು.
- 11.30 - 1.00 : ಗ್ರಂಥಾಲಯಕ್ಕೆ ಭೇಟಿ.
- 1.00 - 2.00 : ಭೋಜನ ವಿಲಾಸು
- 2.00 - 3.15 : ನಮ್ಮ ಬಾಲ ಭಾಗವಹಿಸುವಿಕೆ - ಶಬ್ದವಿ ಕಾಗುಣಿ ಮಹತ್ವ.
- 3.15 - 3.30 : :ಅಖ
- 3.30 - 5.00 : ನಮ್ಮ ಬಾಲ ಭಾಗವಹಿಸುವಿಕೆ - ಶಬ್ದವಿ ಕಾಗುಣಿ ಮಹತ್ವ.

ಶಾಲಾ ಪೂರ್ವ ಶಿಕ್ಷಣ

7ನೇ ದಿನ

- 10.00 — 1.00 : ಶಾಲಾಪೂರ್ವ ಶಿಕ್ಷಣವನ್ನು ಸಂಘಟಿಸುವಿಕೆ.  
 — ಅಪಶ್ಯಕತೆ ಕಾಗೂ ಪ್ರಾಮುಖ್ಯತೆ  
 — ಸರ್ವತೋಮುಖ ದಿಳವಣಿಗೆ ಸಾಧಿಸುವುದಕ್ಕೆ ಚಟುವಟಿಕೆಗಳು.  
 — ಭಾಗವಹಿಸುವ ಒಳಗಲು ಮತ್ತು ಬರ್ಜೆ.  
 1.00 — 2.00 — ಶಿಲಾಚನ ವಿರಾಮ.  
 2.00 — 3.15 : 0 — 6 ವರ್ಷ ವಂಶೋದ್ಭವಿಯಲ್ಲಿರುವ ಮಕ್ಕಳ ದಿಳವಣಿಗೆ  
 — ದಿಳವಣಿಗೆ  
 — ವಿಕಾಸದ ಮೈಲಿಗಲ್ಲು  
 — ಅಪಶ್ಯಕತೆ  
 3.15 — 3.30 — ವಶ್ಯಾನಗಳಿಗೆ ಸಮಯ  
 3.30 — 5.00 — 0 — 6 ವರ್ಷ ವಂಶೋದ್ಭವಿಯಲ್ಲಿರುವ ಮಕ್ಕಳ ದಿಳವಣಿಗೆ  
 ಮುಂದುವರಿಸಿಕೆ.

8ನೇ ದಿನ

- 10.00 — 1.00 : ದೈವಿಕ ದಿಳವಣಿಗೆಗೆ ಚಟುವಟಿಕೆಗಳು  
 — ಶಿಲಾರಂಗಣ ಕಾಗೂ ಒಳಾಂಗಣ  
 — ಆಟಗಳು (ಸ್ವಇಚ್ಛೆಯ ಕಾಗೂ ನಿಂತುಮಗಳು)  
 — ಅಭಿನಯ ಗೀತೆಗಳು  
 — ರಚನಾತ್ಮಕ ಚಟುವಟಿಕೆಗಳು  
 — ಪರಿಚಯ : 20 ನಿಮಿಷ  
 1.00 — 2.00 — ಶಿಲಾಚನ ವಿರಾಮ  
 2.00 — 5.00 — ದೈವಿಕ ದಿಳವಣಿಗೆಗೆ ದೀಕ್ಷಾಧಂತದ ಆಶಿಲಾಪಕರಣ ಕಾಗೂ ಉಪಕರಣಗಳ  
 ತಯಾರಿಕೆ, ವೆಂಡು, ನೂಲು ಹೋಲಿಸುವ ಧಾಳಿ, ಮಣಿಗಳು ಇತ್ಯಾದಿ.

9ನೇ ದಿನ

- 10.00 — 1.00 : ಭಾಷಾ ದಿಳವಣಿಗೆಗೆ ಚಟುವಟಿಕೆಗಳು  
 — ಶ್ರುತನ ಚಾತುರ್ಯ  
 — ನುನುನುನೆ ಚಾತುರ್ಯದ್ರಮ  
 — ಕಾಲುಗಳು ಮತ್ತು ಶಿಶು ಗೀತೆಗಳು  
 — ಕಥೆಗಳು  
 — ಭಾಷಾ ದಿಳವಣಿಗೆಯ ಆಟಗಳು.  
 1.00 — 2.00 — ಶಿಲಾಚನ ವಿರಾಮ  
 2.00 — 5.00 :: ಭಾಷಾ ದಿಳವಣಿಗೆಗೆ ದೀಕ್ಷಾಧಂತದ ಆಶಿಲಾಪಕರಣ ಕಾಗೂ ಆಶಿಲಾಪಕರ-  
 ಣಗಳ ತಯಾರಿಕೆ.  
 — ಹಿಲಾಂವಿಗಳು  
 — ಪಾನ್ಸಲ್ ದಿಲಾರ್ಕ್, ಸಂಗೀತ ಉಪಕರಣಗಳು, ಬನ್ನ ಮುಗಲು

10ನೇ ದಿನ : ಬಾಗವನ್ನು ವಿಸ್ತರಿಸುವುದಕ್ಕೆ ಸಂಬಂಧಿಸಿದ ಕೆಲಸ (ಶ್ರಮ ಅರಿವು)

- 10.00-1.00 — ಸಂವಿಧಾನ
- ದಿಕ್ಕುಗಳು
- ಸಮಯ
- ಪರಿಷತ್ ಪ್ರತಿ
- ಆಡಳಿತ, ಕಾರ್ಯಗಳು, ಕೆಲಸಗಳು.

1.00-2.00 — ಭೋಜನ ವಿಷಯ.

- 2.00-5.00 — ಭೋಜನವನ್ನು ವಿಸ್ತರಿಸುವ ಅಥವಾ ಸಾಕಾರೋಪಕರಣಗಳ ತಯಾರಿಕೆ.
- ಆಕಾರಗಳ ಪರಿಷಯ
- ಕೆಲಸಗಳ ವಿವರಿಸುವುದಕ್ಕೆ
- ಕ್ರಮ ಪ್ರಕಾರವಾಗಿ ವಿವರಿಸುವುದಕ್ಕೆ
- ಬಹುಮತ ಪರಿಷಯ
- ಸ್ಪರ್ಶ ವಿಷಯ
- ಒಳಗಡೆಗಳನ್ನು ವಿಸ್ತರಿಸುವುದಕ್ಕೆ (ಬಂದಿ ಚಲನಚಿತ್ರಗಳನ್ನು ಉಪಯೋಗಿಸಿ ಸಮಯೋಪಯೋಗಿಸುವುದಕ್ಕೆ)

11ನೇ ದಿನ : ವ್ಯಕ್ತಿತ್ವ ಸಾಮಾಜಿಕ ಸುಖ, ಭಾವನಾತ್ಮಕ ಶಿಕ್ಷಣದಿಗೆ ಸಂಬಂಧಿಸಿದ ಕೆಲಸ.

- 10.00 — 1.00 — ಕಾರ್ಯಗಳು
- ಭಾವನಾತ್ಮಕ ಕೆಲಸವನ್ನು
- ಗುರುತಿಸುವುದು ಅಥವಾ
- ಸಾಮಾಜಿಕ ವಿವರಿಸುವುದು
- ವಿವರಿಸುವುದು
- ಮೂಲ ಸುಖ, ನಿರೀಕ್ಷೆ ಅಥವಾ.

1.00 — 2.00 — ಭೋಜನ ವಿಷಯ

- 2.00 — 5.00 — ವ್ಯಕ್ತಿತ್ವ ಸಾಮಾಜಿಕ ಸುಖ, ಭಾವನಾತ್ಮಕ ಶಿಕ್ಷಣದಿಗೆ ಅಥವಾ ಸಾಕಾರೋಪಕರಣಗಳ ತಯಾರಿಕೆ.
- ವಿವರಿಸುವುದು
- ಮೂಲಸಾಧನಗಳು (ಸುಖವು ವಿವರಿಸುವುದು)

12 ನೇ ದಿನ : ಶಾಲಾಪೂರ್ವ ಸಮಯಗಳನ್ನು ವಿಸ್ತರಿಸುವುದಕ್ಕೆ ಪರಿಷತ್ ಸಂವಿಧಾನಗಳನ್ನು ಉಪಯೋಗಿಸುವುದು.

- 10.00 — 1.00 — ನಿರೀಕ್ಷೆ, ಗುಣಗಳು, ಕೆಲಸ, ವ್ಯಕ್ತಿತ್ವಗಳು ಇತ್ಯಾದಿ.
- 1.00 — 2.00 — ಭೋಜನ ವಿಷಯ.
- 2.00 — 3.30 : ಪರಿಷತ್ ಸಂವಿಧಾನಗಳನ್ನು ಉಪಯೋಗಿಸುವುದು ಸಾಕಾರೋಪಕರಣಗಳ ತಯಾರಿಕೆ.
- 3.30 — 5.00 : ಶಾಲೆ ಶ್ರಮ ಸಾಧನ.

13ನೇ ದಿನ : ಶಾಲಾಪೂರ್ವ ಸಮಯಗಳನ್ನು ವಿಸ್ತರಿಸುವುದಕ್ಕೆ ಪರಿಷತ್ ಪ್ರಧಾನ ವ್ಯಕ್ತಿತ್ವವನ್ನು ಉಪಯೋಗಿಸುವುದು.

- 10.00 — 1.00
- 1.00 — 2.00 : ಭೋಜನ ವಿಷಯ.
- 2.00 — 5.00 : ವಿಷಯಗಳನ್ನು ವಿವರಿಸುವುದು (ಉಪಯೋಗಿಸುವುದು)
- ಬಹುಮತ ಪರಿಷಯಗಳ ವಿವರಿಸುವುದು.

14ನೇ ದಿನ :

- 10.00 — 1.00 : ಸಮಾನ ವರ್ತನೆಯನ್ನು ವಿವರಿಸುವುದಕ್ಕೆ ಪ್ರಕೃತಿ ವರ್ಗ.
- 1.00 — 2.00 : ಭೋಜನ ವಿಷಯ.
- 2.00 — 5.00 : ಪ್ರಕೃತಿ ವರ್ಗವಿವರಿಸುವುದು ಸುಖವನ್ನು ಉಪಯೋಗಿಸುವುದು ಸಾಕಾರೋಪಕರಣಗಳ ತಯಾರಿಕೆ.

15ನೇ ದಿನ

- 9.30 - 10.00 : ಸಮಗ್ರ ಬಾಲವಿಕಾಸ ಓರಿಯಂಟೇಷನ್‌ನಲ್ಲಿ ಶಾಲಾಪೂರ್ವ ವಿಭಾಗ ಒಂದು ಮನಃಶಾಸ್ತ್ರವೇದನೆ.
- 10.00-11.15 : ಮಕ್ಕಳ ನಡವಳಿಕೆಯ ಸಾಮಾನ್ಯ ಸಮಸ್ಯೆಗಳು.
- 11.15 -11.30 : ಭವ್ಯಾನಕರ ಸಮಯ.
- 11.30- 1.00 : ಮಕ್ಕಳ ನಡವಳಿಕೆಯ ಸಾಮಾನ್ಯ ಸಮಸ್ಯೆಗಳು.
- 1. 00-2.00 : ಶಿಲಾಭಸನಾ ವಿರಾಮ.
- 2.00 - 5.00 : ಶಾಲಾಪೂರ್ವ ವಿಭಾಗ ಕಾರ್ಯಕ್ರಮವನ್ನು ಓರಿಯಂಟೇಷನ್‌ನಲ್ಲಿ.

16ನೇ ದಿನ

- 10.00 - 1.00 : ಶಾಲಾಪೂರ್ವ ವಿಭಾಗವನ್ನು ನಗರೀಯ ತಯಾರಿಗಿಳಿ ಲಘು, ಪಾಕೀಶಾಪ ಕರಣಗಳ ಉಪಯೋಗ.
- 1.00 - 2.00 : ಶಿಲಾಭಸನಾ ವಿರಾಮ.
- 2. 00 -5.00 : ಶಾಲಾಪೂರ್ವ ವಿಭಾಗ ನಗರೀಯ ಕ್ಷೇತ್ರದಲ್ಲಿ ವ್ಯಾಖ್ಯಾನಿಸುವ ಸಮಸ್ಯೆ ಗಳು ಶಾಗೂ ಲಘುಗಳನ್ನು ಬೆಳೆಸುವ ರೀತಿ - ಚರ್ಚೆ.

ಪೌಷ್ಠಿಕ ಆಧಾರ ಮಕ್ಕಳು ಆರೋಗ್ಯ

17ನೇ ದಿನ

- 9.30 - 10.00 : ದೈಹಿಕ ಪಾಠ್ಯವಿಷಯ.
- 10.00 -11.30 : ಲಗನಪಾಠ್ಯದಲ್ಲಿ ಉಪಯೋಗ ಶಾಗೂ ಪೌಷ್ಠಿಕಾಂಶ ಸೇವೆಗಳು.
- 11.30 -1. 00 : ಗ್ರಂಥಾಲಯಕ್ಕೆ ಭೇಟಿ.
- 1. 00 - 2.00 : ಶಿಲಾಭಸನಾ ವಿರಾಮ.
- 2.00 - 3.15 : ತಾಯಂದಿರಿಗೆ ಶಾಗೂ ಮಕ್ಕಳಿಗೆ ಪೌಷ್ಠಿಕ ಆಧಾರ.
- 3.15 -3.30 : ವಿಷಯದ ಬಗ್ಗೆ ಶಾಗೂ (ಮುಖ್ಯವಿಷಯಗಳು)
- 3. 30-5.00 : ತಾಯಂದಿರಿಗೆ ಶಾಗೂ ಮಕ್ಕಳಿಗೆ ಉತ್ತಮ ಪೌಷ್ಠಿಕ ಆಧಾರ.

18ನೇ ದಿನ

- 10.00- 1.00 : ಎದೆ ಪಾಲಿನ ಶಿಲಾಕೆ ಫಿನ್ ಆಧಾರ ಬರಹ. ಎದೆ ಪಾಲಿನ ಮಹತ್ವ, ಕಾಲಕಾಲಕ್ಕೆ ಮಕ್ಕಳಿಗೆ ಹಾಯಿಸುವುದು, ಫಿನ್ ಆಧಾರ. ತಯಾರಿಸುವುದಕ್ಕೆ ಓರಿಯಂಟೇಷನ್, ಸಂಬಂಧಗಳು ಶಾಗೂ ಲಘುಗಳನ್ನು.
- 1.00 -2.00 : ಶಿಲಾಭಸನಾ ವಿರಾಮ.
- 2.00 -4.30 : ಎದೆ ಪಾಲಿನ ಶಾಗೂ ಆಧಾರ ಶಿಲಾಕೆ ಬಗ್ಗೆ ತಾಯಂದಿರಿಗೆ ವಿಷಯ (ಚರ್ಚೆ, ಶಿಲಾಕೆ ಪಿಲ್ಲೆ)

19ನೇ ದಿನ

- 9.30 -10.00 : ತರಬೇತಿ ಕೇಂದ್ರದಲ್ಲಿ ಗಿಡಗಳನ್ನು ಶಾಗೂ ಪರಿಣಿತ ಸಮಿತಿಗಳನ್ನು ಸಿದ್ಧಪಡಿಸಿ.
- 10.00-11.30 : ದೈಹಿಕ ಪಾಠ್ಯ ಶಾಗೂ ಪರಿಣಿತ ಸಮಿತಿ.
- 11.30-1.00 : ಉಪಯುಕ್ತ ವ್ಯವಸ್ಥೆಯನ್ನು ಕಕ್ಕನನ್ನು ನೋಡುವುದಕ್ಕೆ ಭೇಟಿ.
- 1. 00 -2.00 : ಶಿಲಾಭಸನಾ ವಿರಾಮ.
- 2. 00 -3.15 : ಶುದ್ಧವಾದ ನೀರಿನ ಬರಹ.

- 2.00 — 3.15 : ಬುಧ್ಧವಾಸ ನೀರಿನ ಬಳಕೆ.
- 3.15 — 3.30 : ಸಮೂಹ ಗೀತೆ
- 3.30 — 5.00 : ಶುಭ್ರ ನೀರಿನ ಉಪಯೋಗ.

20ನೇ ದಿನ

- 9.30 — 10.00 : ಕವಿತೆ ಬರಹದಲ್ಲಿ ಮೂಲದ ಪಾಠಗಳ ಮನರಾವರ್ತನೆ.
- 10.00 — 11.15 : ಮಕ್ಕಳಿಗೆ ಶಿಕ್ಷಣ ನಿರೀಕ್ಷಾತ್ಮಕ ಮುಚ್ಚುಮುಚ್ಚು.
- 11.15 — 11.30 : ಪದ್ಯಾನುಕ್ರಮ ನಮೂನೆ.
- 11.30 — 1.00 : ಸೆನ್ಸಿಟಿವ್ ಮುಂದುವರಿಸುವುದು.
- 1.00 — 2.00 : ಫಿಲೋಜನಿ ದಿವಾಸ.
- 2.00 — 3.30 : ಅಪೂರ್ವತೆ : ಸುಪ್ರಸಂಗದ ವಿವರಣೆ, ಅಪೂರ್ವತೆಗೆ ಕಾರಣಗಳು.
- 3.30 — 5.00 : ಕಾಲ — ಅನಿರೀಕ್ಷಿತ ಸನ್ನಿವೇಶ.

21ನೇ ದಿನ

- 9.30 — 10.00 : ದೈಹಿಕ ಪಾಠ್ಯಾಯಾಮ.
- 10.00 — 11.30 : ಅಭಿಧಿ ಶಿಕ್ಷಣ ಭಾಗವಾ ಅಧ್ಯಯನ ತೆಗೆದುಕೊಳ್ಳಿ.
- 11.30 — 1.00 : ಅಭಿಧಿ ಶಿಕ್ಷಣ ತೆಗೆದುಕೊಳ್ಳುವ ಪ್ರಾಥಮಿಕ ತಂತ್ರಾಂಶವಿವರಣೆ.
- 1.00 — 2.00 : ಫಿಲೋಜನಿ ದಿವಾಸ.
- 2.00 — 3.15 : ಪಾಠ್ಯಕ್ರಮದ ಕೊರತೆಯಿಂದ ಉಂಟಾಗುವ ಕಾಯಿಲೆಗಳು. ಸಾಂಪ್ರದಾಯಿಕ ಚಿಕಿತ್ಸೆಯ ರಕ್ತ ಹೀನತೆ, ಕುರುಗುತನ (ಅಂಧತ್ವ) ಗಳಿಗೆ ಶಿಕ್ಷಣ.
- 3.15 — 3.30 : ಪದ್ಯಾನುಕ್ರಮ ನಮೂನೆ.
- 3.30 — 5.00 : ಸೆನ್ಸಿಟಿವ್ ಮುಂದುವರಿಸುವುದು.

22ನೇ ದಿನ

- 10.00 — 11.15 : ಸಾಮಾನ್ಯವಾಗಿ ಮಕ್ಕಳಲ್ಲಿ ಕಂಡು ಬರುವ ಶಿಕ್ಷಣ ರುಜಿನಗಳು.
- 11.15 — 11.30 : ರಜ
- 11.30 — 1.00 : ಸೆನ್ಸಿಟಿವ್ ಮುಂದುವರಿಸುವುದು.
- 1.00 — 2.00 : ಫಿಲೋಜನಿ ದಿವಾಸ.
- 2.00 — 3.30 : ಶಿಕ್ಷಣ ರುಜಿನಗಳಿಗೆ ಕಾರಣಗಳು ಭಾಗವಾ ಅಭ್ಯಾಸವನ್ನು ತೆಗೆದುಕೊಳ್ಳುವುದಕ್ಕೆ ಸಂಬಂಧಿಸಿದ ವಿಷಯ.
- 3.30 — 5.00 : ಗ್ರಂಥಾಲಯದಲ್ಲಿ ಓದುವುದರ ಬಗ್ಗೆ ಚರ್ಚೆ.

23ನೇ ದಿನ

- 9.30 — 11.30 : ವಿವರಣೆಯನ್ನು ಗುರುತಿಸುವುದು — ಬಾಳು ಒಲವು.
- 11.30 — 1.00 : ತುಳುಕು ಕಾಣುವ ಪ್ರತ್ಯಕ್ಷತೆ.
- 1.00 — 2.00 : ಫಿಲೋಜನಿ ದಿವಾಸ.
- 2.00 — 3.30 : ಮನು ಮತ್ತಿತರ ಜನರು, ವರ್ತನೆಯನ್ನು ನಂಬುವುದು ಗುರುತಿಸುವುದು.
- 3.30 — 5.00 : ತುಳುಕು ಕಾಣುವ ಭಾಗವಾ ವಿವರಣೆಯಲ್ಲಿ ಶಿಕ್ಷಣ ಚಕ್ರದ ಅರ್ಥ ವಿವರಣೆ.



24ನೇ ದಿನ

- 9.30 - 11.30 : ದಿವಸದಿಗಿಯ ನಕ್ಷೆಯ ಅರ್ಥ ವಿವರಣೆ.  
 11.30-1.00 : ಉಗನವಾಡಿ - ಬಾಲವಾಡಿಗಳಲ್ಲಿ ಮಕ್ಕಳನ್ನು ತುಳುಕು ಕೊಡುವಿಕೆ.  
 1.00 - 2.00 : ಭೋಜನ ವಿರಾಮ.  
 2.00 - 5.00 : ಕಾಯದಿಂದ ದಿವಸದಿಗಿಯ ನಕ್ಷೆಯ ಬಗ್ಗೆ ಚರ್ಚಿಸುವಿಕೆ.

25ನೇ ದಿನ

- 9.30 - 10.00 : ವ್ಯಾಯಾಮ ಮತ್ತು ಪ್ರಾರ್ಥನೆ.  
 10.00-11.30 : ಉಗನವಾಡಿಯಲ್ಲಿ ಮೂರನೇ ವಾರದ ತಯಾರಿಕೆಯನ್ನು ಸಂಪೂರ್ಣಗೊಳಿಸುವಿಕೆ.  
 11.30- 1.00 : ಉಗನವಾಡಿಯ ವಿವರಣೆ ಮತ್ತು ಅದರ ಮೂಲಕ ಅನುಸರಿಸಬೇಕಾದ ಸ್ವಚ್ಛತೆ.  
 1.00-2.00 : ಭೋಜನ ವಿರಾಮ.  
 2.00 - 5.00 : ಸರಳ ಆಹಾರ ಪದಾರ್ಥಗಳಿಂದ ಮೂರನೇ ವಾರದ ತಯಾರಿಕೆಯನ್ನು ತಯಾರಿಸುವಿಕೆ.

26ನೇ ದಿನ

- 10.00 - 1.00 : ಆರೋಗ್ಯ ಕಾರ್ಯ ವ್ಯವಸ್ಥೆ ವಿಷಯ.  
 1.00 - 2.00 : ಭೋಜನ ವಿರಾಮ.  
 2.00 - 3.15 : ಜನನ ಮಾರ್ಗ ಮತ್ತು ಜನನ ನಂತರ ಆರೈಕೆ.  
 3.15 - 3.30 : ರೋಗ.  
 3.30 - 5.00 : ಜನನ ಮಾರ್ಗ ಮತ್ತು ಜನನ ನಂತರ ಆರೈಕೆ.

27ನೇ ದಿನ

- 10.00 - 11.15 : ಮಕ್ಕಳ ರಕ್ಷಣೆ, ಮಾತು, ಬುದ್ಧಿಶಕ್ತಿ, ಮೂಲಕಗಳ ದಿವಸದಿಗಿಯ ಕೇಳಿಸಿಕೊಳ್ಳುವಿಕೆಯ ಅನುಷ್ಠಾನವನ್ನು ಪರಿಷ್ಕರಿಸುವಿಕೆ.  
 11.15 - 11.30 : ವ್ಯಾಯಾಮ ಸಮಯ.  
 11.30- 1.00 : ಮಕ್ಕಳ ರಕ್ಷಣೆ, ಮಾತು, ಬುದ್ಧಿಶಕ್ತಿ, ಮೂಲಕಗಳ ಕೇಳಿಸಿಕೊಳ್ಳುವಿಕೆಯ ಅನುಷ್ಠಾನವನ್ನು ಪರಿಷ್ಕರಿಸುವಿಕೆ (ಮುಂದುವರಿಯುವುದು).  
 1.00 - 2.00 : ಭೋಜನ ವಿರಾಮ.  
 2.00 - 3.30 : ಮಕ್ಕಳ ರಕ್ಷಣೆ, ಮಾತು, ಬುದ್ಧಿಶಕ್ತಿ, ಕೇಳಿಸಿಕೊಳ್ಳುವಿಕೆಯ ಮೂಲಕಗಳ ಅನುಷ್ಠಾನವನ್ನು ಪರಿಷ್ಕರಿಸುವಿಕೆ (ಮುಂದುವರಿಯುವುದು).  
 3.30- 5.00 : ರಚನಾತ್ಮಕ ಚಟುವಟಿಕೆಗಳ ಸ್ಪರ್ಧೆ.

28ನೇ ದಿನ

- 10.00 - 1.00 : ಪ್ರಾಥಮಿಕ ಆರೋಗ್ಯ ಕೇಂದ್ರಕ್ಕೆ ಅಥವಾ ಉಪಕೇಂದ್ರಕ್ಕೆ ಭೇಟಿ.  
 1.00 - 2.00 : ಭೋಜನ ವಿರಾಮ.  
 2.00 - 5.00 : ಜನನ ಚಕ್ರ - ಗ್ರಂಥಾಲಯಕ್ಕೆ ಭೇಟಿ, ಜನನಚಕ್ರ ಬಗ್ಗೆ ಚರ್ಚೆ.

29ನೇ ದಿನ

- 10.00 — 11.30 : ಸಂಘಮಟ್ಟ ಅಪಘಾತಗಳು, ಗಾಂವುಗಳು, ಕೂಟಗಳು, ರಸ್ತೆ ಶ್ರಾವಣಗಳಿಗೆ ಪರಿಶೀಲನೆ.
- 11.30 — 1.00 : ಪ್ರಥಮ ಚಿಕ್ಕಿಂವು ಪಟ್ಟಿಗಿಂವುನ್ನು ಉಪಯೋಗಿಸುವಿಕೆ.
- 1.00 — 2.00 : ಭೋಜನಾ ವಿರಾಮ.
- 2.00 — 3.30 : ಅಂಗನವಾಡಿಯಲ್ಲಿ ಆಹಾರ ಪದಾರ್ಥಗಳನ್ನು ರಾಸಾನು ಮಾಡುವಿಕೆ.
- 3.30 — 5.00 : ದಿನಾಂಶಿಯಾಟ ಸ್ಪರ್ಧೆ.

ಪುಸ್ತಕಗಳ ಮಾರಾಟ	:	10.00 - 11.15
ಪುಸ್ತಕಗಳ ಮಾರಾಟ (ಮುಂದುವರಿಯುತ್ತಿವೆ)	:	11.30 - 1.00
ಪುಸ್ತಕಗಳ ಮಾರಾಟ	:	11.15 - 11.30
ಪುಸ್ತಕಗಳ ಮಾರಾಟ	—	
ಪುಸ್ತಕಗಳ ಮಾರಾಟ	—	
ಪುಸ್ತಕಗಳ ಮಾರಾಟ	:	10.00 - 11.15
ಪುಸ್ತಕಗಳ ಮಾರಾಟ	:	9.30 - 10.00
<u>33ನೇ ದಿನ</u>		
ಪುಸ್ತಕಗಳ ಮಾರಾಟ	:	3.30 - 5.00
ಪುಸ್ತಕಗಳ ಮಾರಾಟ	:	2.00 - 3.30
ಪುಸ್ತಕಗಳ ಮಾರಾಟ	:	1.00 - 2.00
ಪುಸ್ತಕಗಳ ಮಾರಾಟ (ಮುಂದುವರಿಯುತ್ತಿವೆ)	:	11.30 - 1.00
ಪುಸ್ತಕಗಳ ಮಾರಾಟ	:	11.15 - 11.30
ಪುಸ್ತಕಗಳ ಮಾರಾಟ	:	10.00 - 11.15
<u>32ನೇ ದಿನ</u>		
ಪುಸ್ತಕಗಳ ಮಾರಾಟ	:	3.30 - 5.00
ಪುಸ್ತಕಗಳ ಮಾರಾಟ	:	3.15 - 3.30
ಪುಸ್ತಕಗಳ ಮಾರಾಟ	:	2.00 - 3.15
ಪುಸ್ತಕಗಳ ಮಾರಾಟ	:	1.00 - 2.00
ಪುಸ್ತಕಗಳ ಮಾರಾಟ (ಮುಂದುವರಿಯುತ್ತಿವೆ)	:	11.30 - 1.00
ಪುಸ್ತಕಗಳ ಮಾರಾಟ	:	11.15 - 11.30
ಪುಸ್ತಕಗಳ ಮಾರಾಟ	:	10.00 - 11.15
ಪುಸ್ತಕಗಳ ಮಾರಾಟ	:	9.30 - 10.00
<u>31ನೇ ದಿನ</u>		
ಪುಸ್ತಕಗಳ ಮಾರಾಟ	:	3.30 - 5.00
ಪುಸ್ತಕಗಳ ಮಾರಾಟ	:	3.15 - 3.30
ಪುಸ್ತಕಗಳ ಮಾರಾಟ	—	
ಪುಸ್ತಕಗಳ ಮಾರಾಟ	—	
ಪುಸ್ತಕಗಳ ಮಾರಾಟ	:	2.00 - 3.15
ಪುಸ್ತಕಗಳ ಮಾರಾಟ	:	1.00 - 2.00
ಪುಸ್ತಕಗಳ ಮಾರಾಟ (ಮುಂದುವರಿಯುತ್ತಿವೆ)	:	11.30 - 1.00
ಪುಸ್ತಕಗಳ ಮಾರಾಟ	:	11.15 - 11.30
ಪುಸ್ತಕಗಳ ಮಾರಾಟ	:	10.00 - 11.15
ಪುಸ್ತಕಗಳ ಮಾರಾಟ	:	9.30 - 10.00
<u>30ನೇ ದಿನ</u>		

ಪುಸ್ತಕಗಳ ಮಾರಾಟ

2.00 - 3.30 : ಸಂದರ್ಶನ ಭಾಷಣಗಳು

3.30 - 5.00 : ಸಂದರ್ಶನ ಸಾಧನಗಳು

34ನೇ ದಿನ

- 10.00 - 11.15 : ಮನೆ ಭೇಟಿ
- 11.15 - 11.30 : ಸಮೂಹ ಗೀತೆ
- 11.30 - 1. 00 : ಮನೆ ಭೇಟಿ (ಮುಂದುವರಿಯುವುದು)
- 1. 00 - 2. 00 : ಫಿಲಾಜನ ಏರ್ಲಾಮ
- 2. 00 - 5. 00 : ಮನೆಗಳ ಭೇಟಿ (ಕ್ಷೇತ್ರ ಸಂದರ್ಶನ)

35ನೇ ದಿನ

- 9. 30 - 10.00 : ಪಾಂಡುರಾಮ ಭಾಗೂ ಪ್ರಾರ್ಥನೆ
- 10.00 - 11.15 : ಮಹಿಳಾ ಮಂಡಳಿ ರಚಿಸುವಲ್ಲಿ ಭಾಗೂ ಪಟುಪಟಿಗಳನ್ನು ರೂಪಿಸುವಲ್ಲಿ ಅಂಗನವಾಡಿ ಕಾರ್ಯಕರ್ತೆಯರ ಪಾತ್ರ
- 11.15 - 11.30 : ಭಾಗೂ
- 11.30 - 1. 00 : ಮಹಿಳಾ ಮಂಡಳಿ ರಚಿಸುವಲ್ಲಿ ಭಾಗೂ ಪಟುಪಟಿಗಳನ್ನು ರೂಪಿಸುವಲ್ಲಿ ಅಂಗನವಾಡಿ ಕಾರ್ಯಕರ್ತೆಯರ ಪಾತ್ರ
- 1. 00 - 2. 00 : ಫಿಲಾಜನ ಏರ್ಲಾಮ
- 2. 00 - 5.00 : ಮಹಿಳಾ ಮಂಡಳಿಯನ್ನು ಪ್ರಾರಂಭಿಸುವಿಕೆ (ಚರ್ಚೆ)

36ನೇ ದಿನ

- 10.00 - 1. 00 : ಮಹಿಳಾ ಮಂಡಳಿಯ ಸಭೆಯನ್ನು ಮೂಡುವುದಕ್ಕೆ ವಿವರಿಸಿದ ಮಾರ್ಗವು (ಚರ್ಚೆ, ಮೆತ್ಯು ರಿಲಾಲಿ ಪಿಲ್ಲೆ)
- 1. 00 - 2. 00 : ಫಿಲಾಜನ ಏರ್ಲಾಮ
- 2. 00 - 5. 00 : ಮಹಿಳಾ ಮಂಡಳಿ ಸಭೆಯನ್ನು ಸಂಘಟಿಸುವಿಕೆ (ರಿಲಾಲಿ ಪಿಲ್ಲೆ)

37ನೇ ದಿನ

- 10.00 - 11.30 : ಆರೋಗ್ಯವಂತ ಮಕ್ಕಳ ಪ್ರದರ್ಶನ ಬಾಲ ಮೀಳ, ಆಜಿಲಾಟ ಗಳು ಭಾಗೂ ವಸ್ತು ಪ್ರದರ್ಶನದ ಮೂಲಕ ಸಮುದಾಯ ಭಾಗವಹಿಸುವಿಕೆಯನ್ನು ಭಾಗೂ ಸಮುದಾಯ ಭಾಗ್ಯತೀರೆಯನ್ನು ಮಾಡಿಸುವ ವಿಧಾನಗಳ ಬಗ್ಗೆ ಚರ್ಚೆ.
- 11.30 - 1. 00 : ಬಾಲಮೀಳ ಬಗ್ಗೆ ವಿವರಿಸುವುದು ಅಂಗನವಾಡಿ ಕಾರ್ಯಕರ್ತೆ-ತಯಾರಿಸಿದ ಸಾಧನಗಳ ಪ್ರದರ್ಶನ.
- 1. 00 - 2. 00 : ಫಿಲಾಜನ ಏರ್ಲಾಮ
- 2. 00 - 3. 15 : ಪೋಷಕ ಭಾಗೂ ಸಮುದಾಯ ಶಿಕ್ಷಣ
- 3. 15 - 3. 30 : ಡಿಪ್ಯೂಟಿ ಸಮಯ
- 3. 30 - 5.00 : ಪೋಷಕ ಭಾಗೂ ಸಮುದಾಯ ಶಿಕ್ಷಣ

38ನೇ ದಿನ

- 9.30 - 10.00 : ಪಾಂಡುರಾಮ
- 10.00 - 11.15 : ಪೋಷಕ ಭಾಗೂ ಸಮುದಾಯ ಶಿಕ್ಷಣವನ್ನು ನಡೆಸಬಹುದಾದ ಪದ್ಧತಿಗಳನ್ನು
- 11.15 - 11.30 : ಸಮುದಾಯ ಗೀತೆಗಳು
- 11.30 - 1. 00 : ಪೋಷಕ ಭಾಗೂ ಸಮುದಾಯ ಶಿಕ್ಷಣವನ್ನು ವಿಸ್ತರಿಸುವುದಾದ ಪದ್ಧತಿಗಳನ್ನು
- 1.00 - 2. 00 : ಫಿಲಾಜನ ಏರ್ಲಾಮ
- 2. 00 - 5. 00 : ಅಂಗನವಾಡಿ ಕಾರ್ಯಕರ್ತೆ ಸಮುದಾಯಕ್ಕೆ ಶಿಕ್ಷಣ ನೀಡಬೇಕಾದ ಕ್ಷೇತ್ರಗಳು

39ನೇ ದಿನ

- 9. 30 - 10.00 : ಪುನರಾವರ್ತನೆ
- 10.00 - 1. 00 : ಪೋಷಕ ಭಾಗೂ ಸಮುದಾಯ ಶಿಕ್ಷಣಕ್ಕೆ ಕಾರ್ಯಕ್ರಮ

ಗಲನು ಸಂಘಟಿಸುವಿಕೆ ಮತ್ತು ಉರಿಯುವಿಕೆ.

- 1.00 - 2.00 : ಭೋಜನಾ ವಿರಾಮ.
- 2.00 - 5.00 : ಭೋಜನಾ ವಿರಾಮ ಸಮಯವನ್ನು ವರ್ಧಿಸುವಿಕೆ.

40ನೇ ದಿನ

- 9.30 - 10.00 : ಪೂಜಾರ್ಪಣೆ.
- 10.00 - 1.00 : 3 ವರ್ಷಕ್ಕಿಂತ ಕಡಿಮೆ ಇರುವ ಮಕ್ಕಳ ದೀಪನೆಯನ್ನು ಸುಗೃಹಿಸುವ ಬಗ್ಗೆ ತಾಯಂದಿರಿಗೆ ವಿಷಯ.
- 1.00 - 2.00 : ಭೋಜನಾ ವಿರಾಮ.
- 2.00 - 5.00 : ವಾಕ್ ಶ್ರವಣ ಮಾಧ್ಯಮಗಳು - ಪೂಜಾ ವಿಷಯ.

41ನೇ ದಿನ

- 9.30 - 10.00 : ಪೂಜಾರ್ಪಣೆ.
- 10.00 - 11.30 : ಸಮುದಾಯ ವಿಷಯಕ್ಕೆ ಕೆಲವು ವಿಷಯಗಳು.
- 11.30 - 1.00 : ಸಮುದಾಯ ವಿಷಯಕ್ಕೆ ಕೆಲವು ಸಂದೇಶಗಳನ್ನು ತಯಾರಿಸುವಿಕೆ.
- 1.00 - 2.00 : ಭೋಜನಾ ವಿರಾಮ.
- 2.00 - 4.00 : ಮಹಿಳೆಯರಿಗೆ ಉತ್ತಮ ಡಾಕ್ಟರ್ ಸಾಮಾಜಿಕ ಕಾರ್ಯಕ್ರಮಗಳು.
- 4.00 - 5.00 : ಪೂಜಾ ವಿಷಯ.

42ನೇ ದಿನ

- 10.00 - 11.30 : ಅಂದಿ ಕಡೀರಿ ಅಥವಾ ಬ್ಯಾಂಕ್‌ಗಳಲ್ಲಿ ಸಣ್ಣ ಉದ್ದೇಶವನ್ನು ಮಾಡುವಿಕೆ.
- 11.30 - 1.00 : ಬ್ಯಾಂಕ್ ಅಥವಾ ಅಂದಿ ಕಡೀರಿಗೆ ಸಂದರ್ಶನ.
- 1.00 - 2.00 : ಭೋಜನಾ ವಿರಾಮ.
- 2.00 - 5.00 : ಪರಿಣಾಮಕಾರಿಯಾಗಿ ಮನೆಯನ್ನು ನಿರ್ವಹಿಸುವ ಉಪದೇಶ (ವಿಡಿಯೋ)

43ನೇ ದಿನ

- 9.30 - 10.00 : ತರಬೇತಿ ಕೇಂದ್ರವನ್ನು ಸ್ವಚ್ಛಗೊಳಿಸುವಿಕೆ.
- 10.00 - 11.15 : ಮನೆಯ ಪಾಕವಿಧಾನವನ್ನು ಶುದ್ಧವಾಗಿಸುವಿಕೆ ಡಾಕ್ಟರ್ ನೈರ್ಮಲ್ಯವನ್ನು ಕಾಪಾಡುವಿಕೆ.
- 11.15 - 11.30 : ಸ್ವಚ್ಛತೆ ಬಗ್ಗೆ ಡಾಕ್ಟರ್.
- 11.30 - 1.00 : ಮನೆಯ ಪಾಕವಿಧಾನವನ್ನು ಶುದ್ಧವಾಗಿಸುವಿಕೆ ಡಾಕ್ಟರ್ ನೈರ್ಮಲ್ಯವನ್ನು ಕಾಪಾಡುವಿಕೆ.
- 1.00 - 2.00 : ಭೋಜನಾ ವಿರಾಮ.
- 2.00 - 3.15 : ಮಕ್ಕಳಿಗೆ ಉರಿಯುವಿಕೆ ಪಾಕವಿಧಾನವನ್ನು ಒದಗಿಸುವಲ್ಲಿ ಸಮುದಾಯದ ಪಾತ್ರ.
- 3.15 - 3.30 : ಡಾಕ್ಟರ್.
- 3.30 - 5.00 : ಕುಟುಂಬದಲ್ಲಿ ನಿರ್ಧಾರವನ್ನು ತೆಗೆದುಕೊಳ್ಳುವುದರಲ್ಲಿ ತಂದೆಯ ಪಾತ್ರ.

44ನೇ ದಿನ

- 10.00 - 11.15 : ಜನ ಸಂಖ್ಯೆ ವಿಷಯ
- 11.15 - 11.30 : ಲಘು
- 11.30 - 1.00 : ಜನ ಸಂಖ್ಯೆ ವಿಷಯ (ಮುಂದುವರಿಯುವುದು)
- 1.00 - 2.00 : ಭೋಜನಾ ವಿರಾಮ.
- 2.00 - 5.00 : ಜನಸಂಖ್ಯೆ ವಿಷಯಕ್ಕೆ ಸಾಧನಗಳು ಡಾಕ್ಟರ್ ಸಂದೇಶಗಳನ್ನು ತಯಾರಿಸುವಿಕೆ.

45ನೇ ದಿನ

- 10.00 - 1.00 : ಸಮುದಾಯಕ್ಕೆ ಕುಟುಂಬ ಉರಿಯುವಿಕೆಯ ಬಗ್ಗೆ ವಿಷಯವನ್ನು ನೀಡುವಲ್ಲಿ ಸಾಧನಗಳ ಉಪಯೋಗ (ರೋಲಿಂಗ್ ಪಿಲ್ಲೆ)

- 1.00 - 2.00 : ಭೋಜನಾ ವಿರಾಮ  
2.00 - 5.00 : ಸಾಹಿತ್ಯದ ಮಹತ್ವಗಳ ಸಮ್ಮೇಳನ

46ನೇ ದಿನ

- 10.00 - 1.00 : ಸದ್ಯಾಜ್ಞೆಯನ್ನು ನಡೆಸುವುದು ಬೇಗ  
1.00 - 2.00 : ಭೋಜನಾ ವಿರಾಮ  
2.00 - 5.00 : ಸದ್ಯಾಜ್ಞೆ ಮಾಡುವುದನ್ನು ಭರ್ತಿಮಾಡುವಿಕೆ ಬಾಗೂ ಅರ್ಥ  
ವಿವರಣೆ ನೀಡುವಿಕೆ.

47ನೇ ದಿನ

- 10.00 - 1.00 : ಬಾಲವೇಳೆಗಳನ್ನು ವಿವರಿಸುವಿಕೆ.  
1.00 - 2.00 : ಭೋಜನಾ ವಿರಾಮ  
2.00 - 5.00 : ಬಾಲವೇಳೆ (ಮುಂದುವರಿಯುವುದು)

48ನೇ ದಿನ

- 9.30 - 10.00 : ಮನರಾಜರವರ.  
10.00 - 11.15 : ಚಟುವಟಿಕೆಗಳನ್ನು ಮಾಡಲು ಅಂಗನವಾಡಿಯನ್ನು ಯೋಜಿಸುವಾಗ  
ಮಾಡುವಲ್ಲಿ ಅಂಗನವಾಡಿ ಕಾರ್ಯಕರ್ತೆಯರ ಪಾತ್ರ.  
11.15 - 11.30 : ಬಾಡು  
11.30 - 1.00 : ಚಟುವಟಿಕೆಗಳನ್ನು ಸಂಘಟಿಸಲು ಅಂಗನವಾಡಿಯನ್ನು ಯೋಜಿಸುವಾಗ  
ಮಾಡುವಲ್ಲಿ ಅಂಗನವಾಡಿ ಕಾರ್ಯಕರ್ತೆಯರ ಪಾತ್ರ.  
1.00 - 2.00 : ಭೋಜನಾ ವಿರಾಮ  
2.00 - 5.00 : ಅಂಗನವಾಡಿಯನ್ನು ಸುರಕ್ಷಿತಗೊಳಿಸುವುದು (ಲಭ್ಯವೆ)

49ನೇ ದಿನ

- 10.00 - 11.15 : ಸಾಮಗ್ರಿಗಳನ್ನು ಪರಿಶೀಲಿಸಿ, ಡಾನ್ಟಾನು ಮಾಡುವಿಕೆ ಬಾಗೂ  
ವಿವರಿಸುವಿಕೆ.  
11.15 - 11.30 : ವ್ಯಾಯಾಮ  
11.30 - 1.00 : ಸಾಮಗ್ರಿಗಳನ್ನು ಪರಿಶೀಲಿಸಿ, ಡಾನ್ಟಾನು ಮಾಡುವಿಕೆ ಬಾಗೂ  
ವಿವರಿಸುವಿಕೆ (ಮುಂದುವರಿಯುವುದು)  
1.00 - 2.00 : ಭೋಜನಾ ವಿರಾಮ  
2.00 - 5.00 : ಪತ್ರಗಳ ನಿರ್ವಹಣೆ - ಪತ್ರಗಳನ್ನು ಪರಿಶೀಲಿಸುವಿಕೆ.

50ನೇ ದಿನ

- 9.30 - 10.00 : ವ್ಯಾಯಾಮ  
10.00 - 11.15 : ಅಂಗನವಾಡಿಯಲ್ಲಿ ದಾಖಲೆಗಳ ನಿರ್ವಹಣೆ.  
11.15 - 11.30 : ಬಾಡು  
11.30 - 1.00 : ಅಂಗನವಾಡಿಯಲ್ಲಿ ದಾಖಲೆಗಳ ನಿರ್ವಹಣೆ (ಮುಂದುವರಿಯುವುದು)  
1.00 - 2.00 : ಭೋಜನಾ ವಿರಾಮ  
2.00 - 5.00 : ದಾಖಲೆಗಳನ್ನು ಭರ್ತಿ ಮಾಡುವಿಕೆ.

51ನೇ ದಿನ

- 10.00 - 1.00 : ತ್ರೈಮಾಸಿಕ ವರದಿ ಮಾಸಿಕ ವರದಿಯನ್ನು ಭರ್ತಿಮಾಡಲು  
ದಿನಪತ್ರವನ್ನು ಉಪಯೋಗಿಸುವಿಕೆ.  
1.00 - 2.00 : ಭೋಜನಾ ವಿರಾಮ  
2.00 - 5.00 : ತ್ರೈಮಾಸಿಕ ವರದಿ, ಮಾಸಿಕ ವರದಿಯನ್ನು ಭರ್ತಿ ಮಾಡುವಿಕೆ.

52ನೇ ದಿನ

- 10.00 - 1.00 : ಫೀಲ್ಡ್ ಕಾರ್ಯಕ್ಕೆ ಮಾರ್ಗದರ್ಶನ.  
1.00 - 2.00 : ಭೋಜನಾ ವಿರಾಮ  
2.00 - 5.00 : ಫೀಲ್ಡ್ ಕಾರ್ಯಕ್ಕೆ ದೀಕ್ಷಾಪುಸ್ತಕ ಸಾಧನಗಳು ಬಾಗೂ ಇತರ  
ಪದ್ಧತಿಗಳನ್ನು ವಿವರಿಸುವಿಕೆ.

53ನೇ ದಿನದಿಂದ : ಫೇಟ್ರ ಕಾರ್ಯ (ಅಂಗನವಾಡಿಗಳಲ್ಲಿ)  
66ನೇ ದಿನದವರೆಗೆ

67ನೇ ದಿನ

10.00 — 1.00 : ಫೇಟ್ರ ಕಾರ್ಯ ಪುನರಾವರ್ತನೆ.  
1. 00 — 2.00 : ಭೋಜನಾ ವಿರಾಮ.  
2. 00 — 3.15 : ಮಕ್ಕಳ ಶಿಕ್ಷಣದೊಂದಿಗೆ ಸಮಗ್ರ ವಿಧಾನ  
3.15 — 3.30 : ಸಮುದಾಯ ಗೀತೆ.  
3.30 — 5.00 : ಮಕ್ಕಳ ಶಿಕ್ಷಣದೊಂದಿಗೆ ಸಮಗ್ರ ವಿಧಾನ (ಮುಂದುವರಿಯುವುದು)

68ನೇ ದಿನ

10.00 — 11.15 : ಸಮಗ್ರ ವಿಧಾನ (ಮುಂದುವರಿಯುವುದು)  
11.15 — 11.30 : ಸಮುದಾಯ ಗೀತೆ  
11.30 — 1. 00 : ಸಮಗ್ರ ವಿಧಾನ (ಮುಂದುವರಿಯುವುದು)  
1. 00 — 2. 00 : ಭೋಜನಾ ವಿರಾಮ.  
2. 00 — 3.15 : ಸಮಗ್ರ ವಿಧಾನ (ಮುಂದುವರಿಯುವುದು)  
3.15 — 3.30 : ಪಾಠ್ಯವಿಷಯ.  
3.30 — 5.00 : ಸಮಗ್ರ ವಿಧಾನ (ಮುಂದುವರಿಯುವುದು)

69ನೇ ದಿನ

10.00 — 11.15 : ಸಮಗ್ರ ವಿಧಾನ  
11.15 — 11.30 : ಲಘು  
11.30 — 1. 00 : ಸಮಗ್ರ ವಿಧಾನ (ಮುಂದುವರಿಯುವುದು)  
1. 00 — 2.00 : ಭೋಜನಾ ವಿರಾಮ.  
2. 00 — 5.00 : ಸಮಗ್ರ ಬಾಲ ವಿಧಾನ ಉಪವಿಧಾನ ಕಾರ್ಯಕ್ರಮದಲ್ಲಿ  
ಅಂಗನವಾಡಿ ಕಾರ್ಯಕರ್ತೆ ಹಾಗೂ ಸಹಾಯಕಿಯರಿಗೆ  
ವಿಶ್ರಾಂತಿಯ ಸೌಕರ್ಯಗಳಿರುತ್ತವೆ.

70ನೇ ದಿನ

10.00 — 1.00 : ಅಂಗನವಾಡಿ ಕಾರ್ಯಕ್ರಮಗಳ ಬಗ್ಗೆ ಉಪವಿಧಾನ  
1. 00 — 2.00 : ಭೋಜನಾ ವಿರಾಮ.  
2. 00 — 3.15 : ಸಹಾಯಕಿಯರ ವಿಶ್ರಾಂತಿ ಸಂಯೋಜನೆ.  
3. 15 — 3.30 : ಸಮುದಾಯ ಗೀತೆ  
3. 30 — 5.00 : ವಿಶ್ರಾಂತಿಯ ವಿಶ್ರಾಂತಿ ಸಂಯೋಜನೆ (ಮುಂದುವರಿಯುವುದು)

71ನೇ ದಿನ

10.00 — 1.00 : ಫೇಟ್ರದಲ್ಲಿ ರಬ್ಬರದ ಸಮಸ್ಯೆಗಳು.  
1. 00 — 2.00 : ಭೋಜನಾ ವಿರಾಮ.  
2. 00 — 5.00 : ಶಿಕ್ಷಣದೊಂದಿಗೆ ಮಕ್ಕಳ ಮನವರಿಕೆ.

72ನೇ ದಿನ

10.00 — 1.00 : ಶಿಕ್ಷಣದೊಂದಿಗೆ ಮಕ್ಕಳ ಮನವರಿಕೆ  
1. 00 — 2.00 : ಭೋಜನಾ ವಿರಾಮ.  
2. 00 — 5.00 : ಶಿಕ್ಷಣದೊಂದಿಗೆ ಮಕ್ಕಳ ಮನವರಿಕೆ.

## Prioritising Nutrition in the Health Department

### Attitudinal changes towards the AWW

The local level Health staff will have to accord greater respect for the AWW. She should not be treated just as a poorly paid, inadequately trained ordinary village women. Or be seen as merely fulfilling the non-clinical responsibilities for a measly payment from the Health Department but as an important ally with an intimate knowledge of local realities. Recognition that the very achievement of lower IMR & CMR is related to lowering malnutrition levels including mild & moderate levels.

Today the PHC Doctors are largely involved in curative care, including their private practice, and have little time or interest for public health concerns. Such indifference needs to be changed by motivating them to work as a member of a Team (including ANM, LHV, AWW Supervisors and the CDPO). Sector level meetings with the ICDS system need to be given greater emphasis. From the taluk, District and the State there will have to be greater expectation that the PHC Doctor give attention to nutrition related activities. The earlier indifferent attitude is a legacy of the past when for many decades Health Department was only preoccupied with Sterilisation activities. In recent years immunisation has been given prominence. But given the present determination of the Government and of the top State Health functionaries, we are confident that the scope of the PHC system will be widened to include Nutrition.

### Measles Immunisation

Measles Immunisation Campaigns in Northern Districts if significant improvements of regular coverage do not happen in the first year. (Given the continued shortage of over 100 ANMs possibly upto even the year 2004 in Gulbarga District, two pulse campaigns in the pre-epidemic phase may be required every year).



Detecting malnutrition in pre-school children not functionally covered by the AWW system (ie., children who do not come to the centre for regular feeding, particularly targeting identifying unreached hamlets, left out thandas, scattered field huts)

**Strengthening ICDS- Health Department linkages**

This is not a new idea. This has been a concern for many years. In the initial years of the ICDS-eighties there were links between a few Medical Colleges and the ICDS Projects. Though in the early nineties there has been a massive expansion of ICDS all over Karnataka, relatively little effort had gone into building ICDS-Health partnership. A major difficulty had been the disinterest of the Health Department. Nutrition was seen as the primary responsibility of the Women & Child Department. For instance, in some years not even Iron and Vitamin-A was procured by the Health Dept. Another obstacle has been the limited number of Supervisors in the ICDS. In Northern Districts barely 10% of the positions are filled. Thus even the recent efforts taken by the senior Health functionaries to organise joint training of the ANMs with Supervisors have little impact at the District level. Fortunately, these limitations will no longer be a significant problem with Nutrition becoming a priority within the Health Department and with the commitment of the WCD to recruit Supervisors. Another welcome development is the initiation of the Border District Cluster Project in selected areas of the Northern four Districts where there is increased interaction between the two Departments and UNICEF. Positive lessons from this initiative which has just began to function will inform the proposed partnership in this Project.

Ideally such a partnership will have to be built at all levels- from the Sector level at the PHIC, to the taluk, District and the State levels. The following mechanisms will be adopted for strengthening existing links and broadening the areas of cooperation:

1. Joint training of AWW, ANM along with TBAs and SHGs

2. Joint communication endeavours
3. Joint responsibility for identifying severe malnutrition and rehabilitation
4. Joint house visits; updating records of children and pregnant women, and reaching out to the unreached. Reaching the unreached includes- Out of school children- particularly adolescent girls, and pre-school children of the urban poor, tribals, remote hamlets, garden houses and where acute upper caste-Dalit conflicts exist-Dalits. Note in so many ways in Karnataka-Dalit, tribal children are less privileged- nutritional status, immunisation coverage, school enrollment.
5. Regular review meetings at the Taluk and District level
6. Quarterly Meetings at the CEO level at the District to overcome persistent problems which hinder cooperation.

#### Enhancing the credibility of routine data

Enhancing the credibility of routinely reported data from the PHC such as pregnancies, births, infant deaths, immunisation, and child deaths. Non or Under-reporting particularly of infant deaths needs to be virtually eliminated. Annual check ups done randomly at the PHC level by a Project Supervisory team will assist in making the system more responsive. One component of this project is a pilot initiative to ensure complete registration. Lessons from this pilot will also help in improving the completeness of vital events reporting in other parts of the State.

Regular feedback on the monthly reports from the Taluk and District level downwards to the PHC level should be ensured. Today, there is enormous pressure from the top to lower levels to fix achievements. Any number of examples can be given. If the quality of health system data improves it will have a salutary impact on the ICDS system also. Thus dependable data flow will have cascading benefits even outside the Health Dept.

March 14, 2001  
Sabu George

NUTRITION DETAILS-FIRST PART

Dear Thelma

Enclosed are write ups on the following sections:

1. Building Nutrition Competence
2. Weaning food Strategies
3. Educational Messages
4. Sensitisation Workshops
5. Communication Strategies
6. Nutrition becoming a priority of Health Department by  
Attitudinal changes  
Strengthening Inter-Sectoral coordination between Health & ICDS  
Enhancing the credibility of routinely reported data from the PHC

PLEASE NOTE: The outline provided for messages is only indicative. For instance educational messages are many but a few are mentioned which are considered important. Unless this is attempted it is not possible to motivate a consensus. This has to be limited to few essential messages. It is important that messages need to be consistent at various levels (mothers, service providers and decision makers) and be identical in the different channels used for communication. Clarity on the number and kind of messages will also help us to finalise the content of our "Nutrition education package". The focus on a few key items will help the Project to monitor changes in knowledge and practices in the communities and give feedback relatively quickly about the inadequacies of the training, outreach strategies and/or their implementation.

Likewise, elements of Nutrition sensitisation workshop are outlined so that criticism of the content, format and the likely expectations of this exercise becomes easier. The content might appear simplistic but even at the CDPO level in the North, the understanding of knowledge & practice of basic Nutrition is limited. This is not a reflection of the individuals but of a system which essentially sees delivering food as a solution to malnutrition. The preoccupation with the logistics of food, multiple number of schemes, a virtual absence of Supervisory level staff, and several days of routine meetings leave little time for innovative thinking let alone action.

*(Deliberately, these parts are not integrated into the already accepted Chapter-7 into a bulky document so that everybody knows what are the newly written parts and has a preliminary chance to make comments and changes without having to go through all what has been agreed upon).  
Printed in double space to give adequate space for comments.*

**Weaning Food Intervention** (Section-7.2.3 c, p59 & 8.3.1, p65)

This is a significant activity which addresses the inadequate intake of complementary foods in the age group 6 to 23 months. Note that there has hardly been any improvement in this practice in Karnataka over the 6 years between NFHS 1 & 2.

The strategies are different for the 7 backward Districts and the rest of the State. For the rest of the state only complementary food demonstrations will take place. Funds will be provided for the materials and organisation of the demonstrations. The communities themselves will have to procure food at their cost for the routine feeding. In each Taluk, every year 100 demonstrations will be organised (an average of 8 per month). A resource manual for organisation of the Demonstration will be prepared in consultation with Ms. Padmasini, CFTRI & FNB, Bangalore. The successful experience of CARE in Andhra where weaning food is prepared and sold in an entire taluk by women's groups will be studied and tried out as a pilot initiative.

In the backward districts, weaning food for the age group 6 months to 17 months will be initially supplied by the Project. Every two weeks the ration will be provided to the mother at the Anganwadi in a glass bottle. Each child will be provided food till the completion of 23 months of age. The cereal used will be ragi or jowar or wheat and the preparation based on the recipe of Padmasini's. All children, including those not under the ICDS will be eventually covered. In the first year allocation is made so that an extra 10% more is covered. Every subsequent year an additional number of children as estimated by the local AWW will be covered. This weaning food will be procured at the District level by tendering. Provision of weaning food is a convenient strategy to reach out to individual mothers and to enhance the quality and quantity of complementary feeding and motivating mothers to continue breastfeeding at least till two years.

## NUTRITION Messages

### THEMES

Significance of Nutrition (maternal, fetal & adolescence), Complementary feeding, Hygiene & Sanitation, Apt illness care and Breast feeding:-

1. Good Nutrition and care during the childhood particularly, in the first two years ensures optimal growth and development of children.
2. Home based traditional foods modified to a thick semi-solid consistency are good for the baby. Baby needs all foods from six months viz, cereals, pulses, vegetables, particularly green leafy vegetables, fruits, milk and milk products, oil, jaggery/sugar and if possible egg
3. The baby from six months needs adequate and frequent feeding to meet the increasing demands of growth. A one year old infant needs about half the amount of food that the mother eats.
4. Personal hygiene, food hygiene and environmental sanitation are essential for providing safe food to the baby and protecting the baby from infections
5. Seeking timely medical care for illness is important for keeping the baby healthy.
6. Good nutrition and health of adolescent girls even before pregnancy is important for the health of the future generation.
7. Nutrition, Health & Education of the girl child deserve extra attention
8. Good nutrition, health care and family support during pregnancy ensure the health of the mother and the baby.
9. Mother's milk is best for the baby and it is all that the baby needs for the first six months of life. Start breastfeeding immediately after birth to ensure feeding of Colostrum (mother's first milk).
10. Start complementary feeding at six months. A growing baby needs other foods also besides breast milk to meet the increasing needs. But breastfeeding should continue upto two years.

Nutrition Competence (7.2.3- Nutrition Competence).

An outline of the elements (to be detailed after getting a consensus on this draft)

1. Knowledge

Breast feeding (early initiation, preferably in the first hour, exclusive for 6 months and continue upto 2 years); Inadequate milk syndrome; Avoiding bottles;

Complementary feeding from 6 months to 23 months, feeding frequency; energy density, locally apt foods, Measles immunisation, Vitamin-A drops every six months, Deworming-once a year, Prophylaxis for iron deficiency anemia, Food handling, Environmental hygiene & sanitation; Dealing with local food taboos; etc.,

2. Practices

Dealing with diarrhea

Common illnesses (by SKK)

Use of drugs provided to AWW (by SKK)

Recognition of pallor by AWW for severe anemia and referral to the ANM

Bitot's spots in children by AWW and referral to the Doctor

Apart from those related to items above;

3. Ability to diagnose the immediate cause of malnutrition or growth faltering of a child and to suggest practical steps to mothers to enhance growth and development. Counseling skills need to be strengthened.

4. Communication abilities-

Particularly with officials, community leaders, elected representatives

5. Weighing

Good weighing technique, safe handling of balances, Calibration at taluk level every 6 months

5

6. Enhancing the quality and credibility of routinely reported information, particularly weights and infant deaths (pregnancies, immunisation status of pregnant women and children). Ensuring adequate coverage of all vulnerable children (if not why?). Rewards for locating severely malnourished children (3 & 4 Grade); Incentives for AWW, ANM, Supervisors; even in the non-ICDS population in children under 6 years of age. Regrettably today there are disincentives for reporting the true status. A one time amnesty is imperative for us to identify the high risk left outs. The CDPOs and the PHC Doctors will be given special orientation for the objective of this amnesty campaign. Rewards will be given to those who identify the maximum number of malnourished.

8. Categorisation of 80%+ as normals should stop. Normals should only be those who are 90+. The earlier cutoffs tend to minimise the seriousness of the malnutrition problem. Also a part of the potential improvements will also be not recognised (the proportion that will improve from 80-89 percent to 90+ over the project period).

9. Community based nutrition rehabilitation of severe malnutrition. Of course prevention is better than rehabilitation. But for ethical reasons rehabilitation needs to be taken care for. In Karnataka the greatest progress in nutrition has been the virtual disappearance of the most florid forms of severe malnutrition like kwashiorkor. There have been halving of third grade Gomez children. But the fact remains that the present levels are unacceptably high for any civilised society. Given the enormous risk of mortality of the third Grade Gomez children we have to take care of them. PHC Doctors, ANMs, CDPOs need to be oriented in this regard. A one day training should be organised at the PHC level. This will include the basic elements of Nutrition (as in sensitisation workshop). Emphasis on the social aspects- getting the family and the community to have hope is essential to prevent relapse. Too often severe malnutrition is treated with expensive tonics and/or hospitalisation even when there is no underlying medical problem, rather than with appropriate local foods; and patient feeding of an

apathetic child, whose parents have become desperate for a magic cure. The understanding of the local cultural context which permits many kinds of quack remedies will facilitate better recovery rates. Technical guidelines on rehabilitation will be distributed. Each case of severe malnutrition should become the responsibility of the ANM and the ACDPO (if vacant then CDPO) be followed for upto 6/12 months (above 2 years/below 2) after improvement. Quarterly reviews of such cases including a medical check and monthly weight profile need to reported to the District Nutrition Officer. To ensure that any underlying medical problem is treated immediately a discretionary fund will be provided to the CDPO to ensure speedy purchase of drugs (with the resurgence of drug resistant TB, there has to be provision for pediatric dosages and a formal request has come from WCD). Also there have been complaints from both the ICDS & Health from several Districts that there is no adequate provision of funds for treatment at the local level.

Vociferous demands for special wards at the taluk level, special staff for dealing with severe malnutrition and even extra financial incentives for Doctors to treat malnutrition are strategies of questionable effectiveness. Medicalisation of cases of severe malnutrition without any underlying medical problem is not the solution. Apart from the fact that this will divert from the limited resources presently available for prevention of malnutrition.

The Quantum of Training

Nutrition competence be achieved at different levels by:

1. Orientation of District Nutrition Officers- First year: 2 weeks (1 week in the field) and later 2 days every year. (Conducted by experienced Nutrition Consultants)
2. Refresher Workshop for the District Assistant Directors & State Officials: 2 days every year. (Conducted by experienced Nutrition Consultants)
3. Upgradation of functioning Angawadi training institutions and NIPCCD: 1 week every year.



(Conducted by experienced Nutrition Consultants)

4. Review with the CDPOs; 2 day workshop every year at the regional level in batches of 20.

**Sensitisation Workshops for District Officers, Panchayats,**

**Also Bldg Nutrition Capacity of existing women's groups (7.2.3 c)**

**Period-** One day for Officers, Panchayats (One Workshop in every Taluk & at District level). And repeated every year. For self-help Groups it will be 4 days in the first six months. For SHG-Demonstration of weaning foods and organisation for food preparation will be carried out with the Sensitisation Component. In groups of 20 women with up to 30 groups per taluk. NOTE: SHG sensitisation is a major training endeavour and therefore may be organised by a NGO rather than by the Department. If the Food preparation is separated from the Sensitisation, then the Sensitisation part should be done by the Department- This will be a 2 day workshop rather than a 4 day. The first review session will be held after 6 months and subsequent sessions will be held only once a year for 2 days each. The goal is to empower several hundred women in each taluk to make informed decisions on nutrition, care and development of children. These empowered women can serve as nuclei for the formation of active community support groups which can assist the AWW and ANM in their activities, especially in reaching out to those under two children who have been left out by the AWW system. Note this is an alternate strategy rather than the usual worker oriented and centre based approach to better Nutrition & child development. This would require much follow up and enthusiasm on the part of the District Nutrition Officer for this approach to be effective in a big way at the District level. But the trouble is worth it as community involvement and ownership is high and therefore the potential effectiveness can be greater than a Worker based in an Anganwadi.

(Note: This is an outline-can be expanded after consensus)

**Background & Goal**

5

The significance of Nutrition has hardly been understood by the decision makers. For over 4 decades the entire administrative and development machinery was directed at achieving sterilisation targets (after emergency solely on women). We need to have the same degree of enthusiasm for Nutrition for Karnataka to achieve significant reduction in infant and child mortality over the next five years. I have met an IAS CEO who wanted me to prescribe tonics as an intervention to ameliorate malnutrition! The Raichur DC (again an IAS) did not even attend the recent Workshop on Nutrition. The sensitisation workshops will contribute to improved understanding of Nutrition which hopefully will result in better growth and development of children.

### Content

Determinants of malnutrition (Care, Food related & Health related), Multi-dimensionality of the nutrition is why it has not received priority of Health or other Departments. The invisibility of the malnutrition problem is itself a problem when it comes to raising societal awareness. As nearly 90% of rural children are malnourished the societal perception is that poor nutritional status is natural. Severe malnutrition is only the tip of the "iceberg" Magnitude of malnutrition- Extent & Risk groups.

Functional Consequences of malnutrition. Poorer levels of nutritional status is directly related to increased levels of child mortality. Consequences are inadequate mental development and impaired adult physical work capacity.

The relationship between improved child growth & survival to fertility. In all southern states there has been a linear relationship between declining child mortality and fertility.

Gender biases- Recognition of deliberate girl neglect as socially sanctioned violence; Intensification of son preference in Karnataka

The proposed Nutrition Project highlights Prevention Strategies- Promotion of growth by avoidance

of growth faltering rather than rehabilitative; Strengthening existing good practices and modifying harmful traditional (taboos)/ modern (bottles) practices

Existing Govt. Programmes-Taluk/District level procurement of weaning and AWW foods

Inter-sectoral coordination of Departments (ICDS, Health, Education) & Panchayats

Responsibilities of the Families and Communities to support and strengthen AWW etc

Involvement of NGOs, Self Help Groups

To have at least one mass event to highlight Nutrition in each Panchayat once a year.

Public recognition for one staff member in each Panchayat for exemplary contribution to improving Nutrition.

Drawing Plan of actions (short and long term) including monitoring of inputs and assessment of the adequacy of the interventions (quality, coverage, equity)

Periodic Follow up with a core group at each level- District, Taluk, Sector, Panchayat and village

To ensure quarterly reviews of specific components

#### Format

Interactive: Brief Presentations & Group discussions

#### Conducted by

District Nutrition Officer & Assistant Director with the CDPOs at the District and Taluk levels

At the Taluk level, the concerned AWW will also participate

#### Communication Strategies for the Project

Apart from direct personal communication between staff and Community:-

1. Media (Radio, TV, films to be screened at village level)
2. Local folk media groups, street theatre etc.
3. Wall charts, posters, Counseling aids,

2. Wall writings, newsletters for AWW, SHG etc
3. Newspaper articles
4. Unions & Associations of AWW & other Govt. Staff
5. Village level meetings at least once in a year organised by AWW, ANM etc.
6. Technical Guidelines for exclusive bf, apt complementary feeding, Nutrition rehabilitation, adolescent girls and other focus areas to be distributed.

by Ms. Padmasini Devi

Visit to Anganwadi Centres of ICDS  
near Hanur of Kollegal Taluk.

The Anganwadi centre of Chamaraj Nagar District in Kollegal was visited on the 26th of March. The main purpose was to observe the supplementary feeding programme in operation at the Anganwadi the quantity served and the ability of the children to consume the served portion, as well as the issues related to the preparation of the food. I am thankful to Dr.Sr.Aquinas and Sr.Anice who welcomed us and made arrangements for me to visit the Centre during the operation of the feeding programme. The Holy Cross Comprehensive Rural Health Project covers this village which was visited, and they have women's groups, Self-help Groups and the women trained under Women and Health Project.

The Village visited was K.Gundapura. This village has two Anganwadi centres and both the centres were visited by me one at the time of the preparation of the food and serving of the same to the children present. The other centre was visited to discuss with the worker her routine and the support services available. This village comes under Basappana Dotti Panchyat.

Anganwadi 1 (Actually this is the second centre started after a lapse of some years after the first)

Anganwadi Worker                      Smt Suguna  
Helper                                      Smt Parvathi.

Though Sr.Anice and self reached the village at 10.30,giving time for the centre to start the activities, the teacher had not turned up,but few of the children were there with vessels in their hand clutched closely , to take the cooked food home.The children were moving and running and the helper Parvathi was not able to manage or even start the programme with them. utilising the time we enquired about the food that was cooked by the helper and the supply made to the centre. In the meanwhile Smt Suguna arrived and she had some personal problems to reach on time from about 3-4- km away. The information gathered from the teacher are as under.

**The Food Supply:** The Centre is supplied with Bags of Poorvaka Ahara (Energy Food) and Rice, The ready mix ahahra and the rice are to be served alternatively. The lable on the bag reads that this was designed by CFTRI and the composition of the Poorvaka Ahara is: Wheat, Groundnut cake ,Soy Powder, Bengal gram dhall, Jaggery, with mineral mix and salt added. The ratio with which these were mixed was not shown on the bag.This had been produced by Agro-Kendra.

The nutrition Factor                      100 g of this Ahara has 12-14 g Protein  
and 350-380 Cal.

Rice is also supplied along with Palmolein Chillies Mustard salt.

Jw  
3/4/01

**Per month The following ration is supplied.**

**Poorvaka Ahahara 75 kg**

Rice	70 Kg.
oil palmolein	3 pkts
chillies (red)	1/2 kg
Mustard	1/2 kg
Salt	2 kg.

**The fuel supply was supposed to be the responsibility of the Panchayat but this is not being met by the Panchayat.**

Smt Suguna informed as that for some time she personally paid for the fuel and now along with the ration 2 1/2 maunds of fuel is being supplied by the CDPO. Whether this is the latest policy and not persuade the Panchayat to take up the responsibility is not clear

**This monthly ration had been fixed based on the number to be fed.**

<u>No: of Children taken into account</u>	No of pre-school Children 3-6yrs	23
	1-3 yr children	31
	below 2 yrs	08
	Mothers Pregnant & lactating 8+4	12/

<b>Allowance of Food per head</b>	<b>Children</b>	<b>Energy Food</b>	<b>80 g</b>
		<b>Rice</b>	<b>60 g</b>

<b>Adults interestingly in this category the worker and the helper are included as additional</b>	
<b>Energy Food</b>	<b>160 g</b>
<b>Rice</b>	<b>120</b>

As per the number specified and the daily ration allowed the food calculation comes to

**Energy food** required for 62 children and 14 adults per day comes to 7.200 kg  
Per month of 24 days feeding days the Energy food requirement is for  
12 days only (the other 12 days are for rice) 86.4 Kg  
while the supply for these feeding days is in the order of 75.0 kg

**Rice As per the allowance of 60g the requirement per day 5.4 kg**

For 12 days Feeding programme 64.8 kg

The shortage is not felt by the Worker as not all children attend the class every day and they can easily adjust !.The design is to feed the children in the class and make them take the cooked food for the sibling and another quantity if the mothers included. **Mothers do not come to the centre as they cannot and the children do take the food and some time the helper goes to the door step and provides.**

**The actual observation of the children : Amongst the 20 and odd atleast 12 of them were between 1-3 yrs and very few were the 3-6 yrs.Evidentially the mothers sent them to collect the food. I was there when the rice bhath (rice chithra anna) was being prepared, rice cooked and seasoned. Office had supplied new plates and glasses for the children to eat** Yet the children were clinging on to their vessel and eagerly waiting for the food to be served in the vessel.The serving portion appeared to me as 40g of raw rice only.Even this portion was too much for the children of 1-2 yrs. Children were advised to start eating after the serving and they were pecking at the food perhaps keen in taking the food home.The teacher said that after serving she would concentrate on record maintenance and children would eat by themselves. Obviously she does not find it necessary to observe them eating and the quantity they can consume. It is the helper who gives the additional serving

The helper had prepared , according to her, 4 kg of rice for that particular day.

I requested the helper to prepare the laddu which she normally prepares with Energy food of the quantity of 40 g (weighed from the store near by) The resultant product was in the size of cricket ball. The taste was of mild sweet. The Workers informed that the mothers do not eat the energy food and give it to the children when ever the child wanted at home. The mothers thought that they could well if the centre supplied uncooked flour for them to make rotis, almost demanding the supply of flour for the week. It is also doubtful whether the mothers do consume the rice or again give it the children.

Suguna had maintained the records of supply and it was upto 23rd of March.the following two days were holidays. While we were observing the children we wanted her to teach and it was the normal pattern of saying some rhymes and the children repeating.

### **Growth Charts of the children**

A thick booklet had been supplied to the centre as per the pattern.I doubt whether the purpose of the growth chart had been explained to Anganwadi worker or not.It appeared like routine plotting of the reading. This centre has no weighin scale but takes from the other one, which is understandable.She first notes down the reading on a notebook every month along with attendance. When time permits she plotson the chart.She had no time to look at the growth trend of the children.But this is done regularly every month

I was a surprised to see the pencil marking on the chart. When I enquired the reason she said that she was asked to do so so that these recording could be erased and make a clean chart for the new entrant in the class. When I checked with the weight of the child and the child that was present it was found that the child was a healthy child to start but constantly had been on the grade II status. Suguna could not answer our question on as why the child lost the weight.She could only

say that the child was sick but now she was eating.. The growth Chart had no meaning for the Anganwadi worker, as it really takes a lot of time and effort to weigh all the children with only the helper to assist. The Children appeared to be anaemic and stunted growth could be seen in some of the children. I could not stay there to see the quantity that the worker would be distributing to the mothers, as it would mean spending another hour or two with the worker, as mothers do not come to the centre.

There are many related issues to be discussed and this will be done after the report on the second centre. In the meanwhile we met few of the women of the sangha and the expectant mother.

This discussion was to find out as to why the mothers rejected the Ahahar Mix. According to the women the laddu is prepared with cold water and they would rather have the atta to be given to prepare their own roti. I do not give much weightage to their remark as there would always be some complaint or other but still whether this mix is suitable for the adults is to be questioned. The name itself suggests that it is weaning diet. Mothers keep their share and give it to the children whenever they are hungry. This also means that the children do not get any whole some food at home. Are we not defeating the purpose of feeding at the Institution ?

THE SECOND ANGANWADI CENTRE in the same village. Actually this is the original centre and the first visited was started later, This centre is equipped with weighing scale and the teacher is much more experienced.

Teacher	Nagalakshmi
Helper	Gowamma

The attendance at the centre was not full as the day was after Ugadi. The children were very cheerful and Nagalakshmi has good relationship with them. Apart from the ration amount that the centre gets it was a news to us that the PHC at Ramapura supplies the iron tabs to be given to the children. The strip contained Folic acid and ferrous sulphate and the Vitamin A is in the form of liquid and concentrated. The teacher regularly gives these to the children before the food is served. I requested the teacher to weigh a child to see the calibrations and the method of weighing. She has a hook to hang but somehow manages. The children were fairly healthy. Nagalakshmi expressed full cooperation with the Health department. She is an experienced teacher and is confident about her work. When we returned to the first centre to observe the children being served, Sr. Anice asked about the medicine supply. Then the teacher pulled out the carton from the store. Obviously this is not being utilised by the teacher .. There are many questions that came as a result of this visit and these need to be discussed carefully. The intention of the Government is quite obvious but lack of supervision and entire dependence on the teacher need to be discussed.



## CHILD HEALTH DEVELOPMENT AFTER ALMA ATA DECLARATION

P. CHANDRA \*

Health development includes health care, essential non-specific measures like nutrition, protected water supply, sanitation, education and economic development. Primary Health Care (PHC) is essential health care based on practical, scientifically sound and socially acceptable methods. Community involvement, inter sectoral cooperation and approaches to peripheralise health services are the three pillars on which PHC is being built. Implementing PHC successfully will improve health development. Human progress and overall development lie in the progress of women and children and the realization of their right. It should be realized that medicine of any sort plays a very minor role in improving the health of the people- i.e. their health is inextricably linked to under development and the struggle against it. Problems of health development and under development are intimately linked.

In the later half of last century important technological advances in medicine were made. Vaccination against major diseases and therapy for infectious diseases and the technical knowledge to prevent nutrition deprivation and diseases were available. As a result rapid decline in death rate has occurred. In spite of impressive progress in health picture, the prevailing health and nutrition disparities were a cause for serious concern.

Medical science realized that poverty related social conditions like poor sanitation and housing were major causes of ill health. Studies have shown that irrespective of medical intervention health status improved remarkably when basic requirements of health were available. The challenge was primarily a question of equal access to all. In 1978 for the first time all the Governments of the world - DEMOCRACIES OR DICTATORSHIPS, COMMUNISTS OR CAPITALISTS - accepted the principles of PHC officially and promised to bring them into being in all nations within the next 22 years. This ALMA- ATA DECLARATION did not accept that HEALTH FOR ALL is something that can just be achieved. It accepted that HEALTH IS A FUNDAMENTAL HUMAN RIGHT. It also accepted that the gross inequalities in health status is unacceptable. It further declared that people have the right and duty to participate individually and collectively in the planning and implementation of their health care. HFA heralded the vision of a new and better future for all human family.

India's commitment to universal health care precedes the Alma Ata Declaration by at least three decades. The Bore Committee report, which was Independent India's Charter on Health, begins with the opening statement "No citizen should be denied an adequate quality of health care merely because of his or her inability to pay for it". To fulfill her commitment of Health For All, India evolved a National Health policy in 1983. To transfer all objectives of Health For All, the policy laid down specific goals with quantifiable targets to be achieved. This commitment did lead to some renewed attempt at achieving these goals. India launched

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\* Address given at the 38<sup>th</sup> National Conference of Indian Academy of Pediatrics, Patna, Bihar on 9<sup>th</sup> February 2001 for the Hony. Surg. Cmde. Dr. Shantilal C. Sheth Oration.

ambitious campaigns for eradication of communicable diseases, infections and malnutrition. Various policies and acts introduced earlier and later tried to augment efforts (Table. i). The impact of all these interventions to improve health, particularly maternal and child health has been large. Decline in vaccine preventable diseases and severe malnutrition of this magnitudes have never been achieved in our setting and certainly not in an equivalent period of time. Still there are disparities in health. So the achievements of the National Health Policy needs critical analysis.

**Table . i**

**Important Efforts Taken to Achieve Health For All**

1977	WHO adopted the goal of Health For All by 2000 AD. Re orientation of Medical Education (ROME) was launched
1978	Parliament approved the Child Marriage Restraint (Amendment)
1979	World Health Assembly endorsed the Declaration of Alma Ata on PHC
1981	International water supply and sanitation decade 1981-1990. The Air (Prevention and control of pollution) Act.
1983	IMPACT India's action against avoidable disablement launched. National Health Policy approved by parliament
1985	A separate Department of Women and Child Development under the newly created Ministry of Human Resource Development
1992	Child Survival and Safe Motherhood Program (CSSM) launched. The infant Milk Substitute, Feeding Bottles and Infant Foods Regulation of Production, Supply and Distribution Act 1992.
1995	ICDS renamed Integrated Mother and Child Development Services (IMCD)
1996	Pulse Polio Immunization Launched. Family planning program made target free. Reproductive child health program introduced. Pre natal Diagnostic technique (Regulation and Prevention of Misuse) Act came into force from January 1996.

(Source Park's Text Book of PSM 15<sup>th</sup> edition page 609-610 1997)

**PROGRESS IN MATERNAL AND CHILD HEALTH INDICATORS**

Mortality rates and nutrition status are good indicators to measure the level of health and nutrition care. This also helps in assessing the over all socioeconomic development.

**A. Mortality in and around infancy.**

**1. Perinatal mortality**

Still births and deaths under the first week of life are combined in perinatal mortality, because the factors responsible for these two types of deaths are often similar. Peri natal mortality is not investigated like infant neonatal deaths. With declining infant mortality rate, perinatal mortality is assuming importance as a yard stick of obstetric and pediatric care before and around the time of birth. There is a wide variation in urban rural death rates. The target is not achieved-the rate is 45/1000LB

TABLE. ii.

**Peri-Natal Mortality Rate, 1981-1995**

Year	Urban	Rural	Combined
1981	31.5	58.6	54.6
1985	30.4	52.4	48.1
1990	34.0	51.7	48.4
1995	31.4	48.0	45.0

Source: Sample Registration System, 1995

**2. Neonatal Mortality**

Deaths occurring 28 days after birth is called neonatal mortality. Neonatal Mortality contributes 50 to 55 % of IMR. Perinatal and neonatal deaths are largely the consequences of inadequate and inappropriate care during pregnancy, during the crucial first few hours after delivery. The causes of perinatal and neonatal mortality are multi factorial - Low Birth Weight, Neo Natal Asphyxia, Birth Injury, Congenital Malformations and Infections. In India Tetanus Neonatorum still accounts for neonatal deaths in some states. The rural rates are almost double that of The high concentration in the early neo natal period suggests the need to improve the maternal health.

TABLE. iii

**Neo-Natal Mortality Rate, 1981-1995**

Year	Urban	Rural	Combined
1981	38.5	75.6	69.9
1985	33.3	66.6	60.1
1990	30.9	57.4	52.5
1995	29	52	48

Source: Sample Registration System, 1995

**Infant Mortality**

Deaths from birth to one year is called infant mortality. There was a decline in the eighties and the decline is static in the last five years. The decline is mainly due to medical care and indicates that attempt needs to be addressed to endogenous and socio economic causes. The urban rural differences are obvious. In 1999 the urban rate was 44 and the rural was 74 being much higher. The low rates in urban areas are due to better medical care. The death among girls is higher, indicating neglect of girl children. The current rate is unacceptably high. High IMR is observed in infants born to very young and old mothers, Illiterate mothers, and those with short birth spacing

TABLE. iv

## Infant Mortality Rate, 1970-1999

Year	Urban	Rural	Combined
1970	90	136	129
1975	84	151	140
1980	63	124	114
1985	59	107	97
1990	50	86	80
1995	48	80	74
1999	44	75	70

Source: Sample Registration System, 1995, 1999

## Morbidity and Mortality Among Children

The common causes of illness are diarrhoeal disorders, respiratory infection and malnutrition for the last two decades - vaccine preventable diseases registering a decline. Severe malnutrition like kwashiorkor and blinding xerophthalmia have registered marked reduction. Still under nutrition is highly prevalent. 40 to 50% of under fives are undernourished.

TABLE. v

## Percentage of 'Severe and Moderate' Forms of Malnutrition (1994)

State	1-3 Years		3 - 5 Years	
	Boys	Girls	Boys	Girls
Tamilnadu	33.4	37.8	49.9	42.1
Andhra	52.7	48.5	44.5	51.0
Kerala	25.9	26.8	45.3	42.9
Karnataka	55.2	50.8	55.9	51.4
Orissa	53.2	60.3	56.6	42.6
Madhya Pradesh	67.3	59.5	47.0	42.0

Source : National Nutrition Bureau, 1995

Anemia is prevalent among all the population in developing countries. Various estimates reveal that the prevalence of anemia among different age groups varies from 50 to 90%.

TABLE. vi

## Prevalence of Anaemia - Different Demographic Groups

Countries	Prevalence of Anemia (%)				
	Pregnant Women (<11g/dl)	Lactating Women (<11g/dl)	Preschool Children (<11g/dl)	School Children (<11g/dl)	Adult Women (<12 g/dl)
Bangladesh	77	77	73	40-74	70
Bhutan (ICN.1992)	59	-	58	-	-
India (Seshadri.1996)	87	77-95	67	50-90	-
Maldives (WEO.1996)	68	-		82	62
Nepal	67	-	79	-	68
Pakistan	29-33 (<10g/dl)	-	65-78	-	68
Sri Lanka	39	-	45	58	45

Source : ROSA Publication No.5 UNICEF, SA November 1997

**Adolescent Population:**

20% of the population is adolescent age group. 90% of them are anemic. Under nutrition and stunting and other illnesses are highly prevalent. They are victims of child labour, sexual assault and highly prone to drug addiction. Child population and women are victims of silent emergency of malnutrition. 20 to 25 % of births still occur among adolescent girls with high incidence of complications and low birth weight.

**Maternal Mortality**

Maternal mortality is a neglected tragedy and is prevalent among the poor with the least power and influence. India is one of the countries which has very high MMR. According to SRS estimates, 1.1% of all deaths in the country in 1991 were due to maternal causes. Based on these numbers, the estimated maternal deaths is 0.63/1000 women in the reproductive age group of 14-44 or MMR of 3.4/1000 live births. Obstetric complications like, bleeding of pregnancy and puerperium, abortion, toxemia, puerperial sepsis and malposition are major causes. Non-obstetric causes particularly nutritional anemia accounts for more than 30% of maternal deaths. Recent observations have indicated that Rheumatic Heart Diseases contributed to 0.5 to 1% of maternal deaths, needing aggressive preventive programmes to prevent Acute Rheumatism. When mother dies during pregnancy, the child has 17 fold increased risk of dying during the first six months of life.

There are wide variations between states - Bihar, Madhya Pradesh, Assam, Gujarat, Orissa, Uttar Pradesh have very high Maternal Mortality and childhood mortality. These are mainly due to female illiteracy, Maternal Malnutrition, inadequate obstetric care and bad socio economic conditions.

TABLE. vii

**Maternal and Child Health Indicators In Some States**

STATES	INFANT MORTALITY	UNDER FIVE MORTALITY	MATERNAL MORTALITY
Kerala	16	32	87
MP	98	130	711
Bihar	67	127	470
Tamil Nadu	53	87	367
Punjab	54	68	369
ALL INDIA	72	109	453

Source : Sample Registration System, 1995

**WHAT HAPPENED TO HEALTH FOR ALL BY 2000 AD IN INDIA?**

For most villages and towns around the country and world not much has changed for the better since 1978. The National Health Policy review is a review of broken promise. The Indian Government stated at ALMA ATA, "we are now laying greater emphasis on Primary Health Care in rural areas-on narrowing the gap between the village and the city and between the "health haves" and "have nots". The new direction which we have given to our health program seeks to take basic health care to the door steps of people in the villages". These admirable sentiments and noble ideals were the solemn promises made by India. It implied removing the obstacles to health. What are the obstacles for achieving HFA goals?

TABLE. viii

**The Gap Between Health For All Targets and The Performance**

Indicators	Status 1983	Target 2000	Status 1998
Infant Mortality Rate	104	<60	69
Under 5 Mortality Rate	140	<70	105
Peri Natal Mortality Rate	53	35	46
Crude Death Rate	12.5	9.0	9
Life expectancy	54	64	63
Low Birth weight (<2.5kg)	30	30	30
Maternal Mortality Rate	450	200	410
Crude Birth Rate	33.8	21	25
Total Fertility Rate	3.8		3.1
Immunization (BCG)		100%	79%
Immunization (DPT)		100%	73%
Immunization (Measles)		100%	66%
Pregnancy-TT		100%	80%
Trained Dai or Inst. Deliveries		100%	34%

Source: The National Health Policy, Sample Registration System 1993, 1998

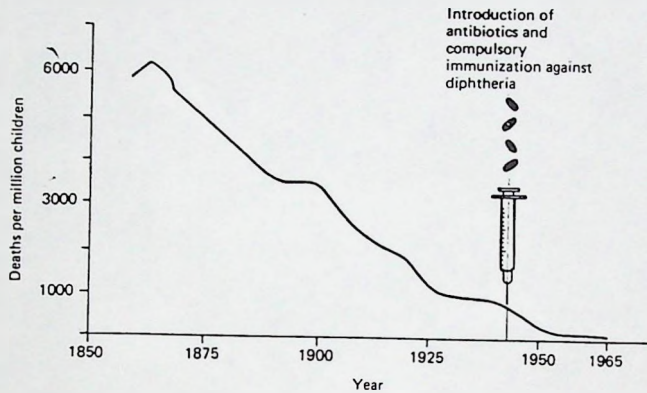
# REASONS FOR FAILURE OF HEALTH FOR ALL

## I. MEDICALISATION OF HEALTH AND SELECTIVE PHC<sup>o</sup>

Diseases and deaths in the developed countries in the not-too distant past was strikingly similar to that in most of underdeveloped world. Nutritional deficiency and infections played an important part in high death rates specially among children. In the developed world substantial reduction in deaths-85to90% occurred before the era of antibiotics and vaccines by

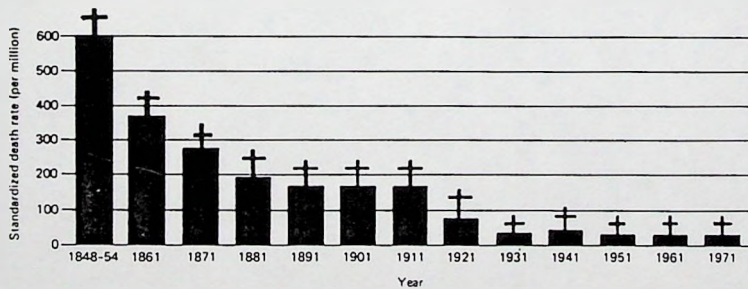
1. Protected water supply
2. Proper sewage disposal
3. Improved food and nutrition
4. Provision of safe milk.
5. Improved living condition
6. Universal education

Fig.1



Deaths of children under 15 years attributed to scarlet fever, diphtheria, whooping cough and measles in England and Wales. (Courtesy Office of Health Economics.)

Fig.2

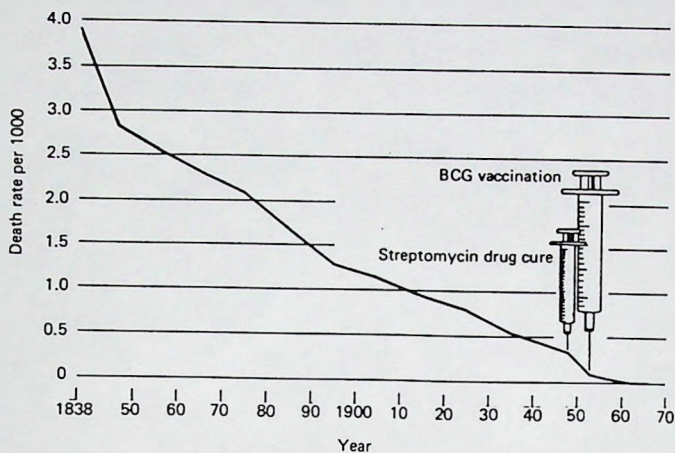


Diarrhoea and dysentery: death rates at age 5 and over, England and Wales 1848-1971. (From McKeown, *The Modern Rise of World Population*, Edward Arnold, London, courtesy of author and publishers.)

<sup>o</sup> Quoted from *The Struggle for Health* by David Sanders 1985 published by Mac Millan Education Ltd.

Decline in deaths was observed in air borne infections like diphtheria and respiratory infection. Rapid decline was observed in water transmitted diseases. Tuberculosis is traditionally considered as a barometer of all aspects of health development. Anti TB treatment has been available in India since 1944. India has a long and proud tradition in TB research and demonstration project since 1950. In fact most of the therapeutic strategies currently available and accepted globally have their roots in Indian research.

Fig.3



Decline in TB before drugs. ( Provincial Hospitals Trust.)

. Courtesy Nuffield

India has the saddest distinction of having the most cases of TB. The failure is due to dependence on drugs and medical care and not on health development. Our Primary Health care approaches failed to offer comprehensive health care. Many western donor institutions argued that the comprehensive Primary Health Care is costly and unrealistic. To improve health statistics high risk groups were targeted with selective PHC approaches. This selective PHC stripped off its key concepts. This selective politically sanitized (and thus unthreatening) PHC was reduced to few high priority technological interventions like GOBI not determined by communities but by international health experts. This selective PHC was quietly embraced by national Governments, Health Ministries and many of the larger main stream international organisations. The failure is due to health being treated as a simple sector, the responsibility of health ministry and health professionals with the failure to involve all sectors with mass citizenship participation as the main cause. Medicine of any sort plays a very minor role in improving the health of people as their health is inextricably linked to underdevelopment and the struggle against it.

Despite the dismal and deteriorating living conditions in many poor countries, a few poor states have succeeded in making impressive strides in improving their people's health-Kerala in India and Cuba. In spite of the economic backwardness, Kerala has made remarkable achievements almost comparable to that of developed countries, spending roughly about US\$ 10 per capita per year. US spends roughly \$3500 per capita per year within the framework of constitution. Kerala has a highly literate population with high female

Quoted from The Politics of Primary Health Care and Child Survival by David Werner and David Sanders published by HEALTHRIGHTS 1997



literacy which has to be given due credit. The agrarian reforms that were implemented ended the feudal relationship in agriculture and giving land to the tillers improved economic and social living conditions of landless poor leading to the improvement of their health status. It should be noted that Kerala has nurtured a political climate wherein the rights of the poor and the under privileged have been upheld and fought for. One common thrust of all movements was education and organisation of downtrodden people. There is remarkable reduction in the rate of exploitation of the underprivileged in Kerala compared to other Indian states. The public distribution system and universally available public health system has also contributed to the high health status of people.

Cuba, with a low per capita income (GNP) has a significantly lower U5MR. Not only are Cuba's levels of health, education, and overall social welfare superior to any other 'Third World' country, but also in many ways they are equal, if not superior, to many of the Northern 'developed' countries. For example, Cuba has an U5MR equal to that of Israel, whose GNP is 10 times as high. And Cuba has a much higher child immunization rate than the United States, whose GNP is 20 times as high. Indeed, for immunization of children against measles and of pregnant women against neonatal tetanus, Cuba has the highest coverage rates in the world (98%). Cuba has also placed strong emphasis on equal rights of women, and has a higher enrollment ratio of girls to boys in high school than does the United States. Even with its increasing economic difficulties due to loss of Soviet support and a stiffer US embargo, Cuba has succeeded in making sure the basic needs of all people-and especially the nutritional needs of children continue to be met. Cuba has managed, to date, to sustain the high levels of health of its children in spite of a 50 percent decline in its economy since the start of the 1990s. The two case studies indicate that non medical interventions play major role in improving health.

## **2. MEDICAL EDUCATION NOT ORIENTED TO HOLISTIC HEALTH**

The objective of Medical education is primarily to support the development of the health of our nation, and hence it should be community-oriented. Unfortunately our medical education is primarily hospital-based, specialization oriented and dependent on sophisticated investigative procedures. The curriculum is overcrowded with factual information, which inhibits the student from developing creative and critical thinking to solve problems. The Edinburgh Declaration states "the aim of medical education is to produce doctors who will promote the health of all people". It further states "Scientific research continues to bring rich rewards but man needs more than science alone and it is the health needs of the human race as a whole and of the whole person that medical education must affirm". The Declaration suggested enlargement of the setting in which educational programs are conducted to include all health resources of the community, not hospitals alone and to ensure that the curriculum content reflects the national health priorities and availability of affordable resources. It also emphasized the shift of training from passive to active learning. It is unfortunate that our medical education does not follow the spirit of the Edinburgh Declaration.

What Are the Obstacles?.

To become a reality, Primary Health Care demands a number of fundamental changes in medical society. Such profound changes don't come easily to medical society, from a

normal process cumulative learning. They represent instead a revolution in thinking and living.

The greatest resistance comes from the teachers themselves, both senior and junior, who do not want change. Teachers express concern that if community orientation gets priority, teaching has to be programmed beyond the four walls of hospitals and the medical colleges. This would entail that the selection of students and teachers will have to be restructured and reorganized, creating fear that the standards of education will suffer. They have also a considerable vested social, political and personal financial interest to resist any reform of the present system.

The students are never taught to imbibe the spirit of questioning, relevance, innovation and social commitment in their pre-medical education. They are denied an education, which will give them better scope to meaningfully serve the people.

### **3. DETERIATION IN PUBLIC SECTOR HEALTH SERVICES.**

With Alma Ata declaration there has been a drastic expansion of community and health infrastructure, nutrition intervention and personal spending large amount of resources. Army of health, nutrition and welfare workers have received the necessary training for implementation of programmes like CSSM and RCH and evaluation. Along with training equipments for essential new born care, emergency obstetric and critical care were supplied in the last decade. In spite of all these inputs, there is no impact on maternal morbidity and mortality, high incidence low birth wt and under nutrition.

While Government health centres exist across the length and breadth of the country, they have failed to provide the masses basic health care which the latter expect. A fairly large investment in public sector health care is wasted due to improper organisation and lack of accountability. While many doctors are sincere and committed to ethical and scientific frame work of the profession and vocation, in to-day's increasingly corruption influenced socio economic cultural political milieu, many are not. This is an increasing area of concern. There is no regularisation of private practice of government doctors and health personnel. The detailed plan of Bhore Committee was comprehensive designed to suit Indian conditions. It sought to construct health infrastructure with additional resources with the objective of making state health services available universally to all and would be run by full time salaried staff.

TABLE .IX

## Health Infrastructure Development In India 1951- 1997

			1951	1961	1971	1981	1991	1995	1997
1	Medical colleges	Allopaths	30	60	98	111	128		165
2	Out turn	Grads	1600	3400	10400	12170	12086		
		p.Grads		397	1396	3833	3139		
3	Doctors	Allopaths	60840	83070	153000	266140	395600	459670	503950
		All Systems	156000	184606	450000	665340	920000		115500
4	Nurses		16550	35584	80620	150399	311235	562966	565700
5	Pharmaceutical production	Rs. in billion	0.2	0.8	3	14.3		60.5	160 (1999)
6	Hospitals	Total	2694	3054	3862	6805	1174	15097	
		%Rural	39	34	32	27		31	
		%Private				43	57	68	
7	Hospital Beds	Total	117000	229634	348655	504538	664135	870161	
		%Rural	23	22	21	17		20	
		%Private				28	32	36	
8	Dispensaries	Total	6600	9406	12180	16745	27431	28225	
		%Rural	79	80	78	69		43	
		%Private				13	60	61	

Source : Quoted from Confronting Commercialiation in Health Care – Authored and Published by : National Coordination Committee, Jan Swasthya Sabha. May 2000.

#### **4. PRIVATISATION OF MEDICAL EDUCATION AND CARE**

Medical education till recently was financed by State. Until the last decade the private sector showed little interest and the entire burden of producing Doctors and Nurses was on the state. But in recent years Private Medical Colleges and Nursing schools are increasing in number rapidly without recognition by MCI & Nursing council (table ix). This trend has been largely due to lack of any regulation on the growth of the private sector, and the large demand of doctors in mid-east and western countries. It must be noted inspite of various restrictions, out migration of allopathic doctors remain very high with about 4000 to 5000 doctors leaving annually which in today's price means loss of Rs.400 to 500 crores assuming Rs. 10 Lakhs as the cost of production of doctor in public sector. Doctors under Homeopathy, Aurvedic, Unani, Siddha etc. is largely in the private sectors in the very limited subsidiary in the state. Even these doctors were largely produced for the private market. With the lack of any regulation of medical practice most of them indulge in wholesale cross practice specially Allopathy. In fact the Non Allopathic qualification is a via media for setting of the more profitable practice of medicine. The medical care in the private sector has witnessed a very rapid increase in the last decade and half making health care IN ACCESSIBLE TO THE POOR.

The story about Nurses is little different from that of Doctors. Out migration is high. The demand for private sector in India is very small because the private hospitals and Nursing homes do not follow any standard practice and prepare to employ nursing personnel who are trained only as auxiliaries or worst still trained on the job.

#### **5. DRUGS AND MEDICAL EQUIPMENTS INDUSTRIES AGGRESSIVE PROMOTION**

India has one of the most progressive patent laws passed by the parliament in 1970. The major feature of the Indian patent laws are that it is based on process patents rather than on product patents. It is because of Indian Patent that India has become one of the very few countries in the developing world that has attained near self sufficiency in essential drug production.

The turnover of drugs is more than 16 thousand crores and more than 90% of this being in the private sector. The private drug sector has penetrated into remote rural areas and has not deterred from using large unqualified segment of practitioners to expand its market. If someone has any information on private medical sector it is the pharmaceutical industry. Non-allopathic industry turnover is in 100 of crores and mostly in private practice. For patients and consumers the major concern is the rapid increase in drug price making Health services more expensive. With the rapid growth of medical equipment industry in India the cost of medical care is increasing rapidly. The major impact of the WTO and TRIPS is in the pharmaceutical sector, destroying a self reliant pharmaceutical sector. MNCs push their drugs and equipments to the developing countries, making medical care very expensive and unreachably for the poor.

## 6. PRIVATE PRACTICE AND COMMERCIALISATION OF MEDICINE

In the first half of this century, the image of the general practitioner was family doctor and family friend would come to homes, payment was flexible often differed few drugs prescribed.

Today, due to fierce competition private practice is

- Threatened by numerous nursing homes and polyclinics.
- Swallowed up by corporate hospitals and insurance companies and for those who can not pay or are drained of their money no treatment is offered. A very weak public sector fails to take care of the poor.

A corporate hospital is run like an industry! It is run to maximise returns on investment. The number of people who need investigation will invariably be less than that needed to break even-especially as more and more hospitals will open. Where there is a high return of investment in any sector in a market economy, more units of that type develop. Globalization has led to commercialization of medical care rapidly. The pressure to bring income by unethical means is much high in hospitals run for profit by non technical financiers.

## 7. IRRATIONAL MEDICAL CARE

All types of irrational practices are rampant in India. The reasons are manifold. One is to do with the proliferation of a large number of drugs in the Indian market that are either irrational or useless. With rapid developments in Science and Technology there has been an explosion in the number of drugs, which are available in the market. A French study of 508 new chemical entities marketed in the world between 1975 and 1984 found 70% offered no therapeutic improvement over existing products. The situation in India is no different and probably worse, given the fact our Drug Control mechanisms are much more lax than in developed countries.

As a consequence there are estimated 60,000 to 80,000 brands of various drugs available in the Indian market. On the other hand the WHO lists a little over 270 drugs, which can take care of an overwhelming majority (over 95%) of the health problems of a country. A majority of the estimated 80,000 products in the market are either hazardous, of irrational or useless. Another dangerous practice is that of making drugs available "over the counter", i.e. directly by chemists, without a doctor's prescription.

All irrational practices continue to flourish because the five actors in this drama: the government as a regulatory, the drug companies as producers of drugs, the doctors as prescribers of drugs, the chemists as sellers of drugs, and the consumers as users of drugs, at some level or the other do not fulfil the required obligations and are unmindful of the potential harm that inappropriate use of drugs can cause. Drugs can save lives, but their inappropriate use of drugs can cause. Drugs can save lives, but their inappropriate use can also take lives. It is estimated that 20-30% of illnesses-- especially in the aged and in children are caused by use of drugs.

## **Irrational Drugs and Infectious Diseases:**

Until quite recently there was a widespread feeling that the struggle against infectious diseases was won. But tragically with optimism came a false sense of security, which has helped many diseases to spread with alarming rapidity. Major diseases such as malaria and tuberculosis are making a deadly comeback in many parts of the world. At the same time, diseases such as plague, diphtheria, dengue, meningococcal meningitis, yellow fever, and cholera have reappeared as public health threats in many countries, after many years of decline.

### **Drug Resistance:**

Resistance to antibiotics is a phenomenon common to both emerging and re-emerging infections. Many well-known antibiotics are no longer effective against common infections such as pneumonia, gonorrhoea and tuberculosis. Fewer new antibiotics are being released on the market, partly because of the high cost of developing and licensing them and partly because they have a potentially short life because of the development of resistance. If the arsenal of drugs against infectious diseases loses its power, the future for patients with even a common infection will become more bleak.

## **8. IRRATIONAL USE OF DIAGNOSTICS:**

Irrational drug therapy as the basis, irrational use of diagnostics (including laboratory tests of blood, urine, sputum, etc.; X-Rays; scans; etc.) may be defined as: "a diagnostic test is irrationally used when the expected benefit is negligible or nil or when it is not worth the potential harm or the cost".

While there is some awareness about irrational drug usage, almost no enough attention has been focused on irrational use of diagnostics. If one realises that an irrational use of diagnostics - an irrational CT-Scan is equivalent in wastage to about 100 bottles of an irrational 'tonic', then the importance of rational use of diagnostics will be apparent.

## **9. THE MARGINALIZED AND MIGRANT POPULATION:**

The dislocation of populations due to migration necessitated by economic, political, and armed conflict has a direct influence on health and well-being. Intolerance over ethnicity and religion have divided communities and created war and destruction. The tribals in areas where mega dams are constructed are shelterless with total loss of income. Under the guise progress they are made powerless and poor. Their rights have been totally denied.

## **10. THE NEW ECONOMIC POLICY AND HEALTH DEVELOPMENT \***

One should understand what globalization is all about and how it affects the health of the poor. The British colonized India. The motivation beyond doubt was greed. Globalization is another form of colonialism. In the post World War period the rich became richer and were

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\* Quoted from What Globalisation does to Peoples Health. May 2000 – Authored and Published by National Committee. Jan Swasthya Sabha

controlling the world economy. In 1973 the OPEC (Oil Producing Countries) suddenly hiked their price. This was followed by a long period of crisis in all the rich countries characterized by a slump in economic activity. There began an accumulation of money (or Capital - as economists call it) on an unprecedented scale in a few hands. A major source of this accumulation was due to the growing resources and influence of Multi National Corporations (MNC's) including infant food industry. Another source of accumulation was the huge profits made by oil producing countries, which they deposited into western capitalist banks. A third of capital accumulation was the increasing volumes of illicit or illegal incomes from crimes of various kind ranging from drug smuggling and drug peddling to the plunder (by dictatorial rulers and others from the ruling elite) of the wealth of developing countries.

Thus, the availability of "surplus" money in the global economy became enormous, and it came at a stage when the economies of the developed countries were facing a slump and were incapable of absorbing this money in production related activities. This produced the impetus for the process of globalization, where avenues were sought, on one hand MNCs to sell their products in developing countries, and on the other by capitalist banks to push their money (in the form of loans) in developing countries. If both these objectives were to be met the economies of the developing countries had to be prized open-- to allow free flow of goods manufactured by MNC's and to allow free flow of Capital from Western funding institutions.

One glaring effect of globalization has been the explosive growth of MNC's across national borders. Capitalism identifies nations not as nations but as "markets" and countries like India and China are the vast, untapped markets. As a global slump in productive activities creeps across the world, developed countries seek to expand their markets beyond their own boundaries and the obvious targets are nations such as India, even if the majority in these countries can barely make both ends meet.

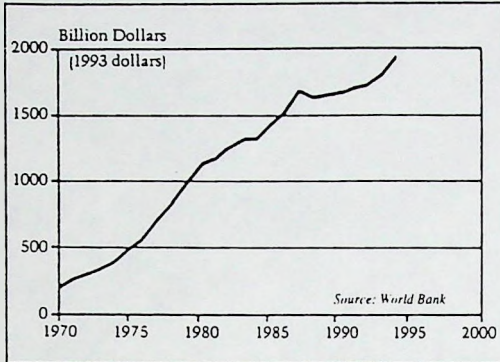
The objective of opening up Third World economies to flow of Capital was pursued relentlessly by two institutions set up by the Western capitalist countries after the Second World War - IMF and World Bank. They claimed that their goal was aid development! They directly control billions of dollars each year and indirectly even more. For the last 50 years the IMF & the WB have had unchecked decision making powers over managing the "Third World" debt. They have secured guaranteed flows of reserves from the South to the North. Since 1947 the WB has made profit every year. Between 1980 & 1992 its net earnings rose over 172% to over \$1.6 billion.

Both the IMF & WB are structurally undemocratic. Voting power does not operate on one vote one country but is determined by the amount of money invested by each member country. While more than 150 countries are members of the IMF five of them (USA, Britain, Germany, France, Japan & Saudi Arabia) control 44% of the votes. The USA alone controls 19% of the vote. In the case of the WB, the 24 OECD countries control more than two thirds of the votes. Clearly this gives the rich countries a great deal of power.

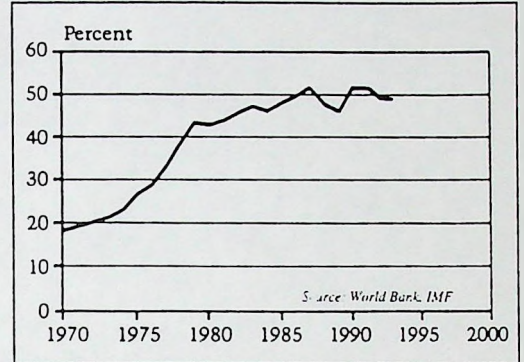
Third World countries had been hit hard by hike in oil prices in 1973. Further, in the 1970s developing countries faced increased economic problems as a result of unfair trade. Their economies were designed around the export of raw materials and agricultural products, the price of which was manipulated on the world market by developed countries. Over the

last few decades the price of these commodities have declined sharply while the import of manufactured goods produced in the highly industrialized countries has increased. Faced with the twin crisis the developing countries were eager to borrow more and more money from western banks, which, in turn, were only too happy to lend out more money and earn interest on their oil money. The crisis hit when the global economy slumped further and the interest rates for the money that was lent was hiked in the early 1980's. There were a number of other reasons for their falling into the debt trap like trade deficits, failure of development projects, often result of mismanagement and corruption.

Fig. 4 & 5



External debt of developing countries, 1970-94.

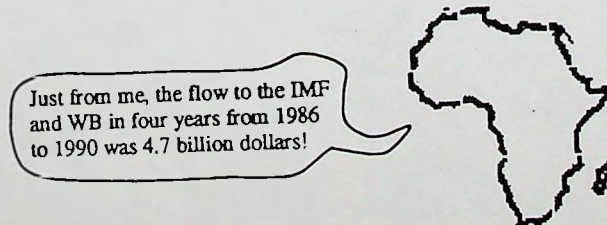


Third World debt as share of Gross Domestic Product 1970-93

The 'Third World' debt currently stands at approximately \$1.3 trillion, which represents 44% of the Gross National Product of all so-called developing countries, combined. While India faced a debt crisis later than many other countries, in the late 1980s and 1990's (IMF and other foreign banks). This is Rs. 4,000 for each man, woman and child in India.

The ultimate result of the massive loans given by institutions like the World Bank and the IMF has been a massive loss of capital from the poor countries to the rich countries in the North - an estimated \$50 billion in 1985 alone. In 1990 there was a net transfer of \$156 billion from the "third world" to the developed countries. In other words, what is happening is, as a result of lending by the WB and the IMF, and the requirement to repay with interest, there is a reverse flow from the developing countries to the developed countries, on a scale, which is unprecedented.

Fig. 6





The story does not stop here. In the face of the debt crisis banks and other financial institutions saw the need to safeguard their own interests, i.e. to ensure that they get back the money conditions on loans to "Third World" countries to ensure that there would be no defaulting on their debt repayments. Stringent conditions were imposed on further loans.

Fig.7

I am the result of SAP. Everywhere, there is increased malnutrition, infant mortality, unemployment & illiteracy. Poverty has risen dramatically



UNICEF estimates that about half a million children died in 1988 alone as a result of debt-induced austerity measures.

In brief, the Structural Adjustment Program (SAP) was designed to:

1. Cut government spending - this means big cuts in health care, education and subsidies to farmers and the poor.
2. Privatize - state owned industries and services must be sold off to private corporations. Often foreign multinationals are the buyers. Many workers lose their jobs as government industries close down. Services like transportation and power become more expensive.
3. Devalue the local currency - for example, in India the rupee should be worth less and less compared to the American dollar. The World Bank and IMF demand this, so that what the country exports is cheaper in the international market, help to pay back the loans. But farmers and local industries get less for their goods. And prices of imports go up, increasing poverty.
4. Export more- the country should export more to earn foreign dollars to pay back loans. The agricultural sector should turn to commercial farming for the market and for export, rather than food production for local consumption.
5. Open up to foreign multinational companies like Pepsi, Shell oil, Nike, Nestle, etc.
6. Reduce duties and tariffs on imports-in this way foreign multinationals can more easily sell their products in a country like India. Local industries find it hard to compete with cheaper imports.

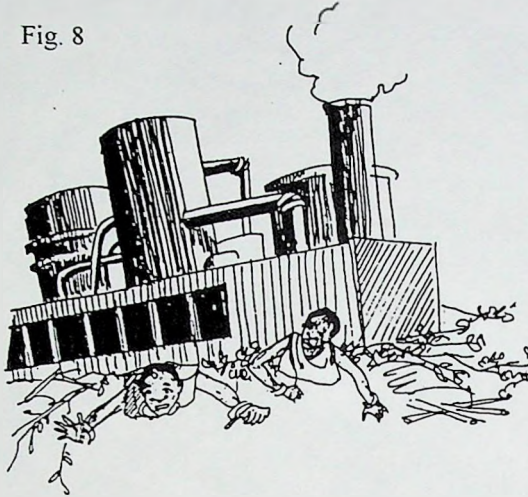
#### **SPECIFICALLY, IN THE HEALTH SECTOR IT MEANT:**

- A cut in the welfare investment, leading to gradual dismantling of the public health services.
- Introduction of service charges in public institutions, which has now making the services inaccessible to the poor.
- Handing over the responsibility of health service to the private sector and undermining the rationality of public health. The private sector on the other hand focused only on curative care. India for instance, was forced to reduce its public health expenditure in health and to recover the cost of health services from its users by international banks.
- The voluntary sector, which has also stepped in to provide health services is forced to concentrate and prioritize only those areas where international aid is made available.

## THE MARGINALIZED IN THE PRESENT SCENARIO:

The policies have been disastrous for the third world and more so for the poor in the third world. After SAP, mal-distribution of global income has attained unacceptable levels. During the period 1960-70 the poorest 20% received 2.3% of the global income. In 1990 they received 1.3 of income A reduction by half. While consumption has steadily increased in the industrial countries by about 2.3% annually over the past 25 years, the World's poorest 20% live outside the consumption market. So Globalisation, WTO, SAP and others are making the poor poorer in both developed and developing countries.

Fig. 8



*The number of people living in poverty continues to grow as globalisation proceeds along its inherently asymmetrical course : expanding markets across national boundaries and increasing the incomes of a relative few while further strangling the lives of those without the resources to be investors or the capabilities to benefit from the global culture. The majority are women and children ,poor before, but even more so now, as the two-tiered world economy widens the gaps between rich and poor countries and between rich and poor people.*

### **Structural Adjustment Policies: Rescuing the Rich at the Expense of the Poor**

-The State of the World's Children 2000

- They no longer use bullets and ropes.
  - They use the World Bank and the IMF.
- Jesse Jackson

## **THE ROLE OF MEDICAL PROFESSION TO PROMTE HEALTH DEVELOPMENT**

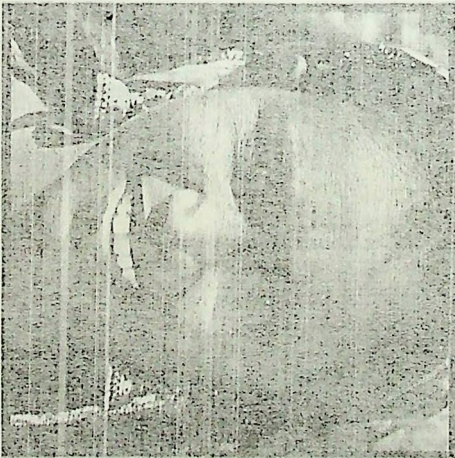
Paediatricians and physicians have to realise that they exist for serving the people, in whose satisfaction and welfare alone the profession can survive. They should have functional code of ethics with accountability. They have a responsibility to address themselves aggressively to the present and emerging problems.

As teachers they have a responsibility to train medical graduates paraprofessionals and others to make the delivery of health care more efficient and effective. It is time to reorganize themselves to take care of the community, the consumer, patient and people. The need to motivate students to work with new categories of health care providers and allied professional persons who can magnify and multiply the effectiveness of the work of paediatricians and physicians. They have to look beyond health sector and establish supportive linkages with education, health, agriculture, sanitation, communication and comprehensive socio-economic development. They have to shift the main focus from drugs and doctors to informed practice by the people for health promotion and disease prevention.

As Administrators, the paediatricians have to play a multifaceted role to promote health. They have to critically and objectively evaluate what is being done what can be done and what should be done in managing program. Perceptions are changing in relation to population growth. Lowering Birth Rate cannot be separated from improving nutrition and health, education and socio-and economic improvement. They have to play a major role in influencing policy makers including fund controlling politicians beurocrats and programme executives aggressively address them about marginalizing the poor with various new policies. They need to eliminate communication and information gap among all cadres of workers and community to facilitates community participation.

The past century of the last millennium is called the century of the child. Because pediatrics emerged as a medical specialty with increasing awareness that health problems differ from that of adults. The present Century of the new millenium is a knowledge century with respect for human rights. The sense of human rights must be imbibed by us. We have to abide by all ethical principles. We have to respect sanctity of life but also the quality of life.

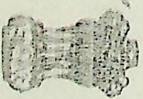
POLICY ON  
CONTROL OF  
NUTRITIONAL  
ANAE MIA



Design: Vishvesh Sant      0002 001 01 A 074 002005 10/7 Poojeh Hyderabad

Produced by the Ministry of Health & Family Welfare

MINISTRY OF HEALTH & FAMILY WELFARE  
GOVERNMENT OF INDIA



## TREATMENT OF SEVERE ANAEMIA

Women with haemoglobin levels below 7g/dl are considered to be severely anaemic. Testing of blood for haemoglobin concentration at field levels is neither considered safe nor practical. Therefore, as far as possible, severely anaemic cases should be identified on the basis of clinical signs. All health workers should be trained to identify such anaemic cases.

Recommended therapeutic dose for women in the reproductive age group is one tablet (big) of iron thrice daily for a minimum of 100 days. This will provide equivalent to 180 mg elemental iron and 1500 µg folic acid per day. In case of 100 mg elemental folifer tablets, recommended dose is two (big) tablets of iron daily for a minimum of 100 days. Further, cases of severe anaemia should be referred to the PHC medical officers for diagnosis of the causative factors and treatment.



## NATIONAL NUTRITIONAL ANAEMIA CONTROL PROGRAMME

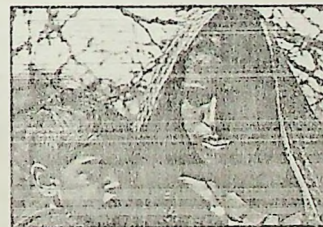
Nutritional anaemia is a serious public health problem. Although anaemia is widespread in the country, it especially affects women in the reproductive age group and young children. It is estimated that over 50 per cent of pregnant women are anaemic. Nutritional anaemia, due to iron and folic acid deficiency, is directly or indirectly responsible for about 20% of maternal deaths. Anaemia is also a major contributory cause of high incidence of premature births, low birth weight and perinatal mortality.

The National Nutritional anaemia Control Programme aims at significantly decreasing the prevalence and incidence of anaemia in women in reproductive age group, especially pregnant and lactating women, and preschool children. The Programme focuses on the following strategies:

- ① Promotion of regular consumption of foods rich in iron.
- ② Provisions of iron and folate supplements in the form of tablets (folifer tablets) to the "high risk" groups.
- ③ Identification and treatment of severely anaemic cases.

The Programme is implemented through the Primary Health Centres and its sub-centres. The Multiple Purpose Worker (F) and

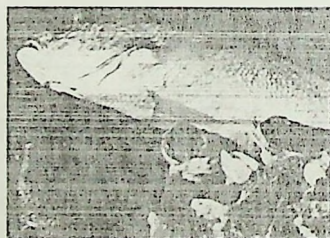
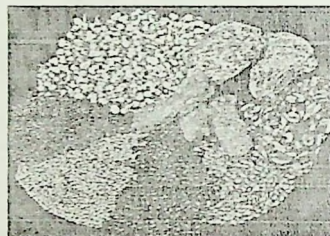
other paramedicals working in the Primary Health Centres are responsible for the distribution of iron tablets (adult and paediatric doses) to pregnant and lactating women, IUD users and children aged 1 to 5 years. The functionaries of Integrated Child Development Services (ICDS) Programme, under the Department of Women and Child Development, assist in the distribution of iron tablets to children and mothers in the ICDS Blocks and for imparting education to mothers on prevention of nutritional anaemia. Department of Food (Ministry of Food & Civil Supplies) is responsible for promoting consumption of iron rich food. In addition, services of other community level workers and involvement of formal and non-formal education, media, Horticultural Departments and voluntary organisations is recommended to be utilised for the effective implementation of the Programme.



## PREVENTION OF NUTRITIONAL ANAEMIA

### (i) PROMOTING CONSUMPTION OF IRON RICH FOOD

- Regular dietary intake of iron and folic acid rich foods by pregnant and lactating mothers, adolescent girls and children under 5 years of age must be promoted.
- The mothers attending antenatal clinics, immunisation sessions as well as women beneficiaries in the ICDS Programme should be made aware of the importance of preventing nutritional anaemia.
- Regular consumption of iron rich foods such as green leafy vegetables\*, cereals such as wheat, ragi, jowar and bajra, pulses (especially sprouted pulses) and gur (jaggery) must be promoted widely. In addition, wherever culturally and economically feasible, consumption of animal flesh foods such as meat, liver, etc. must be encouraged.



\* Green leafy vegetables rich in iron: mustard leaves (sarson ka sag), Amaranth (Chaulai sag), Colocasia leaves (Arvi ka sag), Kneel Kneel greens (Garth gobi ka sag), Bengal gram greens (chana sag), shepu or scwa, Tump greens (shaigam ka sag), Spinach leaves (Palak)

### RECOMMENDED DOSES OF IRON & FOLIC ACID SUPPLEMENTS

- Pregnant Women - one big (adult) tablet per day 100 days (each tablet containing 60 mg/100 mg of elemental iron and 500 µg folic acid). These tablets should be provided to women after the first trimester of pregnancy.
- Lactating women and IUD acceptors - one big (adult) tablet (containing 60 mg/100 mg of elemental iron and 500 µg folic acid) per day for 100 days.
- Preschool children (1-5 years) - one paediatric (small) tablet containing 20 mg. elemental Iron and 100 µg folic acid daily for 100 days every year.

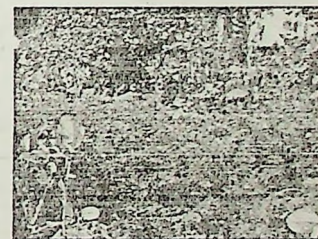
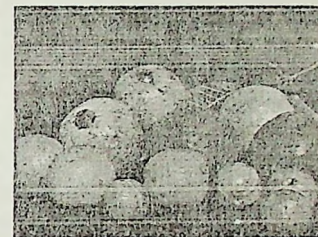
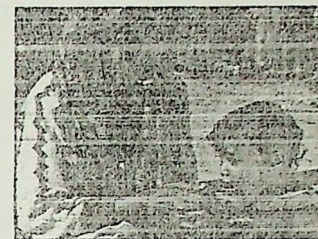


*Note: Tea inhibits absorption of iron in stomach. Drinking tea should be avoided within a few hours of taking folifer tablets.*

- For monitoring distribution as well as consumption of folic acid tablets by pregnant and lactating women and children 12-24 months, the Mother Infant Immunization Cards should be used. The Growth Monitoring Cards Registers used for monitoring the growth of preschool children under the ICDS Programme, should be used for recording and monitoring the distribution of folic acid tablets to children 1-5 years.
- In addition, records of under fives and antenatal care maintained under the MCH services and ICDS Programme, should be used for identifying beneficiaries (pregnant and lactating women, preschool children) as well as for recording and monitoring the distribution of iron and folic acid supplements.



- Ensure incorporation of iron rich foods such as green leafy vegetables in the weaning foods of infants.
- Vitamin C (ascorbic Acid) promotes absorption of iron. Regular consumption vitamin C rich food such as lemon, orange, guava, amla, green mango along with iron rich food must be promoted.
- For increasing availability of iron rich foods, growing of iron rich foods in home gardens and consumption of these must be promoted.
- Tea inhibits absorption of iron in the stomach. Advise a reduced consumption of tea, specially during pregnancy, for improving the absorption of iron and prevention of anaemia.

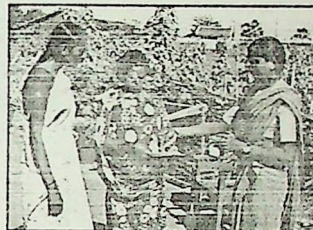


## (ii) PROMOTING CONSUMPTION OF IRON AND FOLIC ACID SUPPLEMENTS

- As a priority, all pregnant women, irrespective of haemoglobin levels, must be provided with the recommended dose of iron and folic acid (folifer) supplements.
- In addition, in case of available remaining supply, iron and folic acid supplements must be provided to lactating women and IUD users.
- Preschool children, especially those in tribal areas and ICDS blocks, should be given on priority the recommended dosage of iron and folic acid supplements.
- The contact during administration of tetanus toxoid should be utilised for distribution of folifer tablets to pregnant women. Ensure every mother is provided with complete recommended dosage of folifer tablets during pregnancy.



- Wherever ICDS Programme is in operation, Anganwadi workers (AWWS), under the supervision of multipurpose workers, should distribute folifer tablets to pregnant and lactating mothers and also to preschool children.
- Mothers often accompany their infants to the immunization sessions. Such ensured contact with lactating mothers should be used for handing over iron supplements as well as monitoring consumption of the total dosage of tablets.





## THE NATIONAL PROPHYLAXIS PROGRAMME FOR PREVENTION OF BLINDNESS DUE TO VITAMIN A DEFICIENCY

Vitamin A deficiency has been recognized to be a major controllable public health and nutritional problem. An estimated 5-7% children in India suffer from eye signs of vitamin A deficiency. Recent evidence suggests that even mild vitamin A deficiency probably increases morbidity and mortality in children, emphasising the public health importance of this disorder. National Prophylaxis Pro-



gramme for Prevention of Blindness due to Vitamin A Deficiency aims at protecting children 6 months-5 years at risk from vitamin A deficiency. The prophylaxis Programme comprises a long term and a short term strategy. While the short term intervention focusses on administration of mega doses of vitamin A on periodic basis, dietary improvement is the long term ultimate solution to the problem of vitamin A deficiency.

The National Prophylaxis Programme for Prevention of Blindness due to Vitamin A Deficiency is implemented through the Primary Health Centres and its sub-centres. The multipurpose worker (F) and other paramedicals working in the Primary Health Centres are responsible for administering vitamin A concentrates to children under 5 years and for imparting nutrition education. The services of Integrated Child Development Services (ICDS) Programme, under the Department of Women and Child Development, Ministry of Welfare, is utilized for the distribution of vitamin A to children in the ICDS Blocks and for the education of mothers on prevention of vitamin A deficiency.

### A. PREVENTION OF VITAMIN A DEFICIENCY

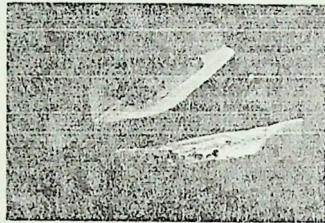
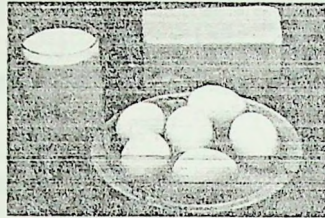
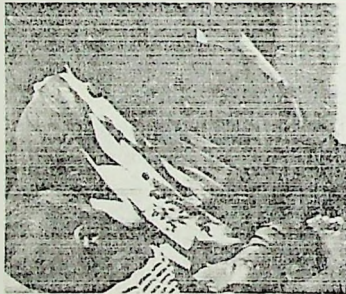
#### i) PROMOTING CONSUMPTION OF VITAMIN A RICH FOOD.

- o Regular dietary intake of vitamin A rich foods by pregnant and lactating mothers and by children under 5 years of age must be promoted.
- o The mothers attending antenatal clinics and immunisation sessions as well as

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mothers and children enrolled in the ICDS Programme must be made aware of the importance of preventing vitamin A deficiency.

- Breastfeeding, including feeding of colostrum, must be encouraged.
- Feeding of locally available  $\beta$ -carotene (precursor of vitamin A) rich food such as green leafy vegetables and yellow and orange vegetables and fruits like pumpkin, carrots, papaya, mango, oranges etc. along with cereal and pulse to a weaning child must be promoted widely. In addition, whenever economically feasible, consumption of milk, cheese, paneer, dahi (yoghurt), ghee, eggs, liver etc. must be promoted.
- For increasing availability of vitamin A rich food, growing of vitamin A rich foods in home gardens and consumption of these must be promoted.

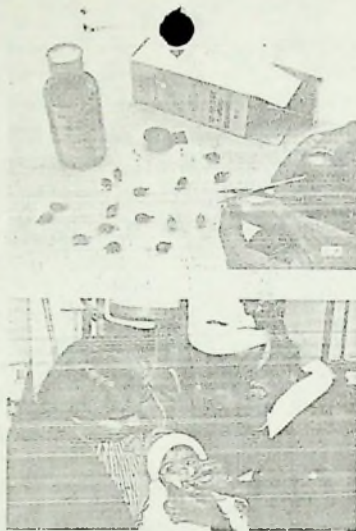


- Regular consumption of dark green leafy vegetables or yellow fruits and vegetables prevents vitamin A deficiency.
- Breast feeding protects against vitamin A deficiency. Colostrum is rich in vitamin A.
- Oral Prophylactic dose of vitamin A
  - one dose of 100 000 IU to infants (6-11 months)
  - six monthly dose of 200 000 IU to children 1-5 years of age.
- Treatment of vitamin A deficient cases
  - single oral dose of 200 000 IU of vitamin A immediately at diagnosis.
  - Follow up dose of 200 000 IU one-four weeks later.

## ii) ADMINISTERING MASSIVE DOSE OF VITAMIN A

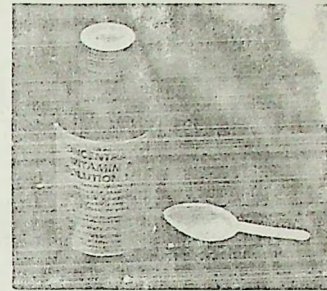
- Unlike most other micronutrients, vitamin A is stored in the body for

- Vitamin A solution must be kept away from direct sunlight. It should be stored in a cold dark room. Vitamin A solution kept at room temperature is stable for a minimum of one year.
- Vitamin A solution bottle once opened must be utilized within 6-8 weeks.



prolonged periods and hence periodic administration of massive dose ensures adequate vitamin A nutrition.

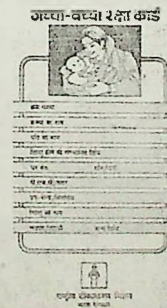
- Administration of massive dose of vitamin A to pre-school children at periodic intervals is a simple, effective and most direct intervention strategy. This is a short term strategy.
- Under the massive dose programme, every infant 6-11 months and children 1-5 years is to be administered vitamin A every 6 months. Priority is to be given for coverage of children 6 months-3 years since the highest prevalence of clinical signs of vitamin A deficiency is reported in this age group. The recommended schedule is as follows:



- 6-11 months — one dose of 100 000 IU
- 1-5 yrs — 200 000 IU/6 months.

A child must receive a total of 9 oral doses of vitamin A by its fifth birthday.

- The contact with an infant during administration of measles vaccine between the age of 9-12 months is considered a practical time for administering the vitamin A supplement — 100 000 IU for infants.
- A camp approach may be used for administering vitamin A to children 1-3 years and 3-5 years. However, the DPT/OPV booster in mid-second year to a child is a suitable time for the second dose of vitamin A (200 000 IU).



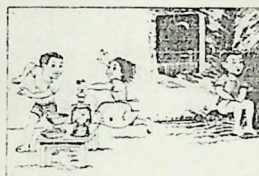
Wherever, ICDS Programme is functioning AWW should be involved in the distribution and administration of vitamin A.

- The Mother-Infant Immunisation Card should be used to record and monitor the administration of vitamin A dose to children under two years. The Growth Monitoring Cards/Registers used for monitoring the growth of children under the ICDS Programme, should be used for recording and monitoring administration of vitamin A solution till the age of five years.

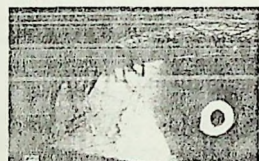
- In addition, records of under-fives maintained under the MCH Services and the ICDS Programme, is recommended to be used for identifying as well as monitoring children for administration of a total of 9 oral doses of vitamin A per child.

## B. TREATMENT OF VITAMIN A DEFICIENT CHILDREN:

- Mild deficiency of vitamin A leads to night blindness and conjunctival lesions, while more severe deficiency results in corneal damage. The term 'Xerophthalmia' is used to indicate the various types of eye lesions that result from vitamin A deficiency.
- Loss of lustre, haziness and dryness are characteristics of corneal xerosis. This can be completely reversed with vitamin A therapy but in untreated cases it progresses rapidly to keratomalacia ("wasting" of cornea) and blindness.
- Recurrent infections and parasitic infestations aggravate vitamin A deficiency; absorption, storage and utilization of vitamin A is adversely affected in such conditions. Keratomalacia is often preceded by an episode of diarrhoea or respiratory infection. Measles is another important contributory cause of vitamin A deficiency and childhood blindness.
- Night blindness and conjunctival changes (such as Bitot's spots) and corneal xerosis/ulceration are indication for immediate vitamin A supplementation. Corneal damage due to vitamin A deficiency (changes in the normally clear central part of the eye) threatens sight and is a medical emergency.
- All children with clinical signs of vitamin A deficiency must be treated as early as possible.



Night blindness



Bitot's spots



Corneal xerosis ulceration



Keratomalacia



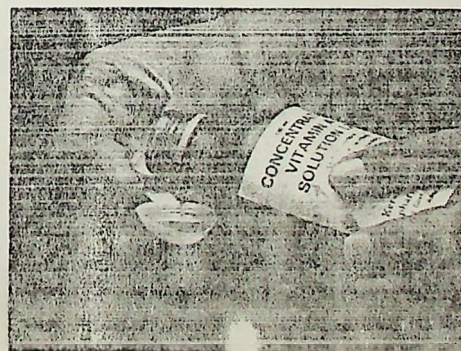
Corneal scar

- Treatment schedule is to administer 200 000 IU of vitamin A immediately after diagnosis. This must be followed by another dose of 200 000 IU 1-4 weeks later.
- Children with eye lesions must be treated immediately with vitamin A even if they are being referred for special care.
- Infants and young children suffering from diarrhoea, measles or acute respiratory infection must be monitored closely and encouraged to consume vitamin A rich food. In case, early signs of vitamin A deficiency are observed, the above treatment schedule must be followed.

## C. CONCENTRATED VITAMIN A SOLUTION -- IMPORTANT GUIDELINES.

- Vitamin A concentrate is available at primary health centres and sub health centres in the form of flavoured syrup at a concentration of 100 000 IU/ml or 100 000 IU/ capsule.
- Vitamin A syrup should be administered using the 2 ml. spoon/dispenser provided with each bottle of vitamin A. A marked level full 2 ml spoon of vitamin A contains 200 000 IU vitamin A.

Additionally, fixed dose vitamin A capsules (100 000 IU), are also being supplied for infants. The content of the capsule should be squeezed gently and completely into the mouth of the infant after snipping an end of the capsule with a pair of scissors or a clean razor blade



## 10. Towards better Nutrition

### 10.1 Causes of Malnutrition

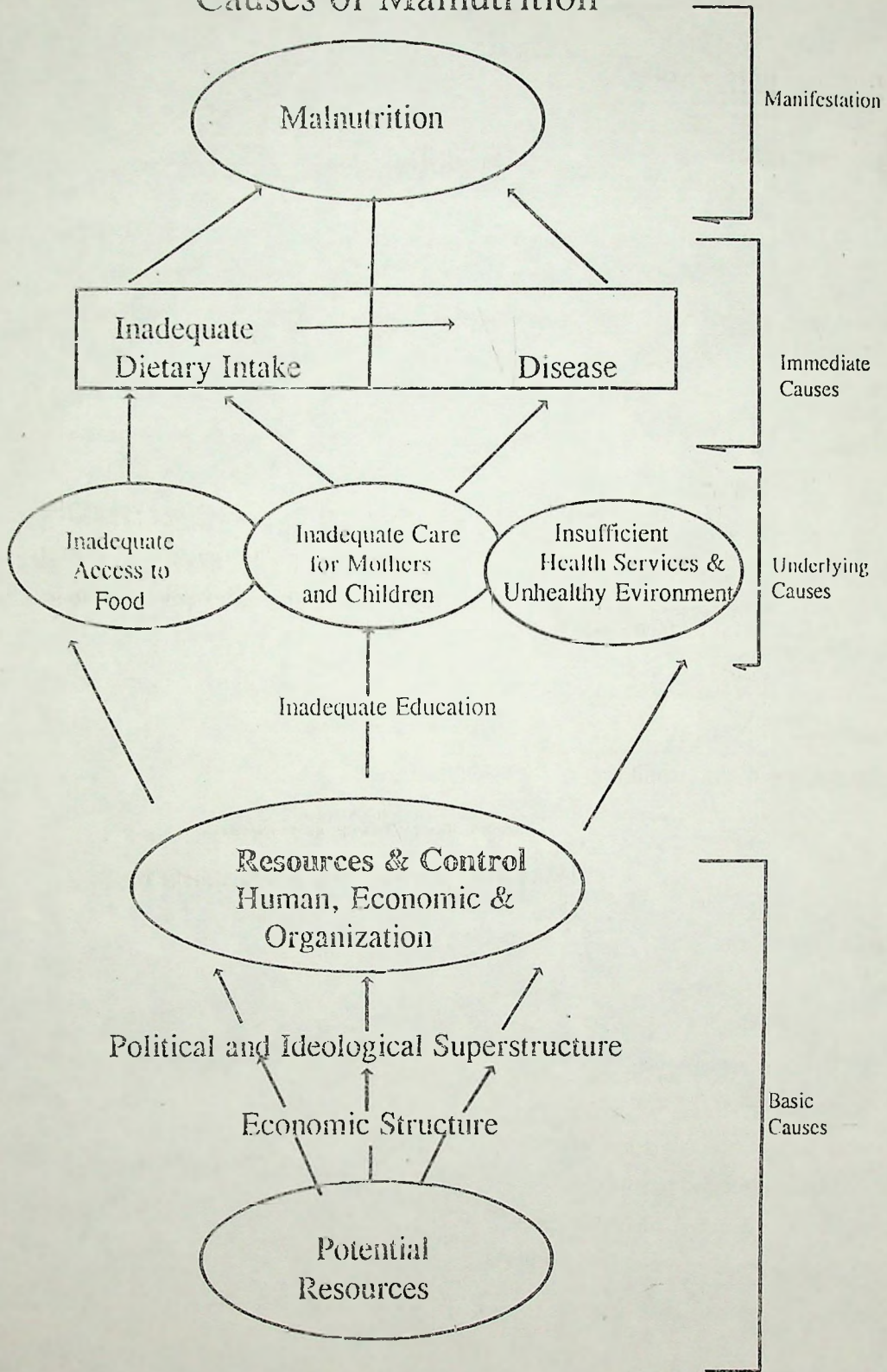
The condition of under-nutrition which manifests itself among large sections of the poor, particularly amongst women and children is the physical expression of widespread poverty, the heavy toll of diseases and chronic and persistent hunger. The high levels of illiteracy, their low purchasing power and inadequate household food security, their insanitary living conditions with poor housing, lack of safe water and sanitation facilities, the lack of regular employment and income, the low social and economic status of the women are all basic risk factors that result in adverse synergistic effect which creates a vicious cycle of poverty, malnutrition, ill-health and productivity (figure 1).

One major component of child malnutrition is related to low birthweight. Children born underweight (less than 2500 gms.) are nearly 30% of all births and they contribute to the levels of malnutrition seen in the first year of life. A second major component of malnutrition is the large percentage of children (27%) who were normal at one year of age and became malnourished during the second year of life. After the second year of life there is hardly any new addition to the group of malnourished children.

The above two facts highlight the second set of intermediate and immediate risk factors that cause malnutrition. These are :

- ✧ low age at marriage
- ✧ low age at pregnancy and childbirth
- ✧ maternal malnutrition and anaemia
- ✧ inadequate breastfeeding and weaning practices
- ✧ inadequate childfeeding and child care practices
- ✧ high prevalence of childhood diseases
- ✧ inadequate preventive and curative health care

# Causes of Malnutrition



## 10.2 Conceptual Framework

Among the four major forms of malnutrition in an individual, (PEM, IDD, Vitamin A deficiency and Iron deficiency), anaemia is an outcome of complex, biological and social processors, as summarized in Figure j. Inadequate dietary intake and inadequate access to health services are major causes or determinants of malnutrition. The number of possible underlying causes are almost endless and their inter-relationship complex. All, however, reflect a particular initialisation of resources in the past and the present. One way of grouping these causes is to identify a set of outcome conditions necessary for adequate nutrition. Three such conditions can be identified:

- a) adequate access to food (household food security)
- b) adequate care of children and women
- c) adequate access to preventive and basic health services together with a healthy environment.

Household food security is defined as access to food, adequate in quality to fulfill all nutritional requirements for all household members throughout the year. Adequate care of children and women has only been recently fully recognised as having an important bearing on the nutrition status of mother and children. 'CARE' refers to care-giving behaviour such as breastfeeding practices and complimentary feeding practices, food and personal hygiene, diagnosing illnesses, stimulating language and other cognitive capabilities and providing emotional support. Care also refers to the support that the family or the community provides to the members of the family and to behaviours within the household that determine the allocation of food supply to members of the household. Access to health services, together with a healthy environment is the third necessary condition for good nutrition. Prenatal and post-natal care, immunization (particularly against measles), ORT, distribution of micronutrient supplements, family planning and health education are all important services with great impact. The availability and control of human and economic resources at different levels of society are the results of historical processes in the society. These processes can be seen as the basic causes of malnutrition.

### 10.3 Spectrum of activities having impact on nutrition

#### Food and Diet related

- \* Promotion of exclusive breastfeeding and complementary feeding
- \* Nutrition education
- \* Supplementary nutrition
- \* Improving nutritional status of Adolescent Girls
- \* Universal consumption of iodised salt
- \* Wide availability of low cost weaning foods
- \* Fortification and enrichment of selected foods
- \* Access to PDS by the poor

#### Health Care related

- \* Iron/Folic Acid and Vitamin A supplementation to adolescent girls, expectant and nursing mothers
- \* Immunization against measles
- \* Oral Rehydration Therapy for diarrhoea
- \* Improved pre-natal and post-natal care
- \* Raising the age of marriage to 21 years
- \* Spacing birth intervals to over three years

#### Environment related

- \* Access to safe drinking water
- \* Access to household sanitary latrines
- \* Education on hygiene - Proper disposal of waste, garbage and waste water

#### Economic activity related

- \* Income generation schemes for women and access to credit
- \* Employers to provide adequate facilities for day care centre to infants of working mothers
- \* Maternity leave and benefits

#### Education related

- \* Education of women

#### Agriculture related

- \* Self sufficiency in production of pulses and oil seeds and post harvest food conservation
- \* Land reforms

#### Monitoring related

- \* Nutrition surveillance
- \* Growth promotion and monitoring



## 11. RECOMMENDATIONS

Using the conceptual framework mentioned above and in the light of the findings, the following measures are recommended for improving the nutrition status of the women and children in the State of Karnataka.

### GENERAL

- 11.1 Better supervision, monitoring and the vigorous implementation of various ongoing health and nutrition programmes as well as other programmes aimed at poverty alleviation and income generation, especially in the tribal areas, should receive top priority.
- 11.2 Targetting food subsidies through PDS towards those living below the poverty line and proper monitoring of the functions of PDS require due attention.
- 11.3 Education plays an important role in determining how resources are being utilized to secure food, care and health. Investment in education, particularly of the girl child would have long term impact because of the pivotal role in the future of her own family.
- 11.4 It has been widely established that women's control over the household income needs to be enhanced through initiating opportunities for women's employment. Expansion of women's access to production oriented credit and development of the required institutions must be pursued in this context.

### SPECIFIC

Based on the findings of the study, following possible actions are suggested:

- 11.5. Promotion of breast feeding should receive priority in urban areas whereas activities on promotion of timely introduction of proper supplementary feeding

should receive priority in rural/tribal areas. Early initiation of breast feeding, exclusive breast feeding for first six months and the importance on the use of colostrum in infant feeding is to be stressed. Also, importance of supplementary feeding from four to six months as well as continued feeding during illness should be stressed in our infant feeding messages. Exclusive breast feeding for 4-6 months should be promoted as it helps combat diarrhoea. At the same time, breast milk provides anti-bacterial activity in the infant's gut, reducing the risk of disease, if contaminants are ingested. Breastfeeding should not be withheld during illnesses, especially during fever and diarrhoea.

- 11.6 Coverage of Vitamin A supplements in five doses for children below 3 years, provided through the ongoing programme needs improvement through adequate supervision and monitoring. Extra doses of supplements during measles outbreak are advocated in the CSSM programme. This has been shown to be effective in reducing case fatality, further infection and promoting recovery.
- 11.7 Incorporation of carotene rich food, green leafy vegetables need to be emphasized to improve the dietary intake during various interventions and deliberations.
- 11.8 Although distribution of IFA tablets was found to be satisfactory, the compliance was not good. This requires promotional effort.
- 11.9 Family planning services need to be seen as multiple benefits for individual health and nutrition. The health aspect of family planning needs to be adequately stressed through ongoing programmes.
- 11.10 Tribal nutrition should receive top priority along with districts like Gulbarga or North Karnataka area. Better supervision, and monitoring of the implementation of the various ongoing nutrition and health programmes in these areas should be the strategy to achieve the set goals in nutrition. For each nutrition intervention, a zone of high priority should

be demarcated and all supervision of the particular programme should be focused on the particular zone.

- 11.11 Obstetric care facilities need improvement in tribal areas. Tribal health units require strengthening.
- 11.12. The nutrition education component of ICDS programmes/interventions related to Vitamin A prophylaxis, anaemia prophylaxis and iodine deficiency disorders control should be strengthened by establishing Nutrition Education and Demonstration Units in all districts, while the present units should be strengthened. Linking first dose of Vitamin A with measles immunization is the policy to boost the coverage of Vitamin A supplementation, but proper implementation requires concentrated efforts.
- 11.13. The study strongly recommends effective implementation on the ban on sale of non-iodised salt throughout the State, as it is clearly shown in the study that in the district where there is a ban the flow of non-iodised salt is limited and consumption of iodised salt is high. (Ban on entry and sale of non-iodized salt has been later imposed throughout the State).
- 11.14. Nutrition Education programmes must be arranged to focus attention on:
- Mixed cereal / millet diet
  - Importance of pulses in the diet
  - Significance of milk, at least one cup a day
  - Strategies to grow green leafy vegetables and low cost yellow fruits, for adequate intakes of Vitamin A.
- 11.15. The study emphasised the need to develop process indicators and impact indicators, which will provide useful baseline information (Refer Annexure D).

## 12. *Suggested Activities*

In the light of the above recommendations, the following activities are suggested for immediate action and strengthening the nutrition component of various ongoing interventions :-

- 12.1. District Nutrition profile should be prepared for all the Districts by conducting similar types of surveys. District Action Plans should then be based on these district profiles. Thus the area-wise prioritisation of Nutrition programmes can be taken care of while implementing the Nutrition Policy. To start with, the three rural districts covered in the present study can be taken up immediately for preparing District Action Plan.
- 12.2. The sanctioned posts of the present District Nutrition Education and Demonstration Units (NEDU) should be filled and the staff should be trained with the help of the State unit of the Food and Nutrition Board of Government of India and Agricultural universities in conducting demonstration. The Nutrition Officer of the NED Unit can be the 'District Nodal Officer' for Nutrition to assist the District Health Officer. The NED Units should be provided with appropriate and sufficient educational material and other equipments for IEC activities. The Nutrition Officer of the NED Unit, along with a designated Officer from the District Women and Child Development Office can form a small core group for monitoring the nutrition activities in the District. The core group can conduct District Level workshops and periodically collect information on a few important 'process indicators' for nutritional status for documentation.
- 12.3. Simple uniform messages should be framed for prevention of the nutrition problem most prevalent in the District. They should be given wide publicity through school debates, wall paintings and local media channels.

- 12.4. All elected Zilla Panchayat, Mandal Panchayat and Gram Panchayat members should be kept informed about the Nutrition Programmes being implemented in their areas through appropriate IEC material in Kannada and their role can be highlighted for successful implementation and monitoring of these nutrition interventions. Community monitoring may be initiated in certain areas.
- 12.5. Tribal health units require special attention and strengthening, with appropriate and relevant training as well as provision of IEC material so that they can perform various activities similar to those of Nutrition Education and Demonstration Units, in their respective areas.

St. Luke Health Centre  
Aurad - B, P. O.  
Gulbarga 585 316  
Karnataka, India

Back ground:

It is now almost thirty years since this work has started in this area. What had started as a relief program continued as a mobile medical unit visiting remote villages which did not have medical facilities available. Those days the mobile team consisted of a doctor, two nurses, a social worker and driver used to visit from Gulbarga city to the villages around taking care of under five, pregnant women and primary domicile treatment.

In 1993 a primary health centre was built and commissioned at Aurad - B. On a 4 acre barren land. This centre has OPD, X-ray, laboratory, Operation and labour rooms, wards to accommodate 15 patients and residential accommodation with internal road, electricity, telephone and water supply. As years went by the barren land was converted into a thick lushly green garden giving the appearance of a sanatorium with a beautiful chapel. The centre is just on the state high way to Bidar from Gulbarga exactly fifteen Kms on the road from Gulbarga. In these years it has earned the name and reputation of a Christian mission hospital and the tender loving care provided has attracted many patients from far and wide. Every year there is an increase in number of patients attending this hospital ( Vide Annual reports enclosed ).

During these years this centre has catered to many thousands of the area and beyond. We mainly used to cater to the domiciliary treatment, conducted and assisted many deliveries, taken care of pregnant women, underfive, actively participated in the family planning programme, control of Tuberculosis, control of blindness, many an awareness programme on health issues, school health programmes, baby shows, Nutrition programmes, polio

residual paralysis control, etc. are few of the activities conducted here, in addition to this we also conducted tailoring school for women, school for disabled, propagation of Ayurveda and training workshops for Ayurveda doctors. We also provide training for Nursing students of both degree and diploma course in community health. ( Vide Annual report for statistics ).

In these years we have been recognised as a strong and sincere NGO in health care. Government of India had given Rs. 380,000 as grant for family planning programmes. We had also received a grant of Rs. 60800 towards the propagation of Ayurveda. From the state government we receive personnel and vaccine, drugs for family planning etc. we are active facilitators for the immunisation of under five, ANC programme and Family planning programme. Government departments locally participate actively with us in our programmes.

The past seven years were very fruitful years, there is a strong bond developed with the community and the community is demanding for more and more services from us. Because of this faith and relation developed and the need for more health care services we have the following plans for the future. The project reports of each is attached for information and help.

#### 1. Upgradation of the health centre.

Due to the limited bed and residential accommodation this centre is not made complete use of its facilities. We have x-ray, Laboratory, Operation room and labour room which can cater the requirement of at least one hundred bed. A slight modification at the OPD, and wards will enhance the utility and provision of services. In a radius of about 50 kms we do not have a fully equipped General hospital other than Gulbarga city. Gulbarga hospitals are over crowded. Once this facility is available we can provide specialist care in maternity, General Medicine and paediatrics which are of high importance. Government of India or

Government of Karnataka in the next fifty or hundred years will not be able to meet the demand on them. Further by this up gradation I would like to see that this centre is made self supporting by peoples participation in the form of peoples participatory health care. Both the proposals are interrelated and will go side by side. Thus two project proposals viz People's participatory health care and up gradation of health centre are enclosed.

## **2. Tuberculosis control programme.**

This is a National Health Programme, but the load on Government is too heavy that they are calling NGOs like us to help them in the program. From our experience it is found that 3 out of ten chronic cough patients are suffering from infective tuberculosis and one infectious patient can infect ten normal person. Thus we know the magnitude of the problem. It is taking the shape of an epidemic. We would like to bring our area at least tuberculosis free. In this task Government will co-operate and contribute effectively. A proposal is enclosed.

## **3. Medicinal and Aromatic plat farm.**

Last year we have taken up a program to spread and propagate Ayurveda system of medicine. It was a government aided project. During the program we learnt that Ayurveda is dying due to non availability of medicinal plants, Ayurveda is cheap, very effective in many chronic disorders, has no side effects, and this is an indigenous science which needs to be rejuvenated. Government has agreed to give us five acres of land free of charge for the



purpose, Forest department has promised to help us with seedlings and plants and local agricultural university has promised to help us with the technical know how. Thus it is a joint and very vital project proposal is enclosed.

4. Help age India project.

With the help of an NGO known as Help Age India we are planning to have a project where by we will have a cataract free area. Provides a ray of hope for the older persons. We plan to conduct about 400 cataract operations a year and the above NGO will contribute a sum of 160,000 rupees towards this and we will have a local contribution of 40,000 rupees.

5. School for the disabled.

REACH another NGO is helping us to establish a school for the disabled. At present we have about 20 students and three teachers. We do not have a separate building for the purpose. This is a need and a proposal is enclosed for the same.

6. Tailoring school

In the past years we have trained nearly 200 girls and women in tailoring skill and supplied 146 sewing machines to the trained. A new project has to be started from next years.

Thus this centre will be a very active centre with all these actives in the years to come. This centre is to be developed in to a place where His people shall enter in awe and respect, get relived of their problems and sickness. This place should become similar to the Bronæ serpent of the dessert where thousands may look up for their health and well being. May our Lord Almighty help us to fulfil this vision to glorify His Name.

## ST. LUKE HEALTH CENTRE.

St. Luke health centre started its work in 1972 as a relief work agency supplying food for the draught affected Gulbarga in about 40 villages by a Swedish Nurse working for the Hindustan Covenant Church, with its head quarters at Pune. When Miss. Jansson started the work she found that ANC, PNC care and immunisation status at its low in these village. Along with the feeding programme she started ANC, PNC care and immunisation for under five in these villages.

In 1975 when she was leaving India Dr. Abraham was asked to take up the work and the work took the form of a mobile medical unit doing preventive and curative health care and the feeding programme. I am proud to say that immunisation for under five was almost 70-80% in those days in our villages amidst protest and opposition.

In 1981 with an idea of having a base for the mobile medical unit four acre private land was bought at Aurad and started planning for this Health Centre. It took ten years for us to overcome the obstacles, one after the other and in 1991 the work for the centre started.

1993 April this centre was commissioned as it stands today with 15 beds, labour room, operation room, laboratory, x-ray and O. P. D. block with all basic equipment's, furniture, staff quarters etc. for a cost of one crore ten lakhs of rupees. Whole of this money came from Swedish International Development Agency.

The staff position at the centre are two doctors, one staff nurse, one community health guide, one ANM, one lab and x-ray technician, one accountant, one electrician, one driver, one MSW social worker and six class IV employees. In addition we have twenty of Nursing students on rotation being posted from private College of Nursing for community health training. At present all of the running expense o the tune of 5 lakh rupees per year comes from MCCS and is run by St. Luke Medical Society charitable trust registered under the Bombay Public Trust Act with its head quarters at Pune.

When the land was bought there was no health facility between Gulbarga and Kamalapur and the centre was planned to serve the rural poor free or on nominal charges with the help of Govt. Today SLMS is trying its best to give charitable service since the demand is enormous, funds if difficult and don't know how long we can go on.

## Present services from the centre.

### 1. O. P. D.

Daily OPD from Monday to Friday. 60 - 70 patients on an average attend the OPD services supported by X-ray and Laboratory, services.

### 2. Tuberculosis Control Programme:

Tuberculosis is a poor man's disease, patients coming to the centre is from extremely poor classes. All patients with cough for a duration of two weeks or more are investigated for T. B. so far we have diagnosed about 1000 patients. This a main cause of anxiety. More and more patients come to this centre. But cannot afford for investigation and treatment and they are hesitant to be transferred to any other centre.

### 3. Maternal Health Service.

Every Thursday is ANC day. Safe delivery service is available round the clock with proper referral service.

### 4. Family planning service.

Every Tuesday we have family planning operation. Mini laprotomy Tubal ligation is being done here. In the villages we promote IUD, CC, and Oral pills to the eligible couples. We have successfully completed two programmes on family planning sponsored by government of India costing Rs. 400000 which were very successful.

### 5. In patient care.

Patients are admitted round the clock on all days according to demand and taken care. There are fifteen beds but most of the time twenty patients are admitted.

### 6. Mobile unit.

One social worker, one ANM and one community health guide with Nursing students conduct daily village visits. We visit 19 villages in rotation. 11 villages have Community Health Volunteers who monitor the health indices of the community. In these

Community health volunteers who monitor the health indices of the community. In these visits the team conducts health education, immunization and nutrition demonstration along

with propagation of family planning environmental sanitation with propagation of family planning environmental sanitation etc.

#### 7. Tailoring school.

As a part of the women development programme a batch of twenty women are enrolled for training of tailoring skill. 6 months training is provided and at the end of training each one receive a sewing machine to support their living. A diploma holder is appointed for training these students.

#### 8. School for disabled.

With the help of REACH and NGO of Calcutta we are conducting regularly a school for the disabled children. about 15 children with different disabilities attend the school and three teachers are trained to teach these children.

#### 9. 24 hr. Ambulance Services.

Round the clock, an ambulance with driver is stand by at the centre for patients use to the centre and for referral services.

In addition to these programmes we take up many different programmes like farmers training, pastors training, Adolescent seminars, propagation of Ayurveda etc. at this place at various times.

We have also established women's self help groups in villages other than mahila mandal (women's association ) and youth clubs.

We are a recognised NGO of health care service in the district and may be the only Mission Centre in the three neighbouring districts. We try our best to put into action the love and compassion of Christ to the poor and needy.

We are stationed in a 2 hectare plot on a hillside, on the state high way with full of greenery and vegetation. A sanitoria appearance with the serenity of a retreat centre.

**Abstract of work done during the period of  
1993 - 1999**

**I. Patient Care.**

Year	Out patients	Inpatients	Laborator Investigat	X - rays expesd	Eye patients treated operated	Dental patients
1993	4654	-	-	-	-	-
1994	8283	76	473	247	420	41 335
1995	10400	94	738	216	473	32 236
1996	10184	235	816	254	181	5 -
1997	12057	405	1237	375	194	44 -
1998	11038	251	1868	321	-	-
1999	14364	423	2844	257	90	19 -

**II. Family planning.**

Year	Tubectomy	Oral pills	Contracep condoms	I U D
1993	-	7	1	
1994	2	10	1	
1995	20	8	1	
1996	83	319	285	
1997	144	54	53	
1998	101	299	107	
1999	230	631	303	

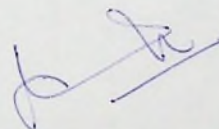
**III. Mother and child Health**

year	A N C	Deliveries	T. T.	D P T Pollio	Measles	B C G
1993	56	-	-	366	60	-
1994	78	30	175	388	70	-
1995	78	42	267	485	134	-
1996	95	81	531	661	92	-
1997	307	73	1101	1028	200	-
1998	457	77	881	1051	178	-
1999	478	104	338	757	328	329

*Handwritten signature*

## IV. Grants &amp; Projects

Year	Government	Project	S I D A	Project
			M C C S	
1983	-	-	-	-
1994	-	-	-	-
1995	Sace grain	Rs. 100000	-	-
	pogramme		-	-
1996	Small	Rs. 150000		
	Family norms			
1997	Small family	Rs. 150000	Tailoring	170200
	Narms		school	
1998	R C H	Rs. 200000	Tailoring	170200
			school	150400
			CBPHC	
1999	R C H	Rs. 200000	Tailoring	Rs. 371800
	I S M	60800	school	Rs. 150400
			CBPHC	



Draft dated 2 November, 2000

## **NUTRITION SITUATION IN KARNATAKA: PROGRESS ACHIEVED & CHALLENGES AHEAD**

written by Sabu M. George for HNP project;

### ACHIEVEMENTS AND OPTIMISM FOR FURTHER PROGRESS

Karnataka has made progress in improving the health status of people as evidenced by various indicators over the last 2-3 decades. There have been improvements in life expectancy, declines in the rates of infant and child mortality, child malnutrition and in clinical Vitamin-A deficiency. Birth rates have dropped dramatically. Though, the present TFR is higher than that of TamilNadu or Kerala, the demographic transition in the state is of the same magnitude. As Karnataka's TFR was historically much higher than its Southern neighbours- one to one and half child per women over half a century ago. Urban fertility rate in the state has already become less than replacement levels.

There have been massive increase in primary school enrollments. Three years ago the state appointed one lakh teachers. Childhood immunisation rates have increased over the last 5 years. Poliomyelitis has been virtually eliminated from Karnataka. Just 3 cases occurred in 2000. This year the Govt. appointed a Task Force on Health which has given Nutrition a priority. PHC system is being strengthened by recruitment of Doctors. Training of ANMs to fill up the vacant positions have commenced. Women & Child Dept. had in the last year recruited all the vacant positions of CDPOs and ACDPOs and is determined to fill up the Supervisor positions in ICDS this year. The pro-active role of the present Government is what gives us hope that the proposed strategies will be implemented. The Government is not only taking a leadership role in Information Technology (IT) but also keen on enhancing the Human development profile of the people. Due to the recent and proposed investments in IT, the State GDP is expected to grow at 8% per annum for the next 10 years. Software exports are to double from the present 5500 crores over the next few years. We are confident that the present Government is equally committed to improving the health status of the people.

We begin with the analysis of the present situation and also make a comparative assessment of the Karnataka's achievements relative to TamilNadu. This comparison will enable us to highlight how much more progress can be attained in Karnataka if Nutrition is given priority. The major constraints are highlighted. The existing infrastructure for Nutrition is briefly described. Children under the age of two years receive the highest priority. This review is followed by strategies of intervention. Finally, the needs of the school aged children are also described

### THE SITUATION OF THE PRESCHOOL CHILD

#### Achievements in Child Survival and Nutritional Status

Infant Mortality Rate has dropped from above 90 to below 60 from the early seventies to mid nineties (See Table-1) while Child Mortality; of children aged 1 to 4 years old decreased from 43.6 to 21.9 (See Table 2).

Weight for age is an indicator of under-weight. Over the last two decades levels of severe and moderate malnutrition have come down (See Table-3). Xerophthalmia as reflected by Bitot's spots have also decreased (see Table-4).

#### But Progress is limited

But these achievements of the state in infant & child mortality; and in nutritional status are modest when compared to the improvements in TamilNadu over the same period. Note that both states started with similar baselines 3 decades ago but achievements in Karnataka have lagged behind Tamil Nadu. Figure-1 reveals that the pace of decline in IMR in Karnataka has been slower. Table-5 reveals that the Child mortality levels (1 to 4 years) in the nineties in Karnataka is only half that of TamilNadu. The nutritional deprivations in children are worse off in Karnataka (see Table-6) as the fall in malnutrition levels have been more spectacular in TamilNadu.

This is not surprising as the nutrition expenditure per child in Karnataka is among the lowest in the country. Nutrition was not a priority of the Health Department. In TamilNadu thanks to TINP Nutrition received priority. Further, the expansion of the ICDS in Karnataka was more than



5 years behind TamilNadu. Though in Karnataka ICDS projects exist in every taluk; the actual coverage of children is not universal even in rural areas. Regrettably, the request for 6000 more additional centres in rural areas made by the State to the Government of India 2 years ago was rejected due to lack of funds. The ICDS coverage of urban areas is limited. Today there are only 10 urban projects. The Supervision in ICDS has been inadequate due to non recruitment of Supervisors for the past eight years (See Later). →

Various independent surveys reveal that almost all children in Karnataka remain malnourished. Barely 9% are normal as per the Gomez classification (see Table-3). That nearly half of children suffer from moderate or severe levels of stunting (NFHS  $< -2 Z$ <sup>SD</sup>) is an indication of how serious the nutrition problem remains despite some improvements at the extreme end over the past 3 decades. Clinical Vitamin-A (Table-4), iron (Table-7) and iodine deficiencies needs to be tackled. Thus, the classical micro-nutrient deficiencies persist despite an extensive network of rural health infrastructure and a functioning State. There have been failures in recent years by the Health Department to procure Iron and Vitamin-A. Therefore, the lack of supply to the Primary Health Centres is one major reason why Iron and Vitamin-A deficiencies still occur with unacceptable prevalences. Fortunately, this year the Health Department has made major initiatives to correct these deficiencies in logistics.

### The Constraints in Karnataka

#### 1. Regional Disparities

Karnataka is like India in its regional diversity. The Northern region of the state for historical reasons have been very backward. For centuries these regions were under the control of non-Kannadiga rulers and therefore these people did not benefit from the enlightened policies of the erstwhile Mysore rulers. Following the formation of the state in 1956, major investments have been made in Irrigation Projects on the rivers- Malaprabha, Ghataprabha, Krishna in North Karnataka. And more recently on roads. But education, health and other aspects of development have suffered

relative neglect in Northern Karnataka. As the political representatives from this region had not given adequate emphasis to social development. However, the present Government has made several new initiatives in overcoming the past neglect. A separate Transport Corporation has been established and about 500 Community IT centres will be opened this<sup>year</sup>. New initiatives are being attempted for initiating a special School Feeding programme and towards establishing a High Court Bench in the North to meet the long standing aspirations of the people.

Data from the 1991 Census, National Nutrition Monitoring Bureau and the NFHS are consistent in that the situation of the children in the North is the worst. For instance, Table-8 gives the malnutrition levels; which reveals that the regional variations are marked. Therefore, this project gives special emphasis to the Gulbarga region- the most backward part of Karnataka. Immediate improvement of the well being of children in this region is imperative for the State to come up to the levels attained by TamilNadu. A Special Monitoring Cell is proposed for the Gulbarga region to ensure the speedy implementation of this Project.

## 2. Increasing gender disparity in Karnataka

### Child sex ratios and Nutritional differentials

There have been drop in child sex ratios from 991 to 961 girls per thousand girls during the intercensal years, 1961-1991. Most regrettably, the gender differentials in nutritional status against girls have increased over the last two decades. Earlier boys were more malnourished at moderate and severe levels while today girls are worse off by weight for age (see Tables-9). Height for age data also indicates that girls are more severely stunted than boys (Table-10). Height for age is a sensitive indicator of chronic malnutrition and therefore ideal to examine gender differentials in nutrition.

### Female feticide

Another reflection of the intensification of son preference is the increasing abuse of prenatal sex determination for selective elimination of female fetuses. Ultrasound clinics in various parts of

the State are abusing this technique due to virtual lack of medical ethics in the medical profession. The Health Department has now initiated steps to implement the 1994 National Law forbidding prenatal sex determination. District level Appropriate Authorities will be created to monitor and regulate ultrasound clinics.

#### Lack of Involvement of Men in Contraception

Though use of contraception by families is high in Karnataka the entire burden is on women. Sterilisation is by far the most common family planning method (>85%). In fact, NFHS Surveys indicate that the percent of women sterilisation has increased over the years 1992 to 1998; while men's sterilisation has come down. The percent of currently married women, 15 to 49 years, sterilised has gone up from 41.2% to 51.5% while that of men fell from 1.5% to 0.7%. Scalpel free vasectomy facilities needs to be widely established and vigorously promoted in Karnataka.

#### School dropouts

Enrollment of girls in primary schools have improved over the last five years. However, dropouts in upper primary and high school are disproportionately girls. Gender discrimination is obvious by the fact that enrollment of boys outnumber girls by over 25% in classes 8<sup>th</sup>, 9<sup>th</sup> and 10<sup>th</sup>.

#### Violence against married women

Alarming number of suspicious deaths of recently married women occur in Karnataka. For instance, Bangalore alone reports about 100 every month. The State has kept apart a special burns ward which has recently been airconditioned.

To be fair to Karnataka this problem of gender discrimination is not particular to this State only, but we have to benefit from the experiences of TamilNadu. Despite, the successes of TINP; increasing gender disparities in children were not given adequate attention. Therefore, we in Karnataka must aim to not only to reduce rates of malnutrition and child mortality but at the same time ameliorate the increasing gender disparities between pre-school boys and girls in Karnataka. Gender sensitisation of the Health Sector and the Society is imperative.

### 3. The role of Panchayat Institutions in Nutrition

Karnataka has been a forerunner in establishing Panchayat institutions in India. Elections have been at regular intervals. In the recent elections over 45% women elected as members. Though decentralisation of governance is a great opportunity for improving the well being of children, presently there are obstacles to the smooth functioning of Nutrition & Health Programmes. We are pleased to note the World Bank's recent endorsement of Panchayat institutions (henceforth PRI) in development. It is a welcome change for the Bank which had long been used to providing uniform prescriptions from Washington for a wide variety of issues whether macroeconomics or population or health. We appreciate this ideological shift towards the best interests of the poor. However, our anxieties about the current state of Karnataka PRI are for several reasons. Firstly, the devolution of powers to the different tiers of Panchayats from the District to the lower levels have been meagre, particularly financial powers. And given inadequate democratisation at the grassroots in some parts of the state, particularly the North we have to be cautious. The lack of transparency in decision making and mechanisms of accountability at the District and Taluk PRI needs to be kept in mind.

To give one instance of the complexity of the involvement of Panchayats in the Nutrition Sector- distribution of food. The money for food is disbursed by the State Government to the District Panchayats. Ideally the District Panchayat should further devolve this fund to the Taluk Panchayat. But we are informed that there are District Panchayats which do not do so as there are profits to be made from centralised procurement of food and distribution to the Anganwadi centres at the District level. Further, there are few taluks; most of them in the North where the Panchayats divert this money to other sectors. Thus allocation for food becomes less and children are fed for about half a month rather than <sup>the full month</sup> every day. That even the children's daily food supplement which is an entitlement rural people are well aware, and appreciate is denied because of the vested interests of powerful Panchayat leaders in some taluks; is a reflection the power the 'feudal' bosses have over

helpless people.

However, we are hopeful in making the PRI institutions function more democratically, and be made accountable to improve the health and nutritional status of the people; but it is a laborious process. We believe, the very act of seeking WB loans and the careful monitoring of the implementation by the top Project functionaries; has the potential to contribute towards greater accountability of the programmes at the grass roots and thereby empowering people at the village level. This project will enable building the capacity of village and taluk Panchayat members to handle the responsibilities of working with the Health and WCD. Presently though the Anganwadi Centres and PHCs are under the control of local Panchayats, the lack of expertise of the Panchayat members ensure that these technical Departments function with little accountability to Panchayats. Further, given the feudal history of significant parts of Northern Karnataka we propose the establishment of a special Monitoring Cell (SMC) in Gulbarga for this region.

### STATUS ON IODINE DEFICIENCIES & NUTRITION RELATED ASPECTS

#### Iodide Deficiency

The estimates of Iodide deficiency are based on the physical size. Chickmagalur, Kodagu, Dakshina & Uttara Kannada have more than 10% prevalence. This traditional measurement is inadequate for several reasons. Urinary iodine estimation is the modern indicator. This is also very important from a programmatic point of view. The implementation of iodised salt and its short term impact can only be urinary iodine indicator. Therefore, we request funding to do a prevalence study using urinary iodine in the entire state. Karnataka had made iodised salt compulsory in the 4 high incidence Districts many years ago and had recently initiated compulsory iodisation of all salt. Thus it is imperative to assess the progress of this scheme by using a responsive indicator so as to improve the lacunae in the implementation.

Breast feeding

Measles Immunisation

} To expand

ANMs. The recent steps being taken by the Health Department will ameliorate this problem.

### Nutrition Goal

To improve the quality of existing nutrition related services, enhance their coverage, emphasise care related nutrition interventions and ensure greater priority for nutrition so as to reduce malnutrition and iron deficiency anemia; and achieve virtual elimination of Vitamin-A and iodide deficiency over the project period.

### Major Approach

#### Strategies for Intervention

1. Strengthening ICDS → To unite
2. Nutrition Sensitisation

Sensitising the Political leaders, Panchayats and District Administrators on Nutrition. Karnataka is one of the few states who have implemented the Panchayat System. But building the capacity of these local level institutions is essential for greater effectiveness and building up ownership. The Staff of WCD & Health are unhappy as they resent one more source of control apart from their own parent Departments. Further, the very nature of decentralisation results in many more meetings at the District and Taluk levels which takes away time from project management. Sensitisation will likely lessen the time the meetings consume.

3. Alternative Approaches

Alternative approaches for Nutritional improvement of the under-two child: Three alternatives are suggested for increasing nutrition consciousness of the Society in the most backward Gulbarga region where the rates of malnutrition is the highest.

- 3.1 Towards building Community Ownership of Nutrition. This is the most riskiest approach as it involves with working with different kinds of groups in many villages. The groups will enable mothers to provide better child care. Supporting and promoting breast feeding and improving weaning are the two major tasks. Therefore the most challenging alternative.

Forming and sustaining groups in our highly divided, hierarchical, casteist and inegalitarian societies in several thousand hamlets and villages is a laborious and time consuming effort. Still it is worth attempting if the World Bank is willing to accept the grass root realities that despite genuine efforts that this approach can fail in significant number of villages.

- 3.2 Appointment of Second Anganwadi Worker in Gulbarga Region who will visit homes of every under-two child to promote nutrition related activities. The 2 worker model was followed in the first two TINP Projects. Of the three possible alternatives this is the easiest to operationalise. There are again risks in this but this is a strategy most likely to function in the largest number of villages during the Project period. In practical terms this will double the present number of 7000 AWW in the Gulbarga region to 14,000.
- 3.3 Weaning Food Initiative. The objective here is to organise communities to prepare locally acceptable, less bulky and calorie dense foods for weaning and facilitating changing practices. This will be attempted using wherever pre-existing groups are functional. Mahila Sanmakya, Credit groups including functional Stree Shakthi groups etc., will be involved. The very selection criterion will result in that the better developed and more organised villages in this region will disproportionately benefit from this initiative. This by itself is not bad under the most optimistic scenario the overall benefit in terms of improved nutrition and child survival can exceed even that of the first strategy for the Region. But the major concern here is that this may entirely focus on food production and distribution and may neglect the care related aspects like breast feeding. Enhancing the understanding of the significance of weaning and enabling mothers to feed frequently weaning food is <sup>s</sup> equally important as the availability of good weaning food.
4. Raising nutrition consciousness of the society by a new Information and communication endeavour
5. For ensuring smooth and timely project implementation- Separate Monitoring Cell for Gulbarga

6. Special Initiatives and Research Studies to assist in raising the effectiveness of the Project interventions

Long term sustainability of the Project objectives

Enhancing nutritional status and reducing infant and child survival is done largely by a process of raising the awareness of women, families & communities; and by improving the functioning of the Health & Nutrition Sector. Once people become aware that malnutrition can be ameliorated due to their own efforts then this knowledge gets transmitted by their own selves without the intervention of the State or external donors. The better functioning of the Nutrition System can itself raise the expectations of people for the acceptable minimal level of functioning. Increased utilisation of services like antenatal care, immunisation and other services of the Health & Nutrition infrastructure particularly in backward Northern region will empower the communities to demand that the Panchayats and State ensure universal coverage. This is apart from the economic and social benefits that improved nutritional status and child survival brings; which will catalyse further improvements. The efforts to further raise the awareness of the significance of Nutrition will continue to be done by the resources of the State. The likely project achievements in empowering people will have its own momentum. An economically prospering state like Karnataka will continue to invest in human development endeavours to meet the increased expectations of the people.

A sustained improvement in infant & child mortalities which is a direct outcome of the project but will mostly be evident only after the project period is an important benefit in the five year period immediately after the project. The falling under-5 mortality rates and corresponding declines in malnutrition levels particularly of the severe and moderate will have a direct impact on fertility levels. The impact will be the greatest in Northern Karnataka where the TFR have been the highest. The effects of lower fertility and improved child well being will have synergies which will likely sustain the post project declines or at worst prevent the stagnation which is likely to happen in the absence of this Project, in the following decade.



About gender, we have no delusions that in the short span of the Project that most of the disparities will be eliminated. But greater gender consciousness of more women and men and that of elected representatives particularly women will facilitate the process where age old prejudices of our patriarchal society against women will continue to be challenged with greater vigour and ameliorated.

NT 11

## FIELD VISIT TO GULBARGA: SECOND REPORT

### Mission Medical Institutions

written in Bangalore, October 4, 2000

Sabu George

#### Dr. Abraham on Missions and their Medical work in Gulbarga

American Methodist missionaries arrived in Gulbarga in early 1900s. The oldest mission institution is the Boys School which is 105 years old. Despite this long history most of the Methodist Hospitals have closed down or virtually dead. The Yadgir Mission Hospital in Gulbarga Dt. and the Bidar Hospital are in their terminal stage.

Dr. Salenc, a CMC Alumnus (pre 1970) has an independent Society- Velmaganal Society in Bidar town. He is the solo Doctor there. The Hindustan Covenant Church (HCC) was formed for evangelical work among the Muslims. The services are in Urdu. The St. Luke's Health Centre at Aurad is the healing ministry of HCC. HCC has one more Mission Hospital in the adjacent Solapur District of Maharashtra.

Dr. Abraham came to Gulbarga in 1967 for MBBS. He belongs to the third batch of the HKE Medical College. His Professors included Maalaka Reddy and Sankar (past Gulbarga Principal and presently Somaiya Medical College Principal). Dr. Abraham later did Hospital Admin. at Vellore and RCH at Upsaala Univ. He had served in Zimbabwe in 1984-88 as a Missionary. There he was in charge of an entire District working with the Govt. With the money he made then built a house in Gulbarga town. His present monthly salary is 8000. Able to have a car and maintain his family because his wife is a Professor in the local college and earns 26,000.

#### St. Luke Health Centre

Was established in 1972 for supplying food to 40 drought affected villages by a Swedish Nurse, Miss. Jansson. Along with the feeding Programme, ANC, PNC and immunisation services were provided. When she left India in 1975, Dr. Abraham took over. Initially there was a mobile

To Dr. <sup>Sabu</sup>SRK/RN  
HNP - first visit file  
The 6/10  
RN  
24/10

medical unit. Four acres of land was purchased in 1981 in Aurad to set up a base Hospital.

Finally, in 1993 with 1.1 crore SIDA aid a 15 bedded Hospital was built. He had 2 more Doctors who recently left when they got PG admissions. Now is looking for Doctors. He is not sure of the fate of his own Hospital after him.

Working in 25 villages of about 30,000 population in rural Gulbarga Taluk. Till last year St. Luke's was doing all the immunisations with their own Nurses. The Govt. Nurses merely took the lists from St. Luke. From this year, the immunisation is done jointly with the Govt. ANMs. In every village the ANMs and the AWW are given dates in advance. The women Student Nurses (not men) from the local Nursing College are involved in Health Education in the mornings. He said medical students are not involved in the work because he does not want to take the risk of boys creating problems for the girl Nurses.

Dr. Abraham himself lived in the village till recently. He used to come home only in the weekend. After his in-laws passed away and sons gone away, he comes home as his wife is alone. Only normal deliveries are done in the Hospital. He said if the PHCs were working properly then his Centre need not exist at all. People come and ask him why not take over the PHCs as they are not functioning properly.

The Campus is full of trees and stone buildings well maintained. A big Church is also there. The Hospital OPD was clean and seemed well organised. Despite the bandh the only two staff living in the town came to work in time. The Chief Nurse came the previous night itself so as not to miss work the following day. I was informed that the Medical work is secular and even among the Staff there are non-Christians. I did not get a chance to find out from Dr. Abraham about the secularness of the Medical work. The Hospital had received money in the past from the

Govt. for RCH work. Presently, the Health Centre is funded by SIDA & Mission Covenant Church of Sweden. He had contacted CMAI about funding for Sanitation work in the villages  
Community Health Work

There is a Social Worker who studied MSW from Gulbarga Univ. He has been working for two years. He was very familiar with people in the villages. Even in the large village we visited he knew where exactly the Harijan AWW was though it was nearly half a km away from the road. When I examined the records of the outreach Programme, found it was difficult to estimate IMR from the records as it was primarily meant to collect input data rather than to estimate outcome indicators. Further, in Abraham's report on the medical centre, number of immunisations delivered were given rather than percentage of children covered. The social worker could not answer some questions about the past records. Dr. Abraham could not tell me what the IMR was though he said it could be obtained from the records. When asked how complete is the recording of births and deaths- it is complete. When asked how he knew it- Our village workers monitor pregnancies. I doubt whether every birth outcome or almost all pregnancies are registered. Dr. Abraham acknowledged that not all children accept immunisations as there is resistance.

There was a summary report for more than a year which had the following figures at the Centre. 835 Deliveries, 530 Registered Births, just 17 infant deaths and measles immunisation of 377. The Social Worker could not distinguish between deliveries and registered births. The summary statistics is revealing about the lack of systematic follow up despite a good infrastructure and long standing community work. The immunisation Register did not have measles immunisation. When asked about it I was shown a page where some names were

recorded. Does not appear an easy way to keep track of children needing measles vaccine.

My suspicion was confirmed later in my visit to villages. In one of their villages after many enquiries the AWW said that not all are immunised against measles. When asked why- the AWW said the Nurse comes only to the sub centre at the beginning of the village. After some probing the AWW and one mother said people expect measles vaccine to be delivered home like OPV in pulse. Then the social worker confirmed that in large villages their Nurses do not go house to house. While in small villages they do so. It needs to be appreciated that the Social Worker after this, fixed dates with the AWW so that in the next round the ANM and the Student Nurses actually visit the Harijan hamlet so that coverage can be improved. How unlike the State Health Director Dr. Nagaraj who suggested that children can wait up to 1 year from 14 weeks onwards so that ANMs can leisurely ensure the completion of immunisation (stated at the Oct 3 project planning meeting).

Also the fact of refusal of Measles vaccine after 2 decades of work in the Aurad villages do not look plausible. An occasional child not accepting vaccine is possible but inadequate coverage is merely a reflection of lack of attention to Measles.

Vitamin-A is distributed to children regularly. If Govt. does not have stocks they buy from private sources.

#### Perception of the Govt. System

He said that the District TB Office does not give him drugs. They expect him to send patients. When these poor patients go to the town money is demanded. Therefore he himself procures medicine from private sources and patients pay for them. This is not so in their Solapur Mission Hospital which gets regularly free drugs from the Maharashtra Govt. He is furious with

the Karnataka Govt. since for the poor free TB drugs make a difference. The major problem he sees in his Hospital is MDR TB. At least two new sputum patients come to his OPD every day. An average of 20 to 25 new patients come every day.

He says that the new regime for Malaria that is being followed in the District is unheard of 2 BD, 2 days Chloroquine and 10 primaquine (5\*2). He gives 7.5 mg BD Primaquine for 15 days. He said that the Govt. is trying to make resistant malaria spread

Dr. Abraham said that Leprosy is not a problem in his area. However, Dr. Maalaka Reddy said in a recent press conference that Gulbarga is one of the few Districts where Leprosy persists (Could it be that Leprosy is a problem in non-Abraham parts of Gulbarga?).

Dr. Abraham said after the Health Minister has taken charge the District Hospital is functioning better. However, he said that the Govt. Doctors merely consider the Govt. Hospital as an asylum to dump their dying patients. The Govt. Doctors just use the District Hospital to further their own private practice. In any case he said the Minister will not do anything drastic to make the Govt. System to function well; as an astute politician like Reddy knows he cannot antagonise a powerful section like Doctors. Nobody in the Govt. is bothered. Most of the Govt. ANMs come from the town. Like Doctors they do not stay in their Centres. It is very sad going to meet Govt. people. He no longer goes. The Assistant goes. He had a favourable opinion of the DC. The DC is supportive of their work.

He had never heard of the UNICEF assisted Border District Programme. Though he has been listed as a member of this Committee in the Gulbarga District Proposal. He has never received any notice for meetings.

In the monthly meetings St. Luke workers participate with ANMs & AWW at the PHCs

### Other Aspects of St Luke Village work

They organise demonstration of the preparation of Hydbd mix. Once a month they have a cultural event in the village for raising health awareness. The troupe comes from the town.

School Health Check up is done regularly in all the village schools. The PHC Doctor comes for it. They also follow up on the school drop outs. They obtain a list from the teachers and visit homes. The Social Worker said more boys attend primary schools than girls. Boys dropout to look after cattle while girls have the responsibility of looking after younger children. More detailed info on dropouts was not available.

Dr. Abraham asserted that hygiene in his villages were better than others. The large village I visited was as filthy as bad ones in Haryana. There are Baby shows every year for 2-3 villages. Prizes are given to the best babies. (Need to elicit more information on this kind of cattle show). He felt that the children in his villages were better than other villages.

In one village where the AWW was visiting once every <sup>week</sup> month for last 2 to 6 months, the Social Worker was unaware though their own contacts in the village knew it (previous RCH worker). The Social Worker said that only for immunisation days cooperation is sought from the AWW. This suggests that St. Luke's has limited interaction with Govt. functionaries at the village level apart from immunisation.

### Conclusion

With a little external effort the Health Centre can systematically track progress in child survival. Whether this is a priority for them I do not know. With a regular group of Nursing students (despite largely Malayalis) even nutrition impact can be enhanced. St Luke's can be a good source of Govt. info but provided effort is taken to interact more seriously. Dr. Abraham

did not know the DHO who is the first batch Gulbarga student (perhaps if I see him I will recognise) indicates how isolated he is from the System. Such aloofness also mean that vested interests can use him as was done for the Border Dt. Project. How contended can we all become in our splendid isolation from the bad Govt. System? Perhaps CHC can attempt to wean Abraham away from such a paradigm given that CHC itself has for the present given up misgivings about working with the Govt. Building local level partnerships in Gulbarga is as important as forging global alliances. Gulbarga deserves as much priority as Geneva.



MINUTES OF THE MEETING HELD ON 07 MARCH 2001  
AT THE OFFICE OF  
THE COMMISSIONERATE OF PUBLIC INSTRUCTION ON  
INTEGRATED HNP PROJECT

Mr. Vijay Bhaskar initiated the meeting by congratulating Dr Kurtakoti for the excellent performance in the School Health Programme during the previous year.

Mr. Sanjay Kaul briefly touched upon the HNP project and CHC's role in preparation of the project proposal. He stated that the project was for about Rs 800 crores from the World Bank and that a Project Preparation Grant had also been sanctioned. The main focus was on ~~model~~ <sup>coverage</sup> Primary Health Care that should provide integrated services, and <sup>coverage</sup> initiatives of other sectors. He mentioned about the responsibility of the Dept of Health in provision of Nutrition through the ICDS scheme of WCD Dept and similar commitment to the health of the children in schools. While accepting the good efforts of the Chief Medical Inspector of schools and Dr Kurtakoti in the School Health programme, especially where documentation is concerned, he still felt that the school health programme was neglected. He commented that though the education dept. had printed beautiful and useful health cards for the school children, these were not being filled up while conducting the medical check up of children. Also the school registers were not being updated. The components of Health Education and Education of Adolescents, especially girls. (Life skills/ Sex education) was not being linked to the school health programme. There ~~was not~~ <sup>had been</sup> much coordination between the Health Dept and Education Dept. <sup>and felt that this needed to be improved.</sup> He emphasized that counselling of adolescents (or even post-pubertal girls) needed to be intensified. He felt that the health gains of the ICDS programme, which covered children upto 6 years. should continue for the children in schools also.

? collaborate with other sectors on nutrition health of children women etc

had been initiated through joint operation but this has come (5%)

Dr Kurtakoti briefly described the school health programme achievements and gave handouts. He stated that ~~from~~ <sup>in</sup> 1998-99 only 25% children had been medically examined and this has steadily increased from more than 80% in 1999-2000 to 95.23% in 2000-2001. He stated that he was convinced of the validity of the data as they were reflected by the DHOs. The medical examination was carried out for children of I, IV and VII standards (once every 4 years), as per the guidelines of the Government of India. He also stated that DT was given for 1 Std students and booster dose of TT was given to Std IV and VII students and almost 79% coverage had been achieved. About 22% of children have defects of which majority were dental and malnutrition. He felt that most of these could be avoided by simple health education alone. He also submitted a proposal for about Rs 55 crores for improving the implementation of the School Health Programme. Regarding training of teachers, he stated that this depended on the budget received by each district, which varied from Rs 80,000/- to one lakh per year.

Mr. T.M. Kumar was skeptical that such a large number of school children had been medically examined and expressed doubts regarding the validity of the statistics presented. He was of the view that only a campaign mode was suited for carrying out medical check ups. He also stated that ideally 3 days of training for teachers was required but only about one day training was being given. Also modality for referral of school children to Taluk and District hospital needs to be worked out.

Handwritten signature/initials

Handwritten date: 14/3/01

**Mr. Vijay Bhaskar** briefed about the UNICEF project in Mysore District where schools were being provided water supply, toilets, sanitation and training of school teachers on Health and Environment. He also stated that the department has approached NABARD for assistance for toilets and water supply to all schools/ *in all districts*

**Mr. Sanjay Kaul** stated that life skills training (including sex education) was required for adolescents and felt that NCERT had a good booklet on life skills with practical tips.

**Dr. Kurtakoti** commented that students in the schools could take up tree plantation and the other batches could maintain the trees. He also felt that this would help in Nutrition education. He said that all schools would be provided first aid kits.

**Ms. Jalaja** stated that more than 80% of girls in schools suffer from anaemia. Since there were roughly 4 million school girls, mechanism should be worked out to deworm them once a year and provide elemental Iron weekly to them, as well as out of school girls. She also felt that small doses of Vitamin A could also be administered rather than the mega doses being given by ICDS.

**Dr. C.M. Francis** felt that as malnutrition was more in boys than girls, this problem also needs to be tackled. He cautioned about the dangers of excess Iron administration. He disagreed with Dr. Kurtakoti's statistics (5%) and felt that malnutrition was a major problem in Karnataka.

*making it difficult for poor families to follow such advice*  
**Mr. T.M.Kumar** was critical of nutrition education, as he felt that the ground reality was quite different. He stated that even in some places in Kolar district, no vegetables were available for half the year.

**Ms. Jalaja** explained that even in poor families green leafy vegetables were always available. Also nutrition education was necessary so that within their constraints they could provide a *balanced* diet to their school children.

**Mr. T.M.Kumar** expressed that as the text books for Std. I to V had already been revised, any changes or incorporation of Health Education material would not be possible. However, textbooks for the other classes could be suitably modified. Also the inside covers of the text books could be used for printing Health Education messages. He felt that monitoring of school health by school teachers needed to be strengthened and that DDPI or others should review this regularly.

**Mr. Sanjay Kaul** clarified that the major part of the medical examination was done by the health workers and only the children with defects were examined by Medical Officers. He projected the requirement of mobility and also of referral of the school children. He also stated that additional drugs would be catered for in the PHCs.

**Mr. T.M.Kumar** felt that there needs to be a curriculum review in the TCH programme. Also over 2 lakh teachers would require to be trained in the Block Resource Centres. He commented about the success of 'chaitanya' (in-service 7 days training) which had a package that included what ailments teachers can handle, which cases they should refer, and also covered disabilities, autism, slow-learning, etc.

Mr. Sanjay Kaul also emphasized a tighter monitoring of the school health programme. He requested the Education Department to work out the modalities of monitoring at District, Taluk and Village level, through DDPI, DPER and others. He felt the necessity of feedback for identifying discrepancy in data. He also felt the need for closer cooperation between Health and Education departments and said that already he and the Commissioner Public Instruction were issuing letters under their joint signatures. Also joint review meetings once a month (like with the WCD department.) should be organised at all levels.

Dr. Thelma Narayan emphasized on the implementation mechanism. She felt the necessity of proper training of teachers, ANMs and health workers (male), and screening of children on pre-fixed days. *The need for treatment and follow-up of children with medical problems was important to make the school health programme effective & credible. The issue of mental health in school age children was discussed as well.*

Dr. Sampath K. Krishnan suggested that out of school children could also be reached through the schools if the teachers understood that the school was the focal point to reach all children in the village (Dr. Ravi Narayan's concept). This was readily accepted by all the participants who felt that medical examination, deworming and distribution of Iron supplements could be carried out for all children in the villages (and not restricted to children within schools only).

*The possibility of involving people from NIMHANS, such as Dr. Madanika Kapur etc.*

Mr. Sanjay Kaul while agreeing to these suggestions wanted these to be budgeted for in the HNP project. He wanted CHC to meet with DPI (Primary Education) and Jt. Dtr. DSERT to work out the finer details of the school health programme and also with Jt. Dtr. Nutrition regarding the Iron supplements. He then closed the meeting after thanking all the participants for a meaningful discussion.

\* The Training of Trainers (TOT) could be a strategy of the HNP project.

Dr. Sampath K. Krishnan  
Policy Fellow (Public Health)  
Jt. Co-ordinator  
Community Health Cell,  
Bangalore.

Date: 07 March 2001

*List of Participants*  
of HNP Meeting in Department. of Public Instruction

Appendix 1

Sl.No.	Name	Department
1.	Mr. TM Vijay Bhaskar, IAS	Commissioner Public Instruction
2.	Mr. Sanjay Kaul, IAS	Commissioner Health & FW
3.	Mr. G.S. Hegde	DPI (Primary Edn.)
4.	Mr. T.M. Kumar	Jt. Director, DSERT
5.	Dr. S.B. Kurtakoti	Addl. Director (HET)
6.	Ms. Kiran Kamal Prasad	Jeevika, Bangalore
7.	Dr. Sabu George	CHC, Bangalore
8.	Dr. Jalaja Sundaram	Jt. Director (Nutrition)
9.	Dr. Thelma Narayan	CHC, Bangalore
10.	Dr. Pushpa Madjani	CMI
11.	Dr. Sampath K. Krishnan	CHC, Bangalore
12.	Ms. S.N. Meera Devi	Principal, Bangalore Urban DIET
13.	Ms. B. Sushila	DDPI (Textbooks)
14.	Ms. Veena Naik	Sr. Lecturer Urban
15.	Mr. M.R. Jagannatha	Sr. Jt. Dtr. DHERT
16.	Mr. H.S. Jayshankarmurthy	Sr Program Officer DPEP
17.	Dr. C.M. Francis	CHC, Bangalore
18.	Mr. S.T. Marulasiddappa	Jt. Director (IEC)

NT 13

## FIELD VISIT TO GULBARGA: THIRD REPORT

written in Bangalore, Dated October 5, 2000

Sabu George

### Responsibilities at different levels of ICDS-WCD & related matters

NOTE: All these are what has been reported by the functionaries themselves in Gulbarga and not picked up from Bangalore. This exercise took time; but it is essential to look at the perceived job responsibilities in order to understand the constraints to proper functioning.

#### Assistant Director- WCD

Apart from ICDS, in charge of Correctional Homes, Women's Welfare & Physically handicapped. Because of the Panchayat system she has to spent at least 8 to 10 days in attending meetings. Apart from the routine meetings since the repair of Jeeps is sanctioned by the Panchayats, she has to spend time pursuing jeep proposals to release maintenance money. Note neither the Jeeps of the AD or that of the District ICDS Project Officer are on road. The Programme Officer has been in Gulbarga since 1988 and for 5 months till recently was the AD- In charge. For last two years she has not been able to get her Jeep repair sanctioned. Presently, the AD has borrowed a Jeep from one of the rural CDPOs.

It is important to mention that the new AD has come from Hubli where she was at the State Home for Women. For last 10 years she was away from the ICDS system. Not surprisingly, senior CDPOs in the District privately say that she knows little about its present functioning let alone about Gulbarga. Obviously, she did want to come to the field with me so she assigned a rural CDPO to come with me on the following two days. Despite being new to Gulbarga she asserted that measles coverage is good in the District as we do not see Measles epidemics now! Either ignorance or not being honest. Whatever the case is, it reflects badly on the senior staff of the ICDS system. (RCH Survey 1999 report measles immunisation was barely 30%). I never found neither the Health nor AWWs give priority to measles immunisation in any of the 3 taluks I visited.

for  
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To, DSK/RN  
Field Visits File - HWP  
RN  
24/10

I appreciate that both the AD & Programme Officer were very generous in highlighting the difficulties caused by the Panchayat System (Wait for the next reports in this Gulbarga series). Wish they could be equally candid and responsible about their own Dept.

### CDPO

Responsible for implementation of 12 to 13 programmes at the taluk apart from ICDS. Note several of these do not get Budget allocations every year. But the sporadic functioning of these dole out/loan schemes results in aggravation to the CDPO from the potential beneficiaries.

#### 1. Manebelaku

Giving loans with 25% subsidy for self employment activities. Last year given 10 women (each 25,000 Rs).

#### 2. Udyogini

Loans with 40% subsidy for SC/ST women. Last year Banks gave no one as there was no applicant (?)

#### 3. Adolescent Programme

This year there has been no implementation as no Budget. Expect to begin next month. 300 girls are covered. From 100 AW Centre 3 ~~women~~ are selected of 11 to 15 years of age. They get 3 days training. Health Dept. Officials also provide health education. For 6 months they are beneficiaries of the Centre. These girls are supposed to look after the AW centre.

#### 4. Tricycles for physically handicapped

#### 5. Maternity allowance

500 Rs for 1<sup>st</sup> and 2<sup>nd</sup> pregnancy. Below poverty line women are covered. This allocation comes from the DC's fund and money is sent by Money Order.

6. Balika Samruddhi Yojana

Given to the first girl child only. 318 girls were given last year. 500 Rs. is given to the mother as a post delivery grant.

7. Namma Magalu, Namma Shakthi

Last year not given because LIC did not cooperate. This scheme was started in 1996-7 to promote education of the girl child. In 1997-8 11 girls were given. Subsequent years not given. This is for families with a maximum of 3 children. Either the mother or father has to get sterilised. The beneficiary is a girl child. For the year 2000-1, girls born in 1993-4 are eligible. 2500 Rs. is deposited in LIC. The following amounts are paid as Dividend per year. Finally, at age 18 Rs. 4010 is given. The girl is supposed to go to school till 18 years and get married only after 18. Thus the total payout=8400.

After 6 to 9 years	-200
10 to 13 years	-300
14 to 17 years	-400

8. Rural girl children attendance scholarship

To encourage girls to pursue education and improve their educational level. The girls get the money every month thru the Head Master. From 5<sup>th</sup> to 7<sup>th</sup> is 25 Rs., and from 8<sup>th</sup> to

10<sup>th</sup> 50<sup>5</sup>Rs.

9. Jagruthi scheme

This is only in 2 taluks in Gulbarga. Girls aged 15 to 18 are covered. To create awareness among adolescent girls about health, hygiene, nutrition, family welfare, child care and home management. 31 girls were covered. Health officials spent 3 to 4 days on instruction. The girls learn of the services of the AW Centre. Help AWW in village surveys of school dropouts. Motivate them to return to schools. A ladies cycle is given for continuing

education. (In the CDPO store I found several new ladies cycles). After 1 year give Rs. 1000 NS Certificate and a First Aid kit.

10. Navajivan

Only for widows. Not given this year.

11. Adhara Scheme for physically handicapped

This is for 3 persons per Taluka. 6000 Rs and steel material for 6000 Rs is given to set up a small shop.

Further, in Chincholi taluk 4 camps for handicapped were organised. 1725 handicapped participated. Hearing aids, artificial limbs etc. were provided

12. Devadasi Remarriage Scheme

Rs. 10,000 is given to each pair. Last year 1 girl was to be given but no Budget.

A Senior CDPO mentioned that the Labour Dept. has given them additional responsibility as "Child Labour Inspector". They have to survey children working in hazardous and non-hazardous occupations. The job is to reduce child labour and give children the benefit of going to school.

The CDPOs have to attend mandatorily large number of meetings.

1. 3<sup>rd</sup> is Accountants meeting of the WCD.
2. 5<sup>th</sup> is the Karn. Devlp. Programme Meeting at the Taluk Panchayat.
3. 7<sup>th</sup> is the District level review meeting of WCD\Health
4. Sometimes Zilla Panchayat calls them for Social Justice Meetings
5. Taluk Panchayat Meetings. In fact the CDPO was at one such meeting when I went to the CDPO's Office at 11.00 AM.
6. For four days in end of the month there are Sector level meetings at each PHC (There could be more than 10 PHCs in each Taluk).



## 7. Sakshratha meeting

The CDPO rightly said that they do not know who they are accountable to. WCD, Panchayat or the DC? Last month the Deputy Commissioner directed him to do a Survey of bonded labour in 25 villages.

AWW

The following were elicited from a group of 3 Workers after even the CDPO intervened. Immunisation, Home visits, Weighing, Pregnant women education, cleanliness of children, Preschool education, Balika Samruddhi Yojana, Namma Magalu, Namma Shakthi, Maternity Benefit scheme, Stree Shakthi, Family Planning, Electoral voters card (1 day), Leprosy Survey, Cataract Survey, Issuing Ration Cards (Green & Red).

Conclusion

Note of the 112 ICDS Supervisor positions a mere 12 are filled up in Gulbarga District. Seven of the 15 sanctioned ACDPOs are vacant. Given the large number of schemes, <sup>and</sup> innumerable meetings, where will the CDPO get time to supervise even the functioning of several hundred Anganwadis let alone think of improving the nutritional status of children. Certainly giving out money gives the CDPO more prestige and rewards than improving the physical well being of children.

The promotional avenues in WCD needs to be reorganised. ICDS should be kept apart as a separate cadre. Pre-school children deserve significant priority and therefore should not be mixed up with Correctional and other streams within WCD. This suggestion if considered will assist in giving Nutrition a priority in WCD.

## Reaching < 2 yrs.

①

- Has to be through ICDS (NCD) and not <sup>ICDS</sup> reaching out to under 2 yrs.
- Present organisation of ICDS ineffective in reaching under 2 yrs.
- Two solutions suggested.

1. By enhancing salary of existing AWW.

- She still may not do house visits.
- Problem of additional training persists
- Problem of not belonging to the community continues.
- She may still feel she is overworked.

✓ 2. By additional worker - Community Nutrition Volunteer (CNV).

- She works as an extension worker from the AW in the community.
- Can be paid an honorarium of Rs 500 pm.
- She can undergo induction training with emphasis on Growth chart maintenance and HNE to mothers.
- ~~also identification of Malnutrition grades I to IV.~~

Enabling mothers to provide better child care.

Sanction from  
Postgraduate  
Authority

Mild. - <sup>Alert sign.</sup> why wait for them to go into II.

TNIP - S Malnutrition.

TNIP II - Mod. ill.

TNIP III - ?

What about Urban. - selected.

Essential. Maintenance of Scales.  
Growth monitoring.

# Reinforcing good practices

H.N. Education

2

- Has been <sup>one of</sup> the weakest component of the ICDS.
- The family has to be educated properly on proper weaning of the child, especially with locally available home-made (home-based) food.
- The CNV must be able to educate the mother <sup>by</sup> practical demonstration collectively in groups or individually also. ~~also~~ ~~also~~ ~~also~~.
- The CNV must be able to ~~convince~~ <sup>convince</sup> the mother that the Nutr. Supplement is a "supplement" and not a substitute and the mother has to give additional food to the child. Also the Nutr. Supplement should not be shared with the other members of the family.

[ - HNE is the backbone of a sustainable strategy. However,

there can be no entry-exit policy in Nutr. suppl. pgms, as

① More and more people will <sup>form new families</sup> ~~get~~ ~~or~~ ~~will~~ have children and weaning foods have to be taught to them.

② Nutrition security has to be ensured. If there is large scale famine or sudden poverty in the family (due to sickness, accident, etc) the children will go into malnutrition.

③ Children who are healthy may plunge into grades of malnutrition after an attack of measles, etc. <sup>So raise measles imm coverage</sup>

④ Nutrition is an entitlement (Anshulya Sen). ]

- CNV must be able to educate the Pregnant & lactating mothers about proper diet, etc. Avail of the supplement from the AW Centre.

- Workshop - what food should be propagated.

## COMMUNITY "PARTICIPATION"

5

- Try to involve all members of Panchayat, women
- Increase Involvement of gram panchayats
    - Presently only supply of fuel costs Rs 75-~~100~~ p.m.
    - Income generation schemes
    - Incentive to AWW and ~~AWW~~ CNV for registration of births, deaths, pregnancy, maintenance of good records, 100% immunization.
    - Percentage of ~~Agri~~ Agricultural Produce (eg. of Armed forces) (Rice, Dal, milk, egg, etc).
    - Ownership by them of the anganwadi after all their children.
  - Women's group - already existing DWCRAs, MSS,
    - Shree shakti group (~~presently~~ instead of only financial) can be linked to ~~state~~ encouraging active participation in the anganwadi group (entry point of Govt. incentive)

## NGOs & PVT PARTICIPATION

- Active involvement of local NGOs in training, IEC, Medicare, HNE, ~~strengthening~~ Strengthening SKE groups, etc. & Philanthropic Organization
- Active participation of Pvt. Companies, like Sugar factories, etc locally. Can adopt few AWWs.

## ACTIVE INVOLVEMENT OF MEDICAL COLLEGES

- Urban areas of towns - can continue their involvement with feedback on their reports to Health Dept & WCD.
- Rural areas also.

## INFRASTRUCTURE

Cost.

6

- Dist Nutrition Officers in each District (DNO's) 27. (MSc Nutrition)
- Community Nutrition Volunteers (CNVs) 40,000.
- Nutrition Promotion Unit at State level. (in Dept of Health)
- Computers for data management for Dept. of WCD, ~~CHC~~ and NPU (incl. ~~Community office~~) and strengthening Nutrition Surveillance.

### Nutrition Component

1. Additional Nutritional - Vit-A (concrete + state reserve), Fe, Iodine (only in specific areas)  
Deworming  
- Add. Nutrient for grade III & IV  
- Add Nutrient for Tribal belt AW's. (of the 10 Tribal project areas)
2. IEC & Training Material
- 3.

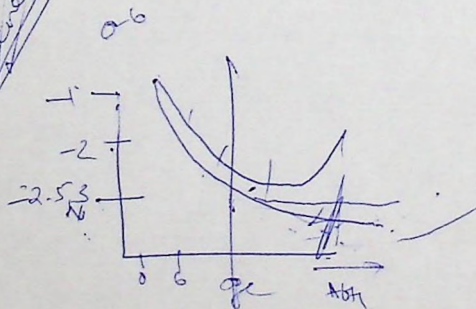
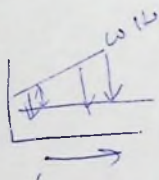
## IEC

3

Another weak component in all health & Nutrition programmes are practical IEC.

- Since other programmes like RCH, FP, etc all have nutrition component it is recommended that this must be integrated with IEC of other pgms and not have separate IEC for each pgm. [However, specific topics should be covered separately]
- an Integrated Health Promotion Unit (NPU) can be formed. It will be responsible for Material Development & Distribution. It can collect existing material from different depts. of Health, WCD, etc and disseminate it. This could be at the Health Directorate under ~~Dept~~ Dir Nutrition.
- At the District level the ~~recently~~ newly appointed Dist. Nutrition officers could be responsible for IEC (& Training) of the district staff. i.e. CDPOs, ACDPOs & Supervisors. Give the level hierarchy
- Need for Rapid Random studies at AUs for gauging the level of IEC & training at the peripheral level. Impact evaluation would be the major input required (rather than No's trained, budget expended, etc). Also easy to conduct area studies.

- Workshops. - how to pool their resources
- Content of Messages.



# Training

Another weak component of all Health Programmes.

- Training of Trainers (TOT). Preferably, should explore possibility of induction training of DNO's (27) at NIN Hyderabad (field based practical training) In Karnataka <sup>Int'l / ~~from~~ Pedrasani</sup>
- Need for Division specific or District specific training based on broad guidelines of the state training Programme.

- Improve the existing on-the-job trainings of different Depts -

Health Dept - Sector level training / Meetings.  
 - Block level " "

WCD - Monthly Supervisors Meeting.

CDPOs " "

NIPCCD - Training And Training Centers.

Involvement of Resource persons from NGOs, Medical College etc.

- Facilitatory unit.
- Content of training.

Programme  
obj. & description

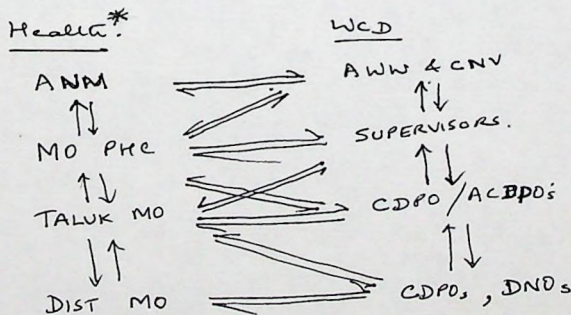
State Workshop. Later stage.

If the existing ICDS in the state is properly monitored and functions effectively, malnutrition is bound to reduce without any additional inputs :-

- Filling up of all vacancies with the right persons. (Qualified, Community based) especially the shortage of 1200 supervisors (60% vacant) Only women, New recruitment
- ~~States~~ Tpt. (Explore possibility of loans for 2 wheelers)
- Weighing machines to be made functional.
- ~~Easy to maintain growth charts.~~ Action on detection of malnourished children.
- Monitoring to be action oriented not just collection of statistics. (Use of computers) ?
- Regularity of food supplies.
- Increasing inter-sectoral co-operation at each level (AWW & ANM, PHC & supervisors, Taluk MO & CDPOs/A CDPOs, etc)
- 'Udisha' training to be implemented effectively. (Outside monitoring)
- Buildings for AWWs. (If Mandir even SC, STs other religious groups may not be attending)
- Avoidance of frequent transfers of CDPOs.
- Measures to increase motivation of all staff in ICDS at all levels.

ANM + AWW + CNV

Integration:



Also other Depts i.e Panchayats; Rural Development, Forestry, Agriculture, PDS, Education, etc each level.

\* Health Dept. to be accountable for the poor nutritional status of the population.

- Ask Commissioners for OHP presentation.
- Our Draft + additional to be given as per TN.



NT 14

## VI. SYMPOSIUM AND WORKSHOP ON ZINC

### Symposium and Workshop on Zinc and Health in South Asia -

This workshop was conducted in Dhaka, Bangladesh organised by ICDDR, B: Centre for Health and Population Research and co-sponsored by UNICEF and the Sparkman Centre of the University of Alabama-Birmingham, USA. Scientists, planners, and policy makers reviewed recent research on the relationship of zinc intake/supplementation to child health and nutrition, defined the implications of the findings for programs and policies, and developed recommendations for future research.

Sou

Research findings from both published and as yet unpublished studies were presented on the role of zinc in the treatment of acute and persistent diarrhea, the prevention of diarrhea and pneumonia, the treatment of severe protein energy malnutrition and other outcomes.

Several studies (Bangladesh, India, Indonesia) produced convincing evidence that zinc supplementation of children with acute diarrhea reduced diarrhea severity and the evolution to prolonged diarrhea (i.e., lasting longer than 7 days).

Studies on the role of zinc to prevent childhood diarrhea and pneumonia (Bangladesh, India) revealed benefit only in children who were malnourished or older than 12 months. In view of findings from Latin America suggesting wider benefit, the south Asian results perhaps indicate zinc has greatest benefit in older and more malnourished children, although one study (Bangladesh) suggested a worse outcome of severely malnourished children using a higher dose of zinc. Neither long duration (Bangladesh) nor short-duration (Pakistan) supplementation of undernourished children had any effect on growth. One study (India) reported a positive effect on the level of child's activity and, together with previous reports from other regions, suggests a positive impact on childhood development and cognitive function with zinc supplementation.

Safety issues of zinc supplementation were reviewed and the potential for adverse effects of zinc on copper nutriture and immune function, especially in malnourished children or with chronic use, was agreed to be an area where more information is needed.

The group ultimately recommended the following :

1. Children with persistent diarrhea (duration  $\geq 14$  days) and all severely malnourished children (i.e.  $< -3Z$  score weight for age) should be treated with zinc during the course of illness; 20 mg elemental zinc daily was felt to be appropriate.
2. Although children with acute diarrhea also benefit from zinc supplementation, further studies related to effectiveness, cost and practical feasibility are needed before a general recommendation can be made.
3. At this point, it was concluded that large-scale intervention programs in populations for disease prevention could not be recommended.
4. Zinc should not be promoted as a "magic cure" for acute watery diarrhea. Although efforts to improve zinc intake may have a role in programs to manage diarrheal

disease, care must be taken to avoid promoting zinc supplements as a new wonder drug. Ways to optimise zinc intake would need to be part of a combined approach to diarrhea treatment and prevention that includes promotion of oral rehydration solution, general nutritional therapy and advice (breastfeeding, appropriate refeeding), and sanitation (hand washing, proper disposal of excrement).

Source : Volume - 35, December- 98(Indian Pediatrics), Page. No. 1193



## STRENGTHENING NUTRITION INTERVENTION IN THE ICDS PROGRAMME WITH WORLD BANK ASSISTANCE.

### 1. GOALS :

- To further improve the nutrition and health status of the people of Karnataka with an emphasis on the marginalised sectors of society, such as women, children under two years and SC/ST by strengthening nutrition interventions through ICDS.
- To strengthen the functioning of ICDS with community participation including NGO and private sector involvement.
- To focus on equity, with quality of services, making explicit efforts to nurture and increase motivation of ICDS staff.
- To work within a time frame, with regular reviews and transparency in functioning.

### 2. VALUES :

The underlying values will be *equity, ethics, accountability, concern and respect for people, democratic functioning, respect for local knowledge and culture in nutrition*. These will set the tone or the ethos for implementation. Reviews will need to consider how much these have been internalized and what difficulties are faced in these aspects.

### 3. GUIDING PRINCIPLES FOR IMPLEMENTATION :

- a. **Integration** - moving from vertical programmes to horizontal integration of services at district & state level. More specifically health, nutrition and population services to be integrated.
- b. **Phased decentralization** - moving towards district level planning and management, using information from Anganwadis through nutritional surveillance. This will allow for responsiveness to local problems, with scope for innovativeness and initiative by district and sub-district personnel.
- c. **Building partnerships**
  - i. By intersectoral linkages between and within departments
  - ii. With NGOs for participation in planning, implementation and evaluation.
  - iii. With the private sector for participation in state health and nutritional plans for provision of quality services.
  - iv. With peoples organisation by providing free access to information and encouraging feedback.
  - v. With other sectors like education, PDS, Agriculture, Rural Development and Panchayati Raj.

- vi. *Social inclusiveness*, particularly of excluded groups with their active involvement in all levels of services.
- vii. *Community participation and involvement at all levels of planning*
- viii. *Gender sensitivity* - across all levels.

#### **4. OBJECTIVES :**

The general objectives for a six-year period (2001-2007) are outlined below. Indicators will be developed regarding achievement of objectives. The Logical Framework Analysis will be used for identifying means, resources, activities, persons responsible and time frames.

Problems are deeply embedded in social structures, therefore the choice of objectives is based on needs, the likelihood of a nutrition intervention making an impact; and cost effectiveness, given the available resources.

The objectives are :

##### **4.1 Public Health & Nutrition Care**

- 4.1.1. *Improve nutritional levels*, particularly of children (focussing on under two's), adolescents and women, by reduction of undernutrition and nutritional deficiencies, such as Vit. A, Iron and Iodine. The growth differentials between boys and girls needs to be reduced.
- 4.1.2. *Improve health of school age going children and adolescents* through a mix of medical, nutrition, health promotional and educational efforts.
- 4.1.3. *Health Promotion & Empowerment*, particularly of women and young people through sharing of information and health promotion activities enabling people to make healthier choices and to demand better health and nutrition services.
- 4.1.4. *Redress Regional Imbalances & Disparities*. Actively work to reduce regional imbalances.
- 4.1.5. Improve nutrition access to women and SC/ST communities

##### **4.2 Partnerships**

- 4.2.1 Develop specific functioning mechanisms at local district and state levels for better *intersectoral coordination*.
- 4.2.2 *Strengthen capacity of Panchayati Raj and Nagarpalika Institutions* for greater responsibilities and roles in nutrition. Active efforts to involve elected women representatives will be made.
- 4.2.3 *Evolve mechanisms for involvement of the private sector* at different levels with quality assurance. Work actively with the NGO/voluntary sector.
- 4.2.4 Promote and support locally available food stuffs based on the existing dietary patterns.

**5. EXPECTED OUTCOMES:**

**5.1 Quantitative Indicators of improved nutrition status:**

**Table 1 : Specific goals to be achieved over the next six years:**

1.	Life expectancy at birth in years	71 for women, 70 for men
2.	Crude birth rate	17/1000
3.	Crude death rate	7/1000
4.	Infant mortality rate	25/1000
5.	Under - five mortality rate	< 35/1000
6.	Maternal mortality rate	< 199/100,000 live births
7.	Nutrition status of children	Progressive improvement planned
	Severe undernutrition	< 0.5%
	Moderate undernutrition	10%
	Mild undernutrition	60%
	Normal	> 30%
8.	Anaemia among women	<20%
9.	Anaemia among children	<40%
10.	Newborns with low birth weight < 2500 gms	10%

**5.2 Qualitative Indicators :**

External cum internal reviews will be conducted using qualitative research methods.

They could focus on:

- a) Mechanisms for community involvement at local, district and State level. Participation of all sections of society.
- b) Linkages with Gram Panchayats and Zilla Parishads.
- c) People's feedback and perspectives on functioning of Anganwadis. This would include staff attitudes, payment systems and quality of services. Feedback to include the views of women / SC/ST and the poor.
- d) Reduction in regional disparities.
- e) Feedback from Anganwadi workers, helpers, supervisors, ACDPO's, CDPO's regarding working conditions, job satisfaction, continuing education, feeling of self worth.

**5.3. System Indicators :**

- a. Staff position including vacancies.
- b. Condition of Anganwadis buildings
- c. Supply systems for nutrition supplements
- d. Transport – vehicles, drivers, POL.
- e. Utilisation of ICDS services
- f. Availability of functioning weighing scales.

## 6. *STRATEGIES*

These will be developed further using a consultative and evidence based approach.

### 6.1. *Nutrition*

Nutrition, which is a basic determinant of health status, has been grossly neglected by the health sector in Karnataka so far. Recent data from NFHS II and NNMB provides evidence of a high level of under nutrition among pre-school children in Karnataka. Though there have been some improvements in the levels of severe malnutrition there has been persistence of moderate and mild levels of malnutrition. However, the nutritional improvements in Karnataka over the last 2 decades have been far less than that observed in TamilNadu. Therefore nutrition is taken up as a priority with specific interventions by the health sector, and with intersectoral linkages with the Departments of Women and Child Development, Public Distribution System & Civil Supplies, Agriculture, Rural Development, Panchayati Raj & Education. The health system needs to be accountable for the poor nutritional status of the population.

### 6.2. *Broad strategies include:*

Growth monitoring, health check up, therapeutic feeding of under nourished children, pregnant and lactating women. Improved coverage of and quality of ante-natal services and enhancing outreach of services to disadvantaged regions and groups are planned. Major focus is on under two children. Effective communication to enable mothers and communities to provide better child care by focusing on feeding practices will be attempted. The nutrition component will be strengthened by creating a Nutrition specialist at the District level. Finally steps to involve NGOs, elected women representatives, panchayat officials and others in the "District Facilitation Unit" so as to improve the functioning and to create a greater sense of ownership of the programme will be attempted.

### 6.3. *Specific strategies*

**Child Nutrition** particularly of under-twos, from the period of conception, is of highest priority. The strategy aims at reaching the under two years of age children. Presently, this most vulnerable segment is largely missed out. Our objective is to prevent onset of malnutrition rather than to wait till the child becomes malnourished.

This will be possible by either enhancing the existing Anganwadi Workers's salary or to have one additional "Community Nutrition Volunteer" (CNV) for each Anganwadi. The volunteer who will be paid a modest honorarium will primarily carry out outreach activities at the homes of mothers and children. These volunteers will educate mothers to enable them to provide better child care.

**Closer collaborative mechanisms** between departments of Health, Women and Child Development and Panchayats particularly at the local level in the functioning of Anganwadis (AWs).

**Vacancies** of Anganwadi Supervisors to be filled urgently (currently there are approx. 660 in position out of 2000 posts to cover the existing 40,000 Anganwadis). Their training is limited, though the training initiatives in 1999 have started to remedy this.

Rapid turnover and **transfers of CDPOs** are noted. The same person to be in a taluk for at least 3 years. Only women should be appointed as CDPOs henceforth.

Need for **persons with nutrition training** and experience at senior positions at state and district levels. At the District level a **District Nutrition Officer** will be appointed. This officer (preferably a woman, Masters in Nutrition) who will be responsible for regularly upgrading the nutrition knowledge and practices of the CDPOs, ACDPOs, Supervisors and Anganwadi workers.

**Involvement of Gram Panchayats** and monitoring decentralization to ensure that the poor have access and benefit optimally.

The strategies for under two children include **mothers education and supplementary feeding** in areas of need.

**Micronutrients** like **Iron** supplementation for children, adolescent girls, women and men when required. **Vit. A** supplementation and **Iodine** where required.

**Regular deworming.**

The importance of the **PDS in providing food & nutrition security** for the poor.

**Health & Nutrition Education** Communication strategies to promote crucial nutrition messages related to feeding and care will be developed. Various media such as television, radio, print, posters, booklets, folk media and wall writings will be utilised to promote messages on weaning, breast feeding, oral rehydration etc. Popular awareness of the causes and the prevailing extent of malnutrition will be disseminated.

Special efforts to identify the lacunae in **interpersonal counseling skills** of Anganwadi workers and remedial training programmes will be undertaken. **Innovative approaches** in particular communities will be documented and publicized so as to motivate similar successes elsewhere.

Education regarding nutrition at all levels of the health, WCD and education systems. **Nutrition education** as part of health promotion.

Finally it must be remembered that **good nutrition is an entitlement**, as Amartya Sen calls it, with the need for adequate income or purchasing power to buy food, or the means to grow food, or goods to exchange for food. Therefore land reforms, employment creation, and income levels are critical to improve nutrition.

**Nutrition Promotion & Empowerment training** for Leaders of women's groups, from Mahila Samakhya, agricultural women's sanghas, DWCRA, NGO women's groups.

Reach out to the community using **different methods of communication** from interpersonal modes, mass communication through Jathas and street plays

**Nutrition Surveillance** Though Taluk level data is routinely reported to the State there is little use of this information for action at lower levels. Presently, given the shortage of functioning weighing scales, the limited supervision and inadequate coverage of under two children the quality of the data is not adequate or reliable. Remedial action to improve this will be taken. The weighing skills of workers will be improved where necessary. Monitoring capability at several levels-Taluk, District and the State have to be improved. The long term objective is to develop a nutritional surveillance system for active intervention so as to ameliorate the slipping of children into moderate and severe stages of malnutrition. Of course for ethical reasons the rehabilitation of severely malnourished children who are at exceptional risk of death will also be carefully watched. Non-reporting of any moderately or severely malnourished children to the centre or inability to be weighed needs to be acted upon.

A system of checking the functioning of weighing scales will be established at the District level. **Routine calibration of all weighing scales** will have to be undertaken at least once every year and necessary repairs will be undertaken.

Specific efforts will be made to reduce **Regional disparities** by strengthening infrastructure, personnel and other inputs. This will cut across most strategies. Special efforts will be made to identify **tribal related problems** so as to take remedial actions.

#### 6.4. *Health system, issues, training and management :*

**Human Resource Development** is the core thrust of this project. Orientation courses, in-service training, continuing education and skill development through 'UDISHA' (existing WB aided training programme of ICDS) will make the ICDS a more effective organisation.

**Management Development** by strengthening management capacity at all levels through training

**Procurement and supplies** systems to be modernized and made transparent.

#### 6.5. *Partnerships*

**Intersectoral co-ordination** This will be actively attempted with Dept. of Women & Child Development, Education, Rural Development and Panchayat Raj, PDS, Agriculture, Social Welfare Board etc at the state, district and Anganwadi level for the success of the ICDS.



**District Facilitation Unit** A key individual in this Unit will be the District Nutrition Officer. An important function will be to improve the intersectoral coordination between the Health WCD and other Departments to ensure the optimal functioning of the ICDS system. The District Officer though appointed by the Health Department will be positioned in the District ICDS Office. The tenure of the District Nutrition Officer will be in the same District for the entire project period and is non-transferable. Joint training and even supervision of health and Nutrition staff will be carried out. The District Facilitation Unit primary responsibility will be to enhance the coverage and quality of the Anganwadi services. The District ICDS Officer and the Nutrition Officer will be members and responsible for organizing monthly meetings with other District level Department officials. The unique feature of this Unit is that it will have representation from credible local NGOs and public spirited individuals who will be involved in various activities to promote awareness of the significance of nutrition. Presently, the ICDS system is perceived to be only a feeding programme. The importance of other aspects like breast feeding, care, improved sanitation, hygiene, measles immunisation, deworming, Vitamin-A and Iron supplementation will be emphasised. Social mobilisation for improved nutrition of all children will be the goal. The District Facilitation Unit has an important role to play in the **long term sustainability of the project** even after the external Bank funding stops.

Traditionally schools were maintained by **community contributions** in villages. Efforts along with sensitised elected panchayat members will be launched for supporting Anganwadi workers and improving the Anganwadi infrastructure.

The proposed micro-credit programme (Stree Shakti) where AWWs have responsibility will be another potential source of support in order to reach out to all families to ameliorate growth faltering and thus lessen malnutrition.

**State Coordinating Unit in Health Dept.** under the Health Commissioner with the primary purpose to give Nutrition adequate prominence in the Health Sector. This will be responsible for the overall coordination at the State level with the various associated Departments. Inclusion of appropriate nutrition messages in the various IEC programmes of RCH etc. will thus be ensured.

Karnataka has been successful in bringing about a relatively steady decline in under-five mortality. However, significant improvements in nutritional status of pre-school children is imperative to ensure that the pace of decline in mortality does not slow down over the coming decade. The project also aims to improve the quality of life and reduce morbidity by improving nutritional status of children. This is particularly important in Northern Districts where child mortality still remains the highest. (One major cause is unacceptably high levels of malnutrition). A rapid decline in the child mortality levels in the North is the quickest way to ensure a speedy demographic transition to below replacement levels for the whole state.

### 6.7. Empowerment of members

Panchayati Raj institutions (PRIs) are mandated constitutionally to form part of governance structures for effective nutrition & health care. To enable and equip members to play an effective role, empowerment training of newly elected representatives of PRIs for nutrition may be conducted by the DWCD in collaboration with other agencies

## 7. BUDGET

Tentative costing for nutrition component of World Bank aid for HNP project

	<b>Investment costs</b>	<b>Recurrent costs</b>	<b>Total</b>
Improving nutrition levels	30.0 Cr.	40.0 Cr.	70.0 Cr.

NT 15

**PRIVILEGED COMMUNICATION**

Not to be circulated or quoted

Bagalkot visit continued

Observations about Doctors and Health

The 'new' Doctor from Udipi has been newly appointed by KHDSP. He had completed MS about 6 months ago and was working in a North Kerala private Hospital. This was the first time in recent history that Doctors did not have to bribe to join the Govt. Service. Earlier, he was asked 6 lakhs as bribe when he was selected for an Ophthalmology post in a Govt. Medical College in Bangalore. The ESI job he got demanded 2 lakhs.

He came thrice in three weeks to Bagalkot to join. The first time the PHC which the DHO said was vacant had a Doctor. The second vacant PHC which he went that day had a Doctor who was already transferred to the Health Minister's Constituency in Gulbarga. The new Doctor was advised the transferred Doctor not to join here. Following which the DHO asked the new Doctor to come next week. The second week he came the DHO was considerate in giving him time to see if he could go and explore the possibility of finding a vacancy in his home District. He claimed that his father in law has good connections with the Health Minister. But the advice from Bangalore was first to join and then the transfer could be arranged. Thus this third visit to Bagalkot. The PHC we visited was functioning despite the holiday due to the ex-CMs death. Several nurses and staff were on duty at 11.30 am when we reached. The in-charge Doctor was expected to come. (In fact three hours later I saw him operating).

The nurses said there was shortage of water in the PHC quarters. (The village people said there was always water in the village and I saw a huge overhead tank. Sometimes the pump fails). The Doctors quarters was partly occupied by a Nurse who promised to vacate when he joins. But the new Doctor said not to vacate- "At least I can get hot food. My rich wife, the only

TB SKK  
P. Jale  
27/8/2000

daughter of a famous Bangalore restaurant chain would never come and stay under such conditions”.

This new Doctor then left to see the other PHC which he was asked to go so as to make the choice.

The old Doctor whom I met in the remote PHC close to the Border is an exceptional Govt. Doctor. Unusual in that he worked for 3 years with a NGO- IDS in Dharwar. Later he spent 15 years with ACC in remote places in Maharashtra and Bihar. Now has been a contract Doctor for more than 4 years. He said he came back to Karnataka because he had land. His son was staying in the town with his parents to go to College. He had taken over this PHC 2 days ago. When I met him at about 3pm, he was in the Main Village with a Taluk Health Official. They had just finished a talk on RCH to the Panchayat members.

The Doctor's quarters was in a dilapidated state and therefore he could not move in. But he is confident that it will be repaired soon. There is no other Doctor in the vicinity of the group of 5 villages or so and therefore the Panchayat is also determined. The 16 km road from Highway is in bad shape.

The old Doctor said that the previous Doctor came only for 2 hours. The young Pediatrician had his own clinic in the taluk Headquarters. Despite complaints from the people he did not bother to stay at the Centre. This Pediatrician opted for a new PHC which had no building, quarters so that he could continue his private practice smoothly in the Taluk HQ. Was informed that these days there is tremendous pressure on the DHO from the top to make Doctors stay at the PHC. Previously, when a Doctor was the top State Authority, he never enforced the rules. Now that an IAS Officer is in charge of Medical Doctors rules are being followed.

**STILL MORE ON BAGALKOT VISIT**

Sabu George,

(Written in Trivandrum &amp; Bangalore) Final draft dated August 26, 2000

**FOOD, POLIO AND OPTIMISM****Pulse Polio in Bagalkot**

In June & July 2 more rounds of pulse were undertaken in 10 Districts because of one polio case in Bagalkot. This was the only one in the whole of South India so far in the year 2000. My conclusion is that it was not done well (Have evidence).

Another case of AFP in the Raichur border village was been discovered two weeks ago (and later in Bangalore was informed that it was not polio). Learnt of the arrival of foreign WHO visitors to oversee polio eradication efforts in Belgaum and Gulbarga. Wasting public money by throwing it on excess vaccine and white overseers is sad and not safe (Vaccine induced polio). This of course does not absolve the failure of the Health Dept. and the civil society to properly cover all unimmunised children. In the strategy of pulse flooding the children and the country with vaccine there is an implicit presumption that reaching everyone everywhere is not necessary. Hope that God is merciful enough to forgive such human follies, otherwise we are in for more rounds and the target of eradication keeps being extended. Yes, there has been a remarkable decline of Polio cases in Karnataka over the last 3 years; but at what cost? and of undermining the regular immunisation coverage. Not surprising for a vertical programme dictated by International donors and meekly followed. What a sad reflection on the health system and on ourselves!

**ICDS Food**

Hi-energy food not popular as per AWW and CDPOs. People perceive that it causes diarrhea. The perception was that it is bulky for young children is correct. In Badami taluk, the CDPO said that rice from the PDS was delayed and therefore for 3 months Hienergy food is being distributed. In Hunkund taluk the Statistician who was in the Office told me that there was no delay

To SKK

File

27/8/2000

in getting the PDS stocks. They have several hundred kilos in stock.

A CDPO said that rice is what the people like. But the lack of caloric density was pointed out by the CDPO. Was informed that the ICDS Director Muniappa prefers rice but he is unaware of the effort involved in cooking. The Helper could spend up to 2 hours to forage for firewood. 3 years ago good food was given-ready to eat Powder-Upma. This was discontinued. Another official said many years ago CSB (Corn soy blend) was provided-but discontinued as it was expensive. There was consistent demand for an alternate to Hi-energy stuff.

Food has been a great source of aggravation for the staff.

Food is the major problem highlighted in relation to Anganwadis. That such a progressive and functioning state like Karnataka has not cared to do so reflects very badly on the state.

Acknowledged that in general pregnant and lactating mothers do not get the food they are supposed to. Older children eat up these rations is what I am told by one source.

### Conclusion

There have been surprises, like a sincere CDPO asking me why the Dept. cannot provide bathroom scales like in the PHC. She was unaware that regular monitoring of pre-school children with such imprecise balances is not useful. I have seen this practice in some AW centres outside Karnataka. Another shock was when a CDPO suggested instead of providing food for children let the state give parents money. We perhaps do not understand the fury of the people for the inability of the State to ensure continuous feeding.

The possibility that nutrition education can facilitate better growth of impoverished children of socially backward families appears limited. There is so much preoccupation with food and its regular delivery, that just like the masses; even the senior District officials seem to believe; that food is the primary solution to the malnutrition problem. This perhaps should have been expected given

little refresher training; the poverty of Nutrition expertise at Bangalore- within the Dept. or in NIPCCD and the priority given to the well being of children by the Government.

This visit to Bagalkot and the earlier experiences there have convinced me that there are number of officials in the Karnataka Govt. Depts.- PHC Doctors, CDPOs and Anganwadi workers, Taluk Health officials who are doing a good job despite constraints. Many of us despite our concern for the poor would not have the courage or resilience to continue to serve under the prevailing conditions should be kept in mind. The very fact that 250 Anganwadi workers were overseen by the CDPO herself (14 supervisory posts including both the ACDPOs vacant for more than 3 years) is admirable. I was surprised to hear from 2 Doctors that there were just 2 medical officers positions were vacant in the District. And that too, one was caused by the accidental death (motor-cycle) of a young Surgeon the previous month. If this assertion is true than the Doctor vacancies that we hear in the media is exaggerated.

On the heavy rainy day I visited Hungund PHC, I was informed that the Taluk Health Educator had gone away to a far away village for a talk on RCH. The staff even told me that I will find him on the road returning on his motorcycle. I was suspicious but did find him in that remote village three hours later. He was very knowledgeable about the whole taluk and seemed to be genuinely concerned with his work. Deeply impressed that he bothered to come so far on bad roads in heavy rains on his motorcycle. That even on a Holiday (due to ex-CM death) I could meet the DHO at the office in the morning, find a PHC with many patients, staff and a Doctor; suggest the functioning of the Health system may not be that bad as it is made out to be.

Therefore, even if there is indifference by some at the State level we have an obligation to the malnourished children to attempt to do whatever we can to improve the system. We do have to be seen by lower level people of taking up their problems at the state level. Thus we will have to

carry on despite the distress caused (to ourselves) by working with the system. No promises that elimination of malnutrition will take place by the end of the project but that the state can make a difference to the survival and well being of tens of thousands of seriously affected children. Therefore, we have to strive to get Health and WCD to give Nutrition a greater priority. Though our children's nutritional problems have remained largely the same over the last two decades but Nutrition knowledge (particularly on the consequences of malnutrition), practice and therefore the paradigm of nutrition interventions have all undergone changes. This needs to be shared (and our understanding deepened with appropriate actions at the local levels) with the ICDS system starting from the top with the WCD Secretary & ICDS Director. Even later for some reason if we do not make much of a difference to our children's status despite our genuine efforts; at least we would be true to our consciences. Far too often in the NGO sector, we have been criticising and advising the Government but not working with them for the betterment of our poor.

I am sure that I could learn more about possibilities of improvement if better rapport and trust with the concerned District, taluk and village level officials; and communities are developed. This needs more time and field visits. Some responsiveness from the State level to at least one of the real field problems would also help.



**ARVIND G. RISBUD, IAS.,**  
Project Administrator &  
Ex-Officio Special Secretary to Government  
Health and Family Welfare Department



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Karnataka Health Systems Development Project,  
1st Floor, Public Health Institute Building,  
Seshadri Road, Bangalore - 560 001.

KHSDP/PA/QM-44/2000

28:8:2000

Dear *Sri Sanjay Kaul*

KHSDP recently organised a workshop for Doctors and para-medical staff of 13 districts in the areas of Blood Bank, Maternity care and Equipment maintenance for the purpose of enhancing quality of services towards the ISO 9002 level. There was an enthusiastic participation by about 40 people over two days.

A significant pointer during the workshop came from those handling Maternity care services in Government hospitals. The most commonly noted features as agreed in the workshop indicate :

- \* Maternity care is the single largest type of services delivered in a hospital
- \* The period of care made available in the hospital covers a significant portion but not the entire period of maternity care which is needed by the expectant mother
- \* The most commonly occurring crisis point in any hospital delivering maternity care relates to availability of blood
- \* The most commonly noted feature is maternal anaemia which necessitates the holding of large amounts of blood

Assured quality of maternity care in hospital becomes much simpler to support if the expectant mothers are assured of health care support even before they enter the hospital sub-system of maternity care.

I am writing this letter to you in the light of the fact that a DPR is being developed for Karnataka in Health, Nutrition and Population under KHSDP funding by the CHC, Bangalore. It would be appropriate to mark this issue for special emphasis. In practical terms it would mean that the role of the ANM would have to be highlighted sufficiently for awareness courses, distribution of IFA tablets / monitoring / appropriate interventions which reduce conditions of anaemia and thereby help in larger number of normal deliveries which can then be carried out at expectable levels of quality of services. I believe that such an emphasis would be viable in terms of quantification, Bench Marking and evaluation in area specific terms.

*Signature*  
Yours sincerely,

Sri. Sanjay Kaul, IAS  
Commissioner  
Directorate of Health & Family Welfare Services,  
Anand Rao Circle  
Bangalore - 9

*cc/st for info*  
*31/8*  
✓ Cc: Dr. Shelma Narayan - with reference to our discussions of 28<sup>th</sup> August.

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NT 18.

## WHERE DO WE STAND?

Printed on September 17, 2000 after several days of reflection  
Sabu George

### Major Concern

Are we all willing to wag our tails so that the Health Commissioner can get the 500 crores for the Dept. with the "least acrimony" on the mere assurance that the Project is going to give Nutrition a priority? Rather, should we not growl fiercely that under two child Nutrition is being sidelined so as to meet the immediate requirements of the Dept. Thus the well being of tomorrow's adults will be sacrificed given the continued nutritional neglect of under-2 children in Karnataka.

*They have accepted all that our project concept paper has said.*

### The Context

My brief discussions with Dr. Peter Heywood, World Bank at Delhi in early Sept. and Mr. Sanjay Kaul, IAS on Sept. 14 are troubling (see below). Of course the past interactions with the Commissioner at meetings and the ideological predilections of the Bank can not be ignored. Further, the latest draft of the Project allocates a mere 30 crores which Thelma agrees is inadequate for Nutrition.

*The budget was not discussed in the WB as it was not plausible. We need*

### Peter Heywood's radicalism

Gave me 15 minutes without appointment on my second visit to the Bank. Spent probably 20 minutes talking. On Monday morning at the first visit, the World Bank reception would not even let me make a call to anyone.

Peter:- Since Karnataka finances are in doldrums the CM needs to be given realistic proposals. The second AW Worker is not possible. The TINP model is not replicable. It is expensive and 70% IDA grant would never be provided at all. Even acknowledged that TINP by hook or crook was determined to show success.

Therefore, we should think differently. Feeding has had no nutritional impact. (I objected - one purpose of food was a means to reach out to families and not an end in itself).

*See  
to Dr SKR/RG  
→ HSP file.  
The  
17/9.*

ICDS does not work. Scrap the present ICDS which caters primarily to above two. Let the new ICDS only look after under two children.

Peter did not appear to be up to date on TINP nutritional impact. Surprised that he was unaware of the NNMB data. Peter's radical comments do not deserve a response. Yes, given the Bank's indifference to the developing world and to the poor: Peter might well be rewarded handsomely for destroying what the Bank presently trumpets as the World's largest lending programme in Nutrition (ICDS).

#### Commissioner Sanjav Kaul's thoughts

Do not worry about the present ICDS. Look at the Task Force's suggestion on food-WCD will not even accept it. Then how are we going to carry them along with our new proposal. If we propose to tinker with ICDS then the Bank will use it to want studies and demand proof of nutritional impact of our proposals. The finance Dept will not accept the second AW Worker. We can give an extra 25 paise per child per day from some other source to WCD. Do not be emotional about nutrition. WCD felt that they were being attacked. The tribal situation can be given priority in this Project. We will call other Nutrition experts who can advise us to strengthen the existing ICDS programme.

*My response:* Why should I not be passionate about children and nutrition. Certainly, I would have joined the IAS or the Bank if I had believed that these bureaucracies would have improved the growth and survival of our children. Giving importance to tribals only is not adequate. Too small and too scattered to have an overall impact on state levels.

The Commissioner merely wants "some" strengthening of the ICDS. Please note that the overall impact on children's nutritional status of such strengthening would be minimal. This can give the Dept a better public image and reduce severe malnutrition under the most optimistic scenario. But may have only little impact, if any on moderate levels. Therefore, we have to ask for far more than mere "strengthening" otherwise we are not doing justice to

the under two children.

Am I uncompromising? What is the basis of my choice?

I am willing to compromise on the nature of the Food, i.e., accept rice. This is to take the WCD along. It will deprive calories of children, burden the Helper and perhaps facilitate greater diversion. (We cannot ignore the impression that people like it). However, I will be most happy if all of you could get WCD to accept something more caloric dense than rice and curry.

My compromise will send a message to the system that there are other components to improving Nutritional status of children than food. There is too much preoccupation with food and its delivery today in the ICDS.

Knowing that more than 60% of pre-school children are condemned to experience serious stunting in their childhood, and their functional consequences: it is unethical to go with the Commissioner's present position. What if the Finance Dept. or the Bank are going to be unhappy with the second worker and its financial implications? If necessary, we should strive to attempt to convince even the political masters about the significance of under-two. We can try it as a pilot in one or two Northern Districts.

Gandhiji used to say think of the poor when we have to make choices. Our joining with the Govt. on the HMP Project was on the premise that we will be able to take care the interests of the poor and the neglected (which STEM would not have done). I believe, it is time that we take a stand firmly on under-2 Nutrition. Ask for a second worker who will visit homes. If we do not take stands then we are on a slippery slope slowly but inevitably drifting towards the Commissioner's agenda.

**FIELD VISIT TO GULBARGA- PRELIMINARY REPORT**

dated September 30, 2000

written in Gulbarga & Bangalore:  
Sabu GeorgeExpectation from Gulbarga visit

Spent 5.5 days over Sep 24 to Sep 28 in Gulbarga. Need to mention that the outcome from Gulbarga will be limited by the fact that this is my first visit to the District. Unlike Bagalkot, where I had the benefit of three months of prior contacts and knowledge. Further had the generosity of the Sugar Mill resources (transport and human). The credibility of the Sugar Mill being interested in health related matters and had provided additional resources to the Govt. was helpful. The hours spent with two Doctors in the jeep did not happen in this District.

The findings from this first ever visit to Gulbarga is largely dependant on what the Govt. sources chose to share with me. Note that I can capture only what was translated to me in English. What transpired in Kannada among the officials was obviously Greek to me. Nevertheless, the cooperation from WCD sources in travel was generous. Thankfully, the Guide CDPO knew English well and therefore saved time. The first field day the Jeep was available from 8.30 AM to 8 PM. The second field day despite being a holiday- sacred Dassera Amavassi, the WCD Dept. did provide me a jeep and a CDPO. The only reasonable request they made was that they could come only at 9.30 AM and wanted to be back by 4 to 5 pm (we returned by 5.20pm). Mercifully, I had total freedom to choose the taluks and villages to visit.

Prior Contacts Established in Gulbarga

Had established contact with an old acquaintance who is an IAS officer in Gulbarga (Young Idealist- henceforth YI). He is the only NLSUI alumnus who has joined the IAS. He was selected to IAS this year and Gulbarga is his first posting and had spent about six weeks there. Through another friend who studied Nursing and did her community posting in St. Luke

Jn  
 30/9/2000  
 ① <sup>Sabu</sup> BSKE / RN  
 ② HNP - field notes  
 ③ Need more systematic data collection, subsequently  
 on child health + nutrition + women health then  
 RCH.

Centre. Aurad, in rural Gulbarga came to know of Dr. Abraham a Christian Mission Doctor. Thelma asked me to contact Dr. Shoba at CMAI. Thru Dr. Benjamin learnt that Shoba knew nobody and Dr. Sukan Singh only Dr. Abraham in Gulbarga.

#### Places visited and people met

The first day was Sunday. Arrived at 4AM in Gulbarga Rly stn from Delhi (via Secunderabad). Slept till 10.30 as was tired after a miserable 7 hour train journey-with a one-fifth of a seat in the unreserved Compartment (including a 2 hour delay due to engine breakdown enroute. I wanted to save time to reach Gulbarga fastest. I had a reservation till Raichur from Delhi but from Raichur had to traverse back so chose to get down at Secunderabad). Though a Sunday met people in the morning and afternoon. After washing clothes in morning went in search of YI. Met the Young Idealist, YI, who was staying at the Deputy Commissioner's house. Planned the following 3 days. Decided to meet the Deputy Commissioner on Monday morning. A lunch invitation from an Assistant Commissioner was declined as I wanted to meet Dr. Abraham. Met Dr. Abraham at his house. Spent nearly 2.5 hours. Returned at 6.10 pm to the Hotel. The evening dinner with YI was canceled when the latter knew of a music concert. Understandably, Daler Mehendi (Punjabi Bhangra King) could not be missed by his lonely wife in boring Gulbarga town. On subsequent days had a lunch and a dinner with them.

Monday morning met the Deputy Commissioner and CEO of Gulbarga. Note that official days begin only after 10.30AM. No effort was taken to meet the Divisional Commissioner of Gulbarga, the highest bureaucrat as he is very busy. A large number of disciplinary actions against officials have to be taken by the Divisional Commissioner. This nice senior officer had barely 5 minutes for the newly appointed YI. While his head was buried in the files he asked why the YI should have even thought of joining the IAS!

Before lunch met the Assistant Director, WCD and the Programme Officer, ICDS of Gulbarga & one CDPO of urban Gulbarga. After lunch went to the DHO's Office. The DHO went away with the Health Minister Malakka Reddy to Bidar where all the Govt. Doctors are on strike following the assault on a Govt. Doctor while working in a private Clinic. Met briefly the DHO in charge-the District Training College Principal. Spent time with junior level officials as the RCH and Family Welfare Doctors in charge were in Bangalore for Training. Was at the DHO's office till 6 PM.

On Tuesday the WCD Jeep along with the rural Gulbarga taluk CDPO came to DC's house at 8.30 AM. I reached there before 8.40 and we left after YI instructed that tomorrow also the Jeep be provided for half a day despite being a holiday. Left for Chincholi which is the North Eastern taluk adjacent to Andhra. Met the Chincholi CDPO at his Office. Went to one village and met 3 of the 4 AWWs living there. Finally visited a PHC, 30 km away from the Chincholi town at the edge of Andhra. None of the two Doctors were there but spoke to the LHV. Later we met the Lady Doctor while returning to Chincholi on the road. Had a conversation on the road. Efforts to meet the taluk Medical Officer on return to the taluk town after 5.30 pm were unsuccessful though we went to several of his favourite places in the town. We returned after 8 PM to Gulbarga.

On Wednesday morning we met the ACDPO and the CDPO of Aland taluk at Gulbarga itself. Though, I did not want them to come with me to Aland, my Guide wanted the CDPO to come. Aland is the North Western taluk of Gulbarga and is adjacent to Maharashtra. At Aland town I wanted to visit the CDPO Office but the CDPO said he did not have the key. I did not want to insist because it was a Government Holiday. Went to a village towards the Maharashtra border. Met the Anganwadi worker. Subsequently went to the local PHC seven Km away and

met the "Amazing Surgeon" (A<sup>S</sup>Z). Returned back at 5.30 pm to Gulbarga.

On Wednesday evening had Dinner with Dr. Abraham and he was kind to drop me at his rural Hospital at 10 pm in the night. Because I did not want to take any chances as Thursday was "Rajkumar Bandh". The hospital is in Aurad village on the Gulbarga Hyderabad road about 15 km away in rural Gulbarga taluk. Slept at the Hospital Campus. On Thursday morning visited two PHCs which were towards the Bidar border in the Northern part of Gulbarga District. Visited two villages both away from the Main Road, one on the Western side of the taluk and another on the Eastern edge. Returned back at 5.30 pm and left at 6 pm for the Gulbarga Railway Station. The Social Worker accompanied me the whole day. To one village 4 student 3<sup>rd</sup> year Diploma Nurses (3 month posting) also came.

#### Rationale for the places chosen

At St. Lukes obviously I was limited to choose among the 18 villages where they were working.

The far away taluks were selected among the 10 taluks of Gulbarga based on what I learnt about the relative backwardness from many sources I met on the first two days. The southern taluks are agriculturally prosperous because of Irrigation projects. Krishna river is the Southern boundary of the District. The Southern taluks also benefits from river Bhima. I was also informed that the senior Govt officials and even UNICEF confined their visits to the rural Gulbarga taluk which is adjoining to the city. The only exception was when UNICEF Farah visited Aland taluk but there again the decision appeared to be based on the closest village to rural Gulbarga taluk.

Note that both the Anganwadi centres I had visited in the taluks of Chincholi and Aland were never visited by anybody from outside Gulbarga over the last one to two decades. Once in



one village an official had come from Audit side.

In Gulbarga there are a total of 10 rural and 1 urban ICDS Projects. Obviously my priority was rural. Note only a part of the total urban population of Gulbarga city is covered by the Urban project.

#### Expenses Incurred

As there are 6 Ministers from Gulbarga the IB is always full with their 'sidies'. I arrived at 4AM and that was not the time to go to the IB. Later, twice I asked the YI for place but this was not acted on. So I stayed in a Hotel near the DC's Bungalow. The WCD also told me that they often cannot get place in IB when people from Bangalore come for training. The Health Dept. Staff's first response to Sanjay Kaul's letter was that they neither had vehicles nor accommodation. The In-charge DHO appeared least interested even in talking to me. Two days used the WCD Jeep and the third field day used St Luke Health Centre Jeep. The travel to Gulbarga from Delhi was largely met from non-CHC sources.

## FIELD VISIT TO GULBARGA- FOURTH REPORT

### Observations on the Primary Health Care System

written in Bangalore & Trivandrum

dated October 15, 2000

Sabu George

#### The Welcome from District Health Officials

The newly appointed DHO, Dr. Sunkad was absent on Monday afternoon as he had gone away with the Health Minister to Bidar. The DHO belongs to the first batch of Gulbarga Medical College. I got the impression that his surgical abilities and long service in various taluk Hospitals have made him well known among the people.

Neither the Acting DHO (Principal of the Dt. Training College) nor his officials wanted to see me. The Commissioner of Health's letter was of little help. It caused displeasure. Immediately after reading the letter his assistants said that they neither had jeep nor accommodation. The Acting DHO said there were no problems or gaps in the Health System- Only the people needed education! And this too after my insistence that I needed his views. 90% of PHC have their own buildings in the District. After some time the DHO's sidies said that the money allotted for transportation for each PHC Rs. 750 was woefully inadequate and it should be doubled. All the PHCs should be provided with jeeps. At present, only some Taluks have Ambulance. Then, I was referred to a Junior Statistical Officer for information.

I had to wait for about half an hour as the First Meeting of the District Panchayat Committee on Health & Education after the recent Panchayat elections was going on. Several politicians and the Deputy Secretary attended. The urinal inside the large Building was stinking and was dilapidated.

#### The view from the DHO's Office

However, the Statistical Officer was patient and sat till 6 PM answering all my queries. He gave me the Report on Staff vacancies. I was also able to get a copy of the UNICEF supported Border District Proposal for Gulbarga. Earlier, the Health Commissioner in Bangalore told me that there was not much money in it but provided some TA/DA flexibility. Dr. Nagaraj,

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Acting Director, could not give me the proposal as somebody "ineffective" was in charge! In Gulbarga only the Action Plan has been prepared. Action is still awaited. Dr. Muley, a Retired Govt. Doctor based in Bidar is the Gulbarga District Consultant.

The Gulbarga Statistician could not explain a table on child deaths in the Report. He could not tell me how many Sub-centres had no ANMs. Only that there was a total of 201 ANM vacancies in the District (total =543). I was informed that the ANM vacancies have been increasing over the past few years due to transfers away from Gulbarga, retirements and promotions. 100 PHCs are functioning in the District and 17 CHCs. Five PHCs are not functional. Informed that the staffing in the rural Gulbarga taluk is much better than that in the other taluks. This is also the case in ICDS and other Govt. Depts. The difference between the centre and the periphery of the District is not surprising. Learnt that the Health Minister sometimes visits the PHCs in the District.

That a large number of PHC Doctors are not staying at the PHC was told by a variety of sources. The last two recruitment efforts were not effective in filling the vacancies as most of the selected candidates refused to join. Presently, 72 Doctor positions are vacant of the sanctioned 258. Of the 40 selected for Gulbarga by the KHDSP only 10 Doctors joined. I was unable to find out how many PHCs had no Doctor. Asked but not provided.

#### Visit to PHCs

I went to a total of 4 PHCs in 3 taluks. The 2 PHCs in the Aland and Chincholi were randomly selected. The criterion of selection was described in the first report. In rural Gulbarga I was limited to Dr. Abraham's villages.

In both the remote Taluks the PHC was functioning the day I visited. Incredibly, on the sacred Amavasi Dassera the PHC was full of people at Aland. The Amazing Surgeon (AS) was seeing patients and getting ready for Surgery. On the day of "RajKumar Bandh" neither of the

two Doctors had come for work when I visited after 10AM in the rural Gulbarga taluk. At least in one of the PHC many other staff including LHV were present. A few patients were already seen. In the other PHC only the peon was there. Buses were running from the Gulbarga town. I myself saw several buses on the Highway while going to and coming from the PHCs. Note that both the PHCs were on the main Gulbarga Hyderabad Highway. There did not appear to be any effect of the Bandh in the town. Two staff of the St. Luke Health Centre came in time at 9AM by regular buses from the City. Thus, it seems that both the PHC Doctors were having a holiday on the pretext of the Bandh. Two of the 4 PHCs had more than one Doctor. Note that the PHC male Doctor of the Chincholi taluk PHC is also the Doctor in charge of another border PHC which had no Doctor. But in rural Gulbarga PHC the second one was in a separate PSU (Peripheral Service Unit).

Only 1 of the 4 PHC had a Jeep. This was reportedly not in working condition. Only 1 has a new building. Two had quarters for the Doctor. Though both were reported to be in bad condition. In one place the staff were complaining that even the Doors have fallen down. They have to accept the company of stray dogs which intrude in the night. A fear was expressed that the buildings are in virtual danger of collapse. Only the new PHC had running water. In fact they have even a separate bore pump though the Main Water tank of the big village was in front of the PHC. All the other three did not have running water. In one case their only source- Hand pump is shared by many and often mal-functions. Then the PHC has to depend on another hand pump farther away. Two PHC did not have a boundary wall. This was a felt need. In one case apprehension was expressed that if no wall will be constructed than private people might encroach on the PHC land. Two of the 4 PHC buildings themselves had major leaks.

The AS complained that he had been asking for quarters for many years. Even when the local villager was the District ZP President he could not get his need sanctioned. He lives in the

PHC itself. The examination room becomes the bedroom in the night. He has converted the adjacent room into an attached bathroom. The roof of this room is leaking and a part of the wall is open as some of the window has fallen. While talking to the Doctor, I saw a rat running in and out of the wooden wall cupboard through a hole at the bottom.

In the Chincholi taluk PHC even the autoclave was not functioning. Only tubectomies and laproscopies are done in this PHC. A large number of sterilisations are carried out and the sterilised instruments are brought from the Taluk Hospital 30 Km away. No cesareans are done. About 6 deliveries a month take place. There were 8 tubectomies done the day I visited. About 70 had come to the OPD that day, the LHV said. The CDPO did not know how many PHCs had no Doctors. He said it is there in the monthly report. I wanted a copy but could not get one.

In Aland Taluk the CDPO informed me that of the 13 PHCs only 6 have Doctors. Only 3 of the 6 stay at the PHC Quarters the rest are in the City.

That both the rural Gulbarga PHCs had the full complement of their ANMs while both the peripheral ones had vacancies was to be expected following the briefing from Gulbarga HQ. In Aland Taluk PHC 2 of the 5 and in the Chincholi taluk PHC 3 of the 5 ANM positions are vacant. The LHV was there in Chincholi for last 2.5 years while in Aland had just joined. There was no Block Health Educator or Compounder in the Chincholi PHC. Only 2 of the 5 Male workers are working.

#### The Lady Doctor (LD)

Only one of the 4 PHCs I visited had a Lady Doctor. In Chincholi Taluk PHC there was one Lady Doctor in addition to the Male Doctor. However, the lady was staying in the PHC Quarters while the male Doctor commuted from Chincholi town. The Muslim Lady is on contract appointment for more than 2 years. Alumnus of Gulbarga Medical College. The PHC I visited was on the edge of the border with Andhra (1 km away). The Chincholi town was 30

km and the nearest referral Taluk Hospital was Zahirabad 25 km away in Andhra. The nearest District Hospital is Bidar, 60 Km away.

Note that it take nearly 6 hours to come by bus from Gulbarga town to this border PHC. Because of this, the Lady Doctor purchased a Scooter. While going towards the PHC the LD was seen in the scooter going towards Chincholi. Three hours later and after our village visit and return from the PHC we met the LD again on scooter (driven by a man). This time I got down from the Jeep and managed to talk to the LD on the road. She impressed me as a determined woman who has survived and continued to work despite odds. She said when she joined she had no desire to stay on. She was wiling away time to go foreign. But those plans did not materialise. She is continuing because the Govt. will regularise contract appointments. (Later I learnt that her Engineer husband was then working in the Gulf. But subsequently, her husband has started business in Gulbarga town). She was very disappointed with the lack of support from the Govt. In this remote area there was no way that villages nestled in the forests miles away could be visited without transport. She repeatedly asked for transfers. The Govt. should not post Ladies in PHCs where there are no vehicles. I consider this as a reasonable request. Particularly in rural contexts where men taluk officials rarely share their vehicles with ladies. (In a later report I shall give the example of the CDPO who was not cooperative. Note otherwise he appeared to be dynamic). She said she was staying in the Quarters despite facing a lot of complaints from the people round the clock. With much sadness she said that nobody can understand the difficulties faced by a Lady Medical Officer living as the only Doctor in the Quarters. However, she was very pleased with her practice. 80 to 100 patients come to the OPD every day. Other sources informed me that she was especially popular with women in this remote corner of the State.

The Amazing Surgeon (AS)

This Doctor has been in the Aland taluk PHC for last 3 years. He has been totally crippled since a lamenectomy in NIMHANS in 1980. He has a cathether always connected for urine. Does Surgery while sitting. He is a class mate of the DHO at the Gulbarga Medical College. He was among the first Doctors to do lot of sterilisation camps. So far he has done about 8 to 10 thousand tubectomies so far.

He had served as a Doctor in many Taluks. He said he has a great reputation in the local areas and therefore incredibly busy with Surgeries. Every Wednesday he does Surgeries. At least 10 tubectomies, 10-15 hydrocoeals, hernias. He starts at 6 AM and continue in most weeks past midnight into early morning. Apart from surgeries he gets about 50 to 60 out-patients every day. Only on Sundays he goes to the town to be with his family. His children are studying there.

He says the Govt. expects Doctors to perform without providing adequate equipment at the PHC level. He also pointed out that this becomes a pretext for young Doctors for not doing work. The number of PHCs has increased over the last 2 decades. Earlier on there were just 2 PHCs per taluk while each had 23-24 sub centres. Regrettably, due to the lower level commitment of the new generation of Doctors the desired benefit of the PHC expansion has not reached the common man.

The present generator has been repaired five times. He wants a new Generator as he often has to operate using a Gas petromax or torchlight. Presently, there are 7 tubectomy sets. He needs another 10 to 15 more surgical sets. The other request he has is to do some basic maintenance of the building- roof, rebuild broken windows and repair flooring. He wants an independent tube well and running water. Reelectrification has to be done as the wiring has worn out. He said Beds are required for patients but will not ask as the Govt. will never provide them.

#### Immunisation

At the District HQ was informed that every Thursday was the Immunisation day. The

field realities were different in the villages visited. (See in the forthcoming Report of Gulbarga visit- I prefer to put immunisation in the ICDS part). A new immunisation drive for urban areas was initiated. For instance in Gulbarga city every 3<sup>rd</sup> Friday there is an endeavour to undertake immunisation. Since I did not look at urban areas in this visit cannot comment on this claim. To confirm -what this special 3<sup>rd</sup> Friday venture attempts which is not done on the regular Thursday immunisation day?

Given that pulse polio was run as a vertical programme by the Karnataka Health Dept. it was not shocking to find pulse polio vaccine being delivered to a village where no routine immunisation had ever occurred for last 3 years (neither children nor pregnant women). The ANM position was vacant. The substitute appointed by the Taluk Medical Officer works at the Taluk Hospital. The concerned PHC Doctor was aware of this. He said that the in charge ANM probably neither works at the taluk Hospital nor goes to the sub-centre. Let alone measles, even routine immunisation had a lower priority than pulse. What a misplaced set of priorities? We were constantly assured that pulse would result in increasing overall vaccine coverages. What we are consistently seeing is that the immediate imperative of polio eradication getting an overwhelming priority over improving routine coverages. Without strengthening routine system and reaching out to the unreached we will not be able educate the people on immunisation and empower the community to demand or obtain these services. This is a major failure of the RCH services in Karnataka. Such misdirected priorities on polio eradication may be understandable in states like Bihar or UP where there is little governance but certainly not in Karnataka. This policy failure in our state needs to be highlighted. Campaign strategies are expensive and can never be a substitute for creating informed communities all over the state.

Need to emphasise that I am not questioning the imperative for polio eradication but the way the operational strategy is not being used to optimally strengthen the routine immunisation



system. Dr. Nagaraj is very proud of the achievement of pulse in Karnataka but this needs to be tempered with the recognition of the lost opportunities. Otherwise, we will be deluding ourselves. The international donors do not care about the strategic mistakes and anyway they like Dr. Nagaraj will only take credit.

### Conclusion

Not everything was bad in Gulbarga. Right from the Commissioner onwards many people in the Govt. kept repeating over the last few months that everything is bad there (not just Health). Yes, there were several examples of dysfunctioning. Immunisation and particularly measles does not receive enough priority though every PHC Doctor I met said that they are covering everybody! But it was heartening to find once again in another District few exemplary persons who are making a difference by working in the much maligned Govt. System in the most backward part of Karnataka. The barrenness of the NGO sector is obvious particularly with regard to health and children. The failure of Christian Mission Hospitals to thrive is deplorable. The lack of leadership in the Indian Churches and limited commitment to the poor in most of their medical institutions over the last 30 years is well known. Their failure to instill a sense of mission in young medical students to serve the rural disadvantaged is unforgivable. Therefore, there is no alternative to the Government in this part of Karnataka. I believe, our challenge is to do everything possible to improve the functioning of the Govt. System and to assist sincere staff, and support isolated institutions like St. Luke's. Rural Gulbarga deserves CHC's priority for action. The District should not just remain an object of intellectual discussions on Primary Health Care.

The Gulbarga challenge is formidable. How will the Doctor vacancies be filled? Having an ambitious Health Minister from Gulbarga does not seem to help the District PHCs. Certainly the filling of ANM vacancies in the sub-centres will make a difference. This is a good beginning

to make. Locating sincere Doctors working in the remote parts of the District is another step.... If the facility survey does not provide authentic information on the state of the PHC Doctors Quarters in Gulbarga than it is worth doing a separate Survey for the District. Otherwise, Doctors cannot be held accountable to stay in those PHCs where buildings are available. I could not obtain info on how many PHC did not have Quarters.

#### Ethics & Field Visits

Certainly the knowledge from our visits will inform the forthcoming HNP proposal. In the long run if the Bank is willing then it will benefit the people at large. But ethically we also have an obligation to ensure that the Commissioner of Health needs to be informed of some of the urgent needs expressed by the PHC Staff. Some of them may be attended to without any major decisions or allocation of resources. It is unethical for us to hunt for problems in the Health System in far away places without making a reasonable effort to put them up for consideration in Bangalore City. Ultimately, it is not a matter of our personal credibility but that of the leadership of the Health Dept. In any bureaucratic structure problems just keep growing because of callousness, limited resources, inertia, and sometimes lack of awareness of superior officials who have the power to make a difference. Such would naturally exist in the farthest District away from Bangalore. This para is to ensure that we should not be seen as accomplices of the inertia and/or inaction of the System, particularly given all our busy preoccupations in the name of the poor.

## Comments on Tara's proposal -

- Zinc should be excluded.
- Her work on ARF(Amylase Rich Foods) is definitely inspiring but she herself recommended that it should be made locally (rather than factory made). E.g. of Rajasthan.
- Cost of her micro-nutrient and ARF package more than doubles the cost of the Nutritional supplement. So anyone would prefer to provide double the quantity of Nutritional supplement instead.
- Correction of calorie gap and protein gap needs to be tackled first and only then micronutrients assume importance.
- The ARF has to be mixed with Rice power/Ragi powder etc. hence supply of rice as grain from PDS may have to be modified.
- Most of Tara's studies seem biased. I am of the opinion that by just monitoring the functioning of few Anganwadi's (without any supplementation) the nutrition status of the children will improve due to more efficient functioning of the Anganwadis (Hawthorne effect).
- Her study on providing micronutrients to tea plantation workers showed compliance less than 60% (only 600 workers). How does compliance improve in a large district.
- From my feedback from visits to few Anganwadi's, the AWW's themselves stated that attendance during energy food distribution days was much less than during regular food days. I feel mothers and children naturally prefer their staple diet (can be fortified) rather than some odd looking and tasting preparation/mix.
- De-worming of children and adults every six months is a must.
- Selection of districts to be rationalized as per the real need and not convenience.
- The programme should be for all under 2 years children and not be discriminatory.
- The sustainability of food fortification Vs change in the dietary habits of mothers and children should also be considered.
- Even a half-boiled egg a day would work out cheaper than adding micronutrients + ARF to the existing nutritional supplement, and be much more effective for improving malnutrition. (also more tastier).
- Monitoring of the pilot projects should be carried out by a neutral group and not Tara Consultancy Services.
- Non availability of growth charts and weighing scales would be a major problem in monitoring the success of any nutrition programme.

**JSA WORKSHOP ON  
CAMPAIGN MATERIAL PREPARATION FOR NHA-II**

NSK, Bangalore  
24<sup>th</sup> and 25<sup>th</sup> February, 2006

*Draft Programme Schedule*

**Day-1 : 24<sup>th</sup> Feb. 2006**

Time	Topic	Facilitator / Presenter
10.00 am – 11.30 am	Round of brainstorming on NHA-II process to contextualise the use and dissemination of the campaign material (including approximate calendar of preparatory activities for National Assembly)	Chair for morning Sessions: B.Ekbal Facilitation: Thelma
11.30 am to 1.00 pm	Discussion on - <ul style="list-style-type: none"> <li>• Topics for campaign booklets</li> <li>• Sub-teams to draft booklets on various topics</li> <li>• Editing team to finalise booklets</li> </ul>	Facilitation: Vandana
1.00 pm – 1.45 pm	<b>LUNCH</b>	
1.45 pm – 4.00 pm	Continuation of morning discussion; detailing of issues related to some of the booklets e.g. <ol style="list-style-type: none"> <li>1. Revisiting Primary Health Care (suggested initial presentation: Thelma)</li> <li>2. Access to health for the marginalised and vulnerable; (suggested initial presentation: Sarojini / Vandana)</li> </ol>	Chair for afternoon Sessions: Ravi Narayan Facilitation: Veena
4.00 pm – 6.00 pm	Discussion on JSA strategy for WHO-CSDH activities	Facilitation: Amit
6.00 pm – 7.00 pm	Reporting on transition of PHM Global Secretariat and related issues concerning JSA	Facilitation: Ravi Narayan

**Day-2 : 25<sup>th</sup> Feb. 2006**

Time	Topic	Facilitator / Presenter
9.30 am – 10.30 am	Discussion on JSA National presentation and strategy regarding 4 <sup>th</sup> March NHRC Review	Chair for morning Sessions: Mohan Facilitation: Abhay
10.30 am – 1.30 pm	Detailing of issues to be covered in various booklets -continued (names are of suggested initial presenters): <ol style="list-style-type: none"> <li>3. Globalisation and its impact on Health (Amit)</li> <li>4. Right to Health Care (Abhay)</li> <li>5. Private Medical Care and Regulation; Access to essential Drugs (Anant /Amitava / Amit)</li> <li>6. Emerging issues and Challenges in Health (Ekbal)</li> </ol>	Facilitation: Sarojini
1.30 pm – 2.15 pm	<b>LUNCH</b>	
2.15 pm – 5 pm	<ul style="list-style-type: none"> <li>• Printing and publication, finances for booklets</li> <li>• Development of graphics, cartoons and diagrams for the booklets</li> <li>• Exploring the idea of JSA News Bulletin</li> </ul>	Chair for afternoon Session: Mira Facilitation: Amitava

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## 'Defending' people's Health in the era of globalisation

### Key themes for booklets

- Threats and assaults on the RTH: Globalisation is injurious to health
- Crisis of the Indian health system
- Defend the Right to health for various sections of the Indian people!
- New and emerging issues impacting on the RTH
- Promote the determinants of the RTH!
- Health and Health care for all is possible!  
The People's Health Plan

## Threats and assaults to people's health

### Corporate-led Globalisation is injurious to health- Amit, Mohan

- What do we mean by globalisation?
- Imperialist / hegemonic globalisation
- IMF, W Bank, WTO (wrt health)
- Multinational corporations (wrt health)
- Neo liberal Macro economic policies (CMH critique)
- World Bank projects and prescriptions
- International donor agencies and institutions; impact of vertical programmes, consultancy organisations
- Privatisation and PPPs (PHM critique)
- WTO, Patents, GATS
- Medical tourism
- Changing role of UN agencies
- Migration of H professionals, brain drain
- Impact of LPG on key health determinants incl. food security, water, livelihood

## Crisis of the Indian health system

### Denial of Right to health care

#### A. Crisis of health system

Thelma, Anant, Abhay, Sundar, Ritu priya

- Health policy and vertical programmes – RCH2, NACP, TB, Malaria
- Weakening and fragmentation of PHS, state public health budgets; governance issues and corruption
- Decentralisation and P Raj (Ekbal)
- Concerns about NHRM
- Unregulated, irrational proliferation of Private medical sector
- PPPs and semi-privatisation
- Issue of health care financing and Private medical insurance and loans; user fees
- Population policy (Sarojini, Mohan)
- Health research issues (Mohan, Ravi)
- Health personnel incl. education (Ravi)
- Traditional / alternative systems and their crisis, commercialisation

#### B. Irrationality and exploitative nature of Drug industry; diagnostics and devices – separate booklet

- Amitava, Ekbal, Chinu, Amit, Mira

## Defend the Right to health for various sections of the people

- **A) Women's Health – separate booklet (incl. population, women workers, ) – Sarojini, Mira, Veena**
- **B) Children's Health – separate booklet - Vandana**
- **C) ??? - Joe**
- Workers Health (agri, non-agri,...)
- Health for persons with mental health problems - **Naidu**
- Health in context of HIV-AIDS – **Sunil**
- Health for Dalit communities - **Premdas**
- Health for Adivasi communities –
- Health for displaced communities – **Sr. Prabha**
- Health for urban poor - **Chander**
- People with disabilities - **Naidu**
- Elderly people - **Mira**
- Sexual minorities – **Sama**

## New and emerging issues impacting on People's Health\*

Ekbal, SAMA team, Anant, Sandhya Srinivasan

- **New vaccines and medical technologies**  
Hepatitis-B vaccine  
Intradermal rabies vaccine  
Polio eradication
- **New reproductive (incl contraceptive) and genetic technologies; ethical issues**
- **Sex selective abortions and declining sex ratio**
- **C section and hysterectomy**
- **Surveillance, new epidemics**
- **Communication, new technologies**
- **Regulation**
- **Conflict and Communalism**

*\* Mainly for health professionals, activists with health background*

## Promote the determinants of the RTH!

Amit

- **Food security and nutrition (PDS, rural impoverishment & agriculture, droughts, commercial farming)**  
(Veena + Vandana; consult Madhura, Sainath, Mohan)
- **Environment and technology (DSF, CHC/CHES)**
- **Water and other public utilities (roads, power, education) (DSF)**
- **Livelihood, employment conditions and displacement**
- **Social exclusion (Sarojini, Premdas)**
- **Conflict and militarisation (Jaya Velankar, Renu)**
- **Culture of consumerism; tobacco, alcohol etc. (Ekbal)**

## Health and Health care for all is possible!

### The People's Health Plan

Sundar, Ekbal, Abhay, Mira

- A healthy model of development to replace unhealthy development
- A system for universal access to free health care – strengthening public health system, bringing the private medical sector under the public umbrella
- Financing health care for all (Ravi Duggal)
- Revisiting and revitalising PHC as an approach
- Appropriate health care models; people's participation and decentralised planning
- Restructuring Health professional education
- Towards a people oriented drug policy



## Reflecting on JSA campaigns

CHC team

## Overarching issues

- Globalisation
- Class
- Gender
- Caste
- Health as a human right
- Appropriate health care
- People oriented alternatives, positive experiences, action plan

AN UPDATED PEOPLE'S HEALTH  
CHARTER -

**Letter to Hota seeking information, related to  
implementation of the  
NHRC National Action Plan:**

1. What action has been taken regarding enacting of a National Public Health Services Act or similar legislation, to delineate the health rights of citizens? At least have Health rights of citizens related to the Public health system been clearly delineated, whether as part of NRHM or otherwise?
2. Steps to recognise health rights of special sections
3. Increase in central budgetary provision for health
4. National Clinical establishments regulation act
5. Operational guidelines on essential drugs
6. Reversal of all coercive population control measures (JSY)
7. Central health services Monitoring and consultative committee
8. Sectoral health services monitoring committees
9. Restructuring of MCI
10. Incorporation of Health rights and Community based monitoring in all aspects of NRHM

**Subject: URGENT ATTN FOR THELMA****Date: Mon, 21 Aug 2000 02:32:16 +0530****From: "Sabu George" <sabumg@vsnl.com>****To: "thelma" <sochara@vsnl.com>**

NT 22

For THELMA from Sabu  
 FIELD VISIT TO BAGALKOT IN AUGUST  
 written in Bangalore and Trivandrum  
 Draft as of August 20 night; (remaining parts are being edited)  
 Objective of the Visit

Spent 4 days in Bagalkot District, Aug 8-11. Arrived at 10 am on Tuesday at the Sugar Mill and left at 3.15 pm on Friday. The original purpose was to discuss on the continuation of the pulse polio work which I had initiated last year in the two taluks of Mudhol & Jamkhandi with the Govt. and Godavari Sugar Mill. Also to assess the progress of June and July rounds of Pulse Polio; (following the only case of Polio in South India in 2000 in Bagalkot Dt). Thelma had asked me to look at the ICDS system when informed of my visit to Bagalkot. I promised to go to the most backward taluks. So specially went to Badami & Hunkund taluks. I also append my interactions with the Doctors as it is relevant to our Health project with the Govt.

People met

Met Bagalkot DHO & several non-medical officials in 4 taluks. Attempts to meet 2 Taluk Chief Medical Officers were unsuccessful. In one taluk, the Doctor at 12 noon had already left for his private Nursing home. The Taluk Medical Officer in the second taluk at 11.45 AM had left 15 to 60 minutes before our arrival for tour duty! Spoke to one PHC doctor each in 2 taluks. Tried to meet the CDPOs of 3 taluks. Talked to the CDPO of 1 taluk at home as it was holiday due to Nigilanjappa death. The 2nd CDPO was not at home at 3pm on a working day. In my earlier visits to Bagalkot had met this lady many times in Jamkhandi and she been the CDPO for over 6 years. The CDPO of the 3rd taluk whom I wanted to see was not at office at 12 noon as he had gone out. Met 3 AWWs + 4 helpers in one village of Badami Taluk. Note that the several hours in jeep travel was optimised wherever possible. When the DHO asked a "new" Doctor to take a bus go and see a vacant PHC in remote Badami Taluk; I took the Doctor as I was going there. Another Doctor ("old") was given a lift to his home from the PHC near Raichur (2 hours away). This old Doctor had taken charge of this PHC 2 days ago. He was earlier the second medical Officer in another PHC in the same taluk.

One of the CDPO's I met was just transferred to take as the District in Charge. She was to have taken charge in Bagalkot that morning but because of the sudden State holiday she was at home. She had served for 6 years as CDPO. In Hunkund taluk the present CDPO has been there for just 2 days. He comes from another District. His previous two predecessors in the taluk had just served only for one year each.

Attempts over 20 minutes in rains to talk to several village women in the fields of the remote village bordering Raichur in Hunkund was not successful though I had a Sugar Mill official as interpreter. Had to abandon as the return journey in heavy rains on the 26 km bad road to the nearest Highway was not considered safe. It eventually took us more than 5 hours of non stop drive to return to the Factory from this distant village (arrived 9.30pm).

ICDS RELATED COMMENTS (excluding food)  
 Anganwadi Centres and Worker Responsibilities

The village in Badami taluk I visited had 4 AW centres. Two of the four centres were running out of temples. The first AW worker was not in the village. Some informants told me she lived in the Badami town. Though other AWWs I met in another centre said she lived in the same village. In Badami, only 10 to 15 of the 256 centres have out of village workers according to the CDPO. The AW centre functioning time is 9.30 AM to 1.00 PM. The AWWs are expected to do other work after 1PM.

The AWWs told me that they have lot of censuses to do. 24 Registers to be kept. They are asked to reduce dropouts in schools (though not on school committees). Attempts to get a listing of all the jobs were not fully successful. Partly because the interpreter was my driver, whose English was only a little better than my Kannada. I spent more than 2 hours in the village. Needed more time to elicit these details. But I gave priority to meet the CDPO who stayed one hour away from this village in the town. Felt

Taluk Health Offices

Transfer

SKK/TN  
21/8RZ  
21/8

21/8

meeting the CDPO was important as she was a local person and served for 6 years as the CDPO. Being a lady whom I never met did not want to visit her in the evening so left the village after 2.00pm towards the town.

Learnt that in Badami taluk there was no problem with the Panchayats paying for firewood, unlike that of some other taluks in Bagalkot. The CDPO said there is an order from the RDP Dept. to the Panchayats to release Rs. 50 per week (?).

AWW Relationship with Panchayats, Workers Unions, Bribes and Others

AWW do not like to be associated with the Gram Panchayat as they will become ensnared in the local politics. In Badami taluk all the AWWs reportedly belong to Basavaraj's Union. They pay per month Rs 2 as membership fees. Two workers paid a bribe of 20,000 in 1996 to Department people to get their jobs. However they do not have to pay bribes to the CDPO for their salaries. I had heard of such complaints in North India.

AWW said communities were unwilling to assist them. For instance, the Dept. asked them to raise money locally, for some function to be held in an adjacent District. The villagers were not willing to contribute to their travel. Their expectation was that it was the Governments obligation.

There are several Private and Govt. Institutions training Anganwadis in the state and not all of them do a satisfactory job as per a CDPO.

Inadequacy of Supervision: Staffing

The acute absence of Supervisors is well known. It is particularly intense in the Northern Districts. One Bagalkot taluk had only one Supervisor for nearly 300 AWW. Another taluk with over 250 centres had both the 2 ACDPO positions vacant and not even one Supervisor for last 3 years. Hunkundu which is the largest taluk in Bagalkot has 245 sanctioned AW centres of which 240 are functioning. There is just one Supervisor. Both the ACDPO positions are filled.

CDPO Responsibilities and Training etc.

The CDPO is supposed to be an administrator, nutritionist, pre-school educator etc. A CDPO wanted at least at the District level, a Nutrition expert. Like there is a Health Educator in every PHC. Particularly, as preschool education has received some attention from the ICDS in Karnataka. This suggestion needs to be taken seriously as the eligibility of being a CDPO is broad- Home Science, Social Work etc. These syllabi does not provide adequate learning on pre- school child nutrition. The first training after selection does attempt to remedy this. Note that refresher training is also limited. One CDPO reported that over the last 10 years was asked to attend only two refresher training sessions. The last one training provided was several years ago. This CDPO had heard of the new Udisha Training but nothing as yet is visible.

The CDPO had twice organised training for women panchayat members for 2 days. Found later these members had a better understanding of the system.

The CDPO/ACDPO is supposed to have a jeep. In one taluk there is only one of the two sanctioned jeeps. From several taluks I had complaints that it easily takes 3 months to repair the jeeps. Even when a taluk has more than one vehicle, it is not uncommon to have both the vehicles non functional. The repair money comes from the Dept. to the Gram Panchayat through the ZP. Thus sanction of repair and getting it done takes time. The District Officer of ICDS in Bagalkot has no Jeep. Apparently this is the problem of new Districts as UNICEF has stopped supply of Jeeps. Note that this is contrary to what the Dept. told Krishnan.

Weighing Balances

The taluk which I asked about balances has 256 centres. In 1985, 120 were provided with Salter balances. Today only 50% are working. 60 balances are used for weighing children in the 256 centres. Note though Salters are rugged the chance that the springs of the 60 functioning balances being dependable is most unlikely. Only calibration with standard weights can confirm this. Such kind of attention when even adequate number of balances exists is most unlikely. In my 4 years of work with over 20 Salters, just one Spring remained robust for more than a year. Undependability of the springs to function properly gets exacerbated if they are going to be transported around from place to place. Thus attained weights will be severely affected if the Springs are not behaving truly.

Please note this pathetic situation of balances is unlikely to be specific to the taluk which I visited. Few months ago, I was informed about shortage in another taluk. The Dept. informed Dr. Krishnan only 700 centres of the 40,000+ AW centres did not have balances. My impression is that in Bagalkot District alone there could be more than 500 centres without balances (My

→ Rs 75/p.m. for each AW.  
is authorized.  
Is this adequate?

we must find out which ones are

Actually 700 balances are the initial deficiencies and may be made up in a month.  
Unserviceability of the existing weighing machines info not available with WCD.

Note: Centre without balances is different from centre without functional balance - so perhaps functional definition should be

inference may not be correct but certainly far more accurate than the claim that only 700 balances are needed for the whole state!).

The existing balances have only 250 gram sub-divisions and therefore monthly Growth Monitoring for children aged above one will not make much sense. The Dept. told Dr. Krishnan that new charts with 100 gram subdivisions are being printed. No point in providing colourful 100 gram growth charts if the balances have 250g sub divisions.

I do not believe in the routine monthly Growth Monitoring of all children. But my concern is about the monthly figures of malnutrition status each AW centre reports every month. The malnutrition levels coming from District level consolidation seemed suspect. Now given the hopeless situation about the shortage of weighing balances my cynicism about the credibility of routine reports has only increased. Note we have evaluations done by Bandits like MODE which classify nutritional status of children in Karnataka based on monitoring data!

*Mode study report available with us.*

Educational Materials, Toys and Communication media

One CDPO informed me that no Posters have been supplied at all for many years. What little is exhibited at the Office was obtained several years ago when the CDPO had gone for refresher training. Booklets on various matters should be supplied. There was a suggestion to organise wall writings on Nutrition in the villages. Another was that Nutrition messages be publicised in the media as AIDS or population. Just like the population Clock on the DoorDarshan nutrition messages should be advertised.

There was demand for more toys. Presently only 1 set of toys are provided per centre. Require at least 2 or 3 sets as there are more than 50 above-3 children who come to the centre. Want one playground in urban areas for several centres. Today the entire pre-school education is done within the centre. Outdoors can also be used for education. I was informed that in the famous tourist town of Badami (also a taluk HQ) there is not even one park.

Finally in urban areas or large villages where there are several AWWs the main functions like feeding, preschool education, etc can be assigned to one particular AWW rather than each AWW doing all the tasks. This will help in doing justice to all the responsibilities.

#### EXPENSES AND EXTENT OF FIELD VISITS

The sugar Factory is located at the edge of Bagalkot district bordering Belgaum. Badami and Hunkund are on the opposite end of the Bagalkot District bordering Raichur and Koppal.

Note none of the travel related expenses for the 13 hour field visit each day to Badami and Hunkund taluks respectively; or the 5 hour field visit on the first day to the neighbouring taluk Medical Offices in Mudhol & Jamkhandi have been charged to CHC. The travel to and from Bagalkot District has also not been reimbursed from CHC (including the travel to be in Bangalore on Aug 12-14 and then to Trivandrum).

NT 21

Subject: URGENT ATTENTION

Date: Fri, 18 Aug 2000 00:27:26 +0530

From: "Sabu George" <sabumg@vsnl.com>

To: "thelma" <sochara@vsnl.com>

COMMENTS ON Dr. TARA GOPALDAS's NUTRITION PROPOSAL  
Sabu George, MA (Johns Hopkins), Ph. D (Cornell)  
August 17, 2000

NOTE: This draft follows a 3 hour discussion with Prof. Tara Gopaldas (henceforth Tara for brevity). I strongly recommend that Karnataka ICDS system should seriously attempt to use amylase (ARF) to enhance caloric density and improve the availability of nutrients of the food given to children. Dr. Gopaldas has done pioneering work over a decade to highlight the potential nutritional benefits of this traditional practice.

In this note, regret that I am unable to cite sections or page numbers from Tara's original proposal; as she said it was prepared for the donor MI (Micronutrient International); and therefore a copy could not be given. This detailed note is prepared in the hope that it will facilitate a healthy discussion on what is best for the well being of our children given the resources which are likely to be available. I divide my comments under two broad headings: Positive and Negative; ie., which are desirable and; others which either violates the present public policy consensus in the country or disagree with the suggestions as not in the best interests of children.

2. POSITIVE ASPECTS

2.1 Focus on under two children and Nutrition

The proposal brings a welcome focus to Nutrition in Karnataka. For too long Population has received a disproportionate interest. There is attention to the under two children which has long been neglected in Karnataka as in most other states. The recommendations to strengthen the ICDS system by filling up vacancies and enhancing training is well known to the Department but needs to be dealt with greater urgency.

2.2 Use of Amylase

The bulkiness of the existing energy food has been highlighted to us from the Field by ICDS workers. There is considerable unhappiness about the acceptability of the "Energy food" presently distributed. The use of amylase to "liquefy" the bulky food should be tried out. Whether the amylase should be in a prepackaged form can be considered.

2.3 Deworming of school children

Strongly support deworming of children aged 1 to 5 years with Albendazole every 6 months. If procured from manufacturers like "LOCOST" rather than SKBeecham costs can be reduced. Deworming along with hygiene education and provision of safe drinking water will reduce the worm loads in children and thereby reduce transmission.

3 NEGATIVE ASPECTS

First the major concerns are mentioned and finally the minor concerns.

3.0 MAJOR CONCERNS

Tara's proposal has a disproportionate focus on fortification. Miconutrient cocktail including Zinc for under-2 children, Vitamin-C fortified drink for women and universal fortification of milk with Vitamin-A are the major proposals. Further, there are extremely negative recommendations that no Health and Nutrition Education is required beyond getting parents educated on feeding the Ready to eat supplement. Most regrettably, Tara wants ICDS services to be denied to children of older mothers. Thus these proposals are radical departures from the existing ICDS programme. Such a narrow focus on fortification undermines attention to the persistence of childhood malnutrition in Karnataka. Overall improvements in nutritional status of children in Karnataka have been very modest. Emerging problems in Karnataka like intensification of gender differentials in malnutrition are not even recognised let alone dealt with. Thus, Tara's "rationale" for such a top down technological intervention to solve the nutritional problem needs to be carefully examined.

Very well argued. I would endorse all the parts in paras 2,3 and 3.1-2 as far as possible should be explored further. 327.3.3

Focus on the social paradigm that is crucial. We must slip into biomedicalism. 23/8

SKK/TN 18.8.00 21/8

671

18/8

## 3.1 Providing Zinc and other micronutrients on the pretext of meeting RDA

Including Zinc and other micronutrients along with Amylase in a packet under the guise of meeting ICMR RDA is untenable. RDA is only recommendatory, therefore to selectively include Zinc and other nutrients is not fair. This arbitrary inclusion of Zinc violates the existing consensus on Zinc, which does not recommend universal supplementation of Zinc for all children. Therefore, Zinc as a nutritional supplement for all children should not be permitted presently. The very fact that only micronutrients are selectively being included while ignoring the large unmet need for calories raises concern about Tara's intent itself. For instance, the Energy Food supplied by the Karnataka Agro meets a significant part of the calories, proteins and certain micronutrients. The food is not fortified so that all the micronutrient RDAs are met. Already there is a formal commitment in ICDS to provide Iron and Vitamin-A. Thus there is no need to supply any prepackaged nutrients along with Amylase. The present budgetary allocation is Rs 1.25 per child for food. According to Tara, the per packet cost of Amylase and Micronutrients is Rs. Two. One natural question that comes -Is it not wise to spend Rs. 2 on more food rather than on a packet of micronutrients? Only a randomised study in Karnataka can provide us with the actual nutritional benefit and the cost of the incremental benefit of the packet of micronutrients. Without such answers it would not be wise for the Karnataka Government to agree to the present proposal.

## 3.2 Lack of critical analysis of nutrition data

Though the project report seems voluminous and gathers data from NFHS-1,2, NNMB; critical analysis of the data is lacking. A selective use of data just to push the micronutrient agenda is apparent. To give one example: the report ignores the increasing son preference in Karnataka. The Karnataka Human Development Report acknowledges that there is strong preference for sons in the State. Certainly micronutrients and food fortification cannot be a solution to the increasing discrimination against the girl child in Karnataka (girls are breast fed for lesser time, weaning foods are introduced earlier for boys, increasing popularity of female feticide etc.). Two decades ago boys were most malnourished but today girls are more moderately and severely malnourished. This is why we cannot ignore the imperative of health education to ameliorate the neglect of girl child. The claim that only education to prepare (ready to eat) RTE food is enough and no other kind of HNE is untenable. Educational approaches have a role and can address a lot of concerns which a narrow technological approach as micronutrients fail to solve.

## 3.3 Denial of ICDS services to children of older mothers (more than 24 years)

This recommendation needs to be rejected out rightly as this is coercive and violates the Beijing Spirit. Tara ignores the considerable reduction of fertility that has occurred in Karnataka.

Tara's proposed approach without actually involving people or empowering them to address their children's problems is paternalistic and goes against the prevailing development paradigm.

## 4 Suggestion for modification of Tara's proposal

In the interests of Karnataka's children, I hope, Dr. Tara Gopaldas; will use her longstanding association and clout with IDRC/MI to get the pilot study funded which will examine the benefit of (micronutrients+Amylase) packet Vs Amylase with the existing supplementation of Iron and Vitamin-A. Thus half of the over 7000 Anganwadis be randomly assigned to one of the two treatments. Such a pilot study will demonstrate under the real programme conditions, and given the actual preexisting nutritional deprivations of children; the overall benefit of the micronutrient cocktail.

## 5. MINOR CONCERNS

## 5.1 Use of adolescent girls as volunteers

Tara's proposal of using 5 adolescent girls per Anganwadi to do "Education" of the ready to eat food is exploitative. The alternative is to hire one extra worker with the same money paid for five "volunteers".

## 5.2 Choice of Districts

Tara says the following 4 districts were chosen by the Government- Raichur, Gulbarga, Tumkur & Chickmagalur. Tara actually wanted urban or rural

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## CHAPTER 19

### *Equity, integration and empowerment*

In this span of twenty-three years since we came to Jamkhed, many changes have taken place. The harsh realities of life where there is poverty, lack of knowledge, superstition, fear and injustice have been brought home to us over and over again. The present programme at CRHP bears little semblance to the small project we originally planned at Johns Hopkins School of Hygiene and Public Health. Through the years we practised and worked in Jamkhed, we learned to build on successes and turn failures and crisis situations into opportunities for improvement and correction. We share with you some of the lessons we learned.

*The perceptions of poor and marginalised people are different from those of the elite and educated.*

Health is not a priority as marginalised people struggle for survival. The basic necessities of life such as food, water and shelter are more important priorities. Lack of these important necessities contributes to more than 50 per cent morbidity and mortality in poorer communities. It is necessary for health professionals to acknowledge these needs and convert them into health programmes for nutrition, provision of safe drinking water and clean environment.

Academic and project planners often set the reduction of infant mortality as a goal. How do village people perceive infant death? In 1970, infant mortality in the CRHP area was over 176 per 1000 births. With a birth rate of 40, approximately 8 infant deaths occurred in a year in villages for every 1000 population. Six out of these eight deaths often occurred among the poor and marginalised. Although the death of male children is mourned, the death of the female children may even be welcomed! Unless attitudes towards girls changes, conscious or unconscious neglect of the female child, female

infanticide and female feticide will continue to be a factor in high infant mortality rates. Social injustice and the status of women and children need to be addressed as well.

*It is not hard technology but often social action that improves health.* CRHP does not have a sophisticated pediatric unit. Infant mortality has been reduced because of better nutrition, cleaner environment, better status of women and community participation. The birth rate fell because communities realised that female children are as precious as male children. The status of women has been raised by empowering them with skills, knowledge and income generating programmes. Availability and promotion of different methods of family planning to already knowledgeable communities have motivated couples to practise family planning.

*The input of social sciences in primary health care must be emphasised.* Medical workers must recognise the role of social science in primary health care. Social inputs are necessary to organise communities to deal with social injustices such as caste and class structures and the status of women and children. The practice of social medicine has a greater impact on rural health than do technical inputs such as injections, medicines and expensive diagnostic procedures. At CRHP, mobile teams and grass roots workers spend over 50 per cent of their time on learning the social aspects of health. The health worker should have an intimate knowledge of the community and how to cope with the problems of poverty.

*Health education should be related to the resources and culture.* The knowledge shared with the people should be appropriate to the resources and culture of the community. Middle-class lifestyle should not overlap on scientific facts. For example, commercially prepared baby foods or infant formulae should not be advocated to take the place of scientifically proven superior breast milk.

*Rural communities are capable of planning and maintaining their own health.*

Rural communities around Jamkhed acquired skills to collect and analyse health information and support health workers. They can contribute to health care substantially provided:

- a. They are taken seriously and not treated as ignorant people. Village people's ideas need to be taken seriously. They speak out of experience in adverse conditions. CRHP staff entrusted health services to the people and got them involved in different health programmes.

The attitude of superiority was replaced by a feeling of equality and working towards a common goal.

b. Medical knowledge and procedures are demystified.

*Medicine needs to be demystified and knowledge should be shared freely with people so they can attain and maintain good health.*

CRHP demystified surgical procedures like Caesarian sections and sterilisation operations by inviting people into the operating room and explaining the different procedures. This kind of demonstration removed many misconceptions about sterilisation and delivery of the placenta. Knowledge is freely shared at all levels of care.

*Self-confidence must be promoted at all levels of the health team.*

The process of enabling, developing and empowering others and sharing knowledge and skills can only occur if the facilitators, health professionals and the team have developed self-confidence and self-esteem. Hierarchical attitudes have to be replaced by a team spirit and equality. The realisation that knowledge not only gives power, but that sharing knowledge also increases self esteem is important in the development of a team spirit. Health workers who were nobodies gain status as they successfully provide useful services to the community. Self esteem has to be developed to the extent that the facilitator is ready to receive, enjoy and synthesise the ideas of the group (group/co-workers/partners) and to return those ideas to the group as recognisably their own, so that the creativity is theirs.

*Community participation does not mean confrontation.*

Indian villages have a tradition of inequality and exploitation of the poor and marginalised people. As these marginalised groups are empowered, efforts at reconciliation and cooperation among different groups are emphasised. Since health is dependent on the village community as a whole, it involves interconnected aspects of life which the individual often can affect only when there is cooperation among the members of the community for the benefit of all. Health is then a fundamental reason for community involvement and also provides a reason for community involvement and cooperation which everyone can easily see as valid. Small events which cannot be manipulated or theorised, can lead cumulatively, to profound changes in society, such as changes in collectively held beliefs which previously limited the abilities of people to act on their own behalf for their own benefit. Accepting treatment for snakebite and exposing the devrushis are but a few examples. This, coupled with continuous dialogue on issues such as the caste system, providing women with opportunities to improve

their socioeconomic conditions, and the inculcation of values of respect helped communities to come together. Confrontation only alienates and drives communities apart, leading to hatred and violence and away from a state of positive health.

*Taking advantage of community enthusiasm leads to progress.*

Community interest waxes and wanes. When the leaders of Jamkhed showed their enthusiasm to have a health programme, the opportunity was seized and the project was started promptly and decisively before the enthusiasm could wane. Crisis situations such as drought were turned into opportunities for gaining the confidence of the community by responding to needs for food and water.

*It is essential to train grass root workers who are culturally acceptable, available and accessible.*

Health is influenced by socioeconomic factors, many of which are well knit into the social fabric of the society. It is only persons from within the community who can really understand the practices and beliefs that exist within the community. Only a person from the community is readily available and accessible at all times at a cost the community can afford. CRHP took a bold step in training illiterate village women as health workers. The very limitation of reading skills led to the system of continuous weekly training and support which has resulted in their learning progressively more and more skills and thereby keeping them motivated.

*Planning needs to be flexible.*

When people are involved in planning and implementing their programmes, flexibility and innovations are needed. Constant review and evaluation led to changes in the programme. When ever failures were noticed immediate corrective measures could be instituted. The failure of the ANM to be the link in promotive and preventive programmes led to the development of the village health worker. This flexibility is important for the success of health programmes.

*There should be a balance between curative, promotive and preventive health services.*

Poor communities have a large backlog of morbidity and disease. People look for solutions for their immediate medical problems. It is necessary to have curative services to respond to this need. These curative services increase the credibility of the health professional. They also can act as a springboard to introduce preventive programmes. Jamkhed had many patients with tetanus. Successfully treating these

patients led to the acceptance of tetanus toxoid immunisation.

*Primary health care needs the support of secondary and tertiary services.*  
A good support system in the form of secondary and tertiary care is necessary. The village health worker must have the confidence that she can approach a secondary or tertiary care centre for help when needed. Preventive programmes will be effective only if backed up with appropriate support programmes. Antenatal care without a back-up service for Caesarian section will soon lose all credibility. It is important to have a good onward referral service to tertiary care hospitals in the city. From time to time we have referred village people for open heart surgery and other specialised services.

*Scientific knowledge must be applied to develop technology appropriate to the needs and resources of the community.*

Poverty and isolation of the village people make it difficult to practise expensive sophisticated technology. The delivery pack used by the VHW ensures that sufficient sterile technique during delivery is eliminating infant and maternal infection. This pack is inexpensive and can be used by any mother in the village. The Jaipur foot is another example of a simple prosthesis based on the life-style of the people.

*Accept the slow pace of development.*

Professionals and donors want quick results. The pace in the village is slow. Poor people weigh all options before choosing a particular course of action. Patience is needed as people take their time in decision making. However, when communities do show enthusiasm it is necessary to act promptly.

*The primary health care approach is dynamic and encompasses a wide range of health activities.*

It is not limited to mother and child health programmes, family planning or nutrition programmes or immunisation. Priorities will depend on the needs of the people. In successful programmes the priorities do not remain the same. As immunisation and good nutrition become universal, village people are addressing issues such as cancer and diabetes. At CRHP, through the PHC approach, communities are involved in physical, social and economic rehabilitation of persons with leprosy and tuberculosis. They are addressing the issue of HIV/AIDS and cancer. In the national context, problems such as leprosy seem enormous and unsurmountable. However, when these problems are reduced to the smallest community unit they become

manageable. In a village perhaps only three or four persons have tuberculosis or leprosy that needs special care. Communities when motivated can take care of these problems.

*Role of non-governmental organisations.*

The government should have the basic responsibility of providing basic services. However, non-governmental agencies have an important role in primary health care. The success of PHC depends to a large extent on community participation. It is difficult to elicit this participation, particularly from those who need the services most, namely, the poor and marginalised. NGOs are in a position to act as the interface between the government and the people, training and empowering people so they can become co-partners with the government in PHC activities.

The PHC approach calls for a multi-sectoral approach to health and development. The NGO can act as catalyst in bringing these different sectors of development together at the grass roots level.

The NGO is in a position to be flexible and should be innovative. Apart from countries like China and Cuba, the components of the Alma Ata declaration were mainly tried out by NGOs in micro-level projects around the world. NGOs should not merely replace the government activities by acting as contractors for the government. Rather they should complement the government's activities.

The problems in rural areas are so vast and the government has such meagre resources, and therefore there is little possibility of duplicating the government activities. The NGO should not be perceived as working in competition with the government.

*Integration.*

One of the most important aspects of CRHP has been the development of totally integrated services. Not only have the preventive and curative health services been totally integrated, but non-medical intervention and social and economic aspects of development also have been well integrated into all the programmes. Doctors, nurses, paramedical workers, social workers and others work together as a team. They are trained together and learn to respect each other. Hierarchy has been replaced by a sense of belonging to a team. Learning to share with each other becomes the climate. Undergirding this continuous training is the development of values of service, sharing knowledge, respecting each other and concern for other members as equal partners. Trust in each other and an optimistic attitude toward fellow village people have helped communities to accept each other and form strong cohesive groups.

#### *Equity in health care.*

Equity implies that every man, woman and child, no matter where he or she lives, has the right to enjoy good health and deserves to have access to health services. Equity then means to seek out those who are poor, forgotten, marginalised, wherever they are. CRHP works with the 50 per cent of people in the rural communities who live below the poverty line. Health teams ensure that the Dalits, women, widows, nomadic tribes and those shunned as criminal tribes are sought out. CRHP has made sure that the infrastructure and facilities created to serve these groups are not snatched away from them. The drinking water tube wells were placed in the Dalit section of the village so that the Dalits would have access to the well.

#### *Empowerment.*

Primary health care means empowerment. Human beings, regardless of their station in life have innate unlimited potential within themselves. People have been empowered through a process of discovery, experimentation, trial and error, rerouting when necessary, and by being non-dogmatic in sharing values and skills. Rural communities have been empowered through information, training, and imparting medical, economic, and social skills. Communities are empowered by way of organisation of farmers' clubs and Mahila Vikas Mandals. Through these processes individuals and communities have gained in self-esteem and self-confidence and have realised that they have the capacity within themselves to determine their own lives.

#### *Looking to the future.*

For the past four years we have not been actively involved in the PHC work at Jamkhed. While we spent two years at Johns Hopkins School of Hygiene and Public Health in Baltimore, writing this book not only did the work continue, but the project expanded to a tribal area over 200 km distant from Jamkhed. Groups of village men and women from Jamkhed went to Bhandardara, stayed with the village people, observed their customs and organised Mahila Vikas Mandals as well as identifying village health workers. Yamunabai and other village health workers went and stayed in the Bhandardara villages to help with the organisation and training. Of her experience Yamunabai says, 'The tribal people are very poor and they live in thatched huts. They are friendly and they invited us to stay with them and share what they had. It was difficult for me because there was no water and there was filth and flies all around. Almost every family had scabies and skin infections. We had no choice; we had to stay in the overcrowded huts. I, a Brahmin, have never eaten meat. The only

food they had was dried fish and rice. The odour of the fish soon overcame me and I could hardly keep the rice down. Then I remembered that once upon a time we too had filth in our village and there was scabies. All of us from Jamkhed determined to first get rid of the scabies just as we had done in Jamkhed. Water had to be fetched from a long distance. This did not deter us. We worked with the people and in three months we got rid of the scabies. We encouraged the women to be involved in health activities, identified and trained women to become village health workers. Despite the physical hardships it was a rewarding experience.'

With a minimum staff of doctor, social worker, ANM and para-medical workers, together with village volunteers, the primary health programme has progressed rapidly in the Bhandardara area.

In India, many NGOs have successful primary health care programmes. There are also many examples of similar experiences around the world.

Recently we have had opportunities to visit and share our experiences with marginalised communities in several countries in Latin America and Africa. We have been met with enthusiasm as people in these communities perceive that these principles of PHC can be applied to their own situations.

Despite these successes, medical education continues to emphasise training medical graduates in more and more highly specialised areas of medicine. There is little emphasis on addressing the basic health problems of the poor and marginalised people who form more than 50 per cent of our country. There is a need for workers to be trained in community based primary health care.

Encouraged by the sustainability of its approach at Jamkhed, CRHP wishes to share its experiences with those interested in the health of marginalised people. Village people also agreed to participate in new training activities. An institute for training in community based primary health care is underway. The unique feature of this institute is that 50 per cent of the training will be given by the village people themselves.

As we have had opportunities to travel and to share these principles and our experiences, a number of people, especially those in more 'developed' regions and countries, have said to us, 'But Dr Arole, but Mabelle, but Raj, you make it sound easy. Surely there have been crises that were hard for you personally to face, times when you doubted strength to go on?'

Yes, of course there have been such times. Perhaps the gifts of our own particular temperaments and the support we have had always for each other lead us to make less of these difficulties (such as seasons



of drought) than others may feel. We began with a hope, a vision, that has continued to sustain us. But most importantly, we have learned over and over that empowerment is not a one-way process. It is not that we, that one set of people 'provide' empowerment for others who receive it. Rather, like water from a well dug in a fortunate spot, the power flows in many directions and sustains those who may set the process in motion as well as those disempowered for such a long time. It is a dynamic process which once set in motion transforms us, persons and communities.

So from the beginning, we ourselves have been given power by the very processes and people involved in realising the vision. We have firmly come to believe that through a process of recognising and sharing the resources and potential of everyone, communities claim their right to health. Only people empowered and empowering others for the common good can find and keep the respect, cooperation and peace so much needed in this world.

URGENT ATTENTION

Bangalore. My feeling is that we have to focus on where the greatest need is; and not what is convenient for the Consultants or donors to visit. Regional disparity is a major problem in Karnataka because of historical legacy and positive discrimination in favour of the Northern Districts is Karnataka Government policy. Therefore, Bellary and Koppal are more deserving than Tumkur or Chickmagalur.

NT 24

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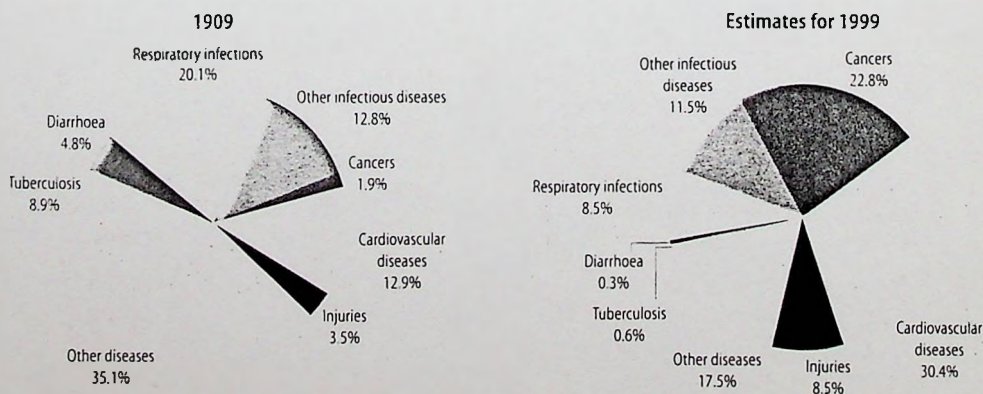
# THE DOUBLE BURDEN: EMERGING EPIDEMICS AND PERSISTENT PROBLEMS

The 20th century revolution in health – and the consequent demographic transition – lead inexorably to major changes in the pattern of disease. This *epidemiological* transition results in a major shift in causes of death and disability from infectious diseases to noncommunicable diseases (1).

As a result of the epidemiological transition, to continue the example of Chile presented in Chapter 1, the distribution of causes of death in 1999 differs markedly from the distribution of causes of death in 1909, as shown in Figure 2.1 (2). Not only have the major causes of death changed, but the average age of death has been steadily rising. The resulting new epidemics of noncommunicable disease and injuries challenge the finances and capacities of health systems.

Despite the long list of successes in health achieved globally during the 20th century, the balance sheet is indelibly stained by the avoidable burden of disease and malnutrition that the world's disadvantaged populations continue to bear. Some analysts have characterized a world of incomplete epidemiological transition, in which epidemiologically polarized sub-populations have been left behind (3). Reducing the burden of that inequality is a priority in international health. Furthermore, it can be done – the means already exist.

Figure 2.1 Distribution of deaths by cause for two cohorts from Chile, 1909 and 1999



Sources: 1909 data: Preston SH, Keyfitz N, Schoen R. *Causes of death: Life tables for national populations*. New York and London, Seminar Press, 1972.  
1999 data: Estimates based on data from the WHO Mortality Database.

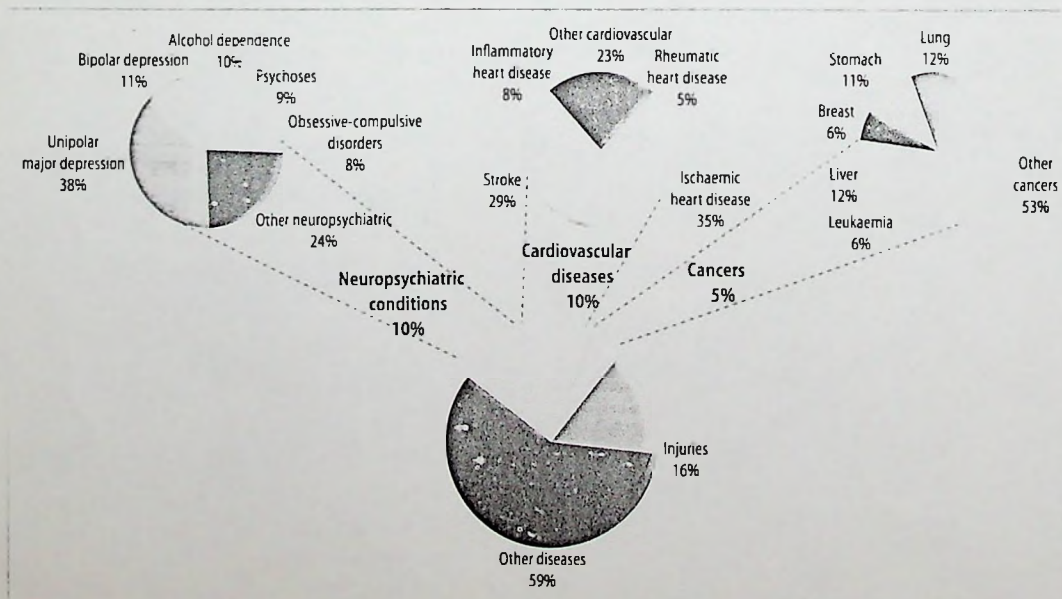
Health policy-makers in the early decades of the 21st century will thus need to address a double burden of disease: first, the emerging epidemics of noncommunicable diseases and injuries, which are becoming more prevalent in industrialized and developing countries alike, and second, some major infectious diseases which survived the 20th century – part of the unfinished health agenda. This chapter describes this double burden of disease. It points to the availability of cost-effective interventions that make it possible to complete substantially the unfinished agenda in the first decade of the 21st century. Health systems development – discussed in the next chapter – must focus on delivering these interventions for the poor.

## EMERGING EPIDEMICS OF NONCOMMUNICABLE DISEASES AND INJURIES

The next two decades will see dramatic changes in the health needs of the world's populations. In the developing regions, noncommunicable diseases such as depression and heart disease are fast replacing the traditional enemies, in particular infectious diseases and malnutrition, as the leading causes of disability and premature death. Injuries, both intentional and unintentional, are also growing in importance and by 2020 could rival infectious diseases worldwide as a source of ill-health (7). The rapidity of change will pose serious challenges to health care systems and force difficult decisions about the allocation of scarce resources.

To provide a valid basis for such difficult health policy decisions, there is a great need for the development of reliable and consistent data on the health status of populations worldwide. Further, as *The world health report* has argued before (4,5), a new approach to measuring health status needs to be implemented, one that quantifies not merely the number of

Figure 2.2 The emerging challenges: DALYs attributable to noncommunicable diseases in low and middle income countries, estimates for 1998



Source: Annex Table 3.

deaths but also the impact of premature death and disability on populations, and which combines them into a single unit of measurement. Several such measures have been developed in different countries, many of them being variants of the so-called Quality-Adjusted Life Year (QALY), which is principally used to measure gains from interventions. In contrast, the Disability-Adjusted Life Year (DALY) is a measure of the burden of disease.

DALYs express years of life lost to premature death and years lived with a disability, adjusted for the severity of the disability. *One DALY is one lost year of healthy life.* A "premature" death is defined as one that occurs before the age to which the dying person could have expected to survive if he or she was a member of a standardized model population with a life expectancy at birth equal to that of the world's longest-surviving population, Japan. Disease burden is, in effect, the gap between a population's actual health status and some reference status.

The initial assessment of global disease burden using DALYs was prepared in 1993 for the World Bank (6) in collaboration with WHO. Subsequently revisions and extensive documentation of disease burden for the year 1990 have been published (1). In this report, disease burden has been quantified using "standard DALYs", calculated according to the methods described in earlier work on the burden of disease (1). This report provides new estimates of disease burden for the year 1998.

#### NONCOMMUNICABLE DISEASES

In 1998, an estimated 43% of all DALYs globally were attributable to noncommunicable diseases. In low and middle income countries the figure was 39%, while in high income countries it was 81%. Among these diseases, the following took a particularly heavy toll (see Figure 2.2):

- neuropsychiatric conditions, accounting for 10% of the burden of disease measured in DALYs in low and middle income countries and 23% of DALYs in high income countries;
- cardiovascular diseases, responsible for 10% of DALYs in low and middle income countries and 18% of DALYs in high income countries;
- malignant neoplasms (cancers), which caused 5% of DALYs in low and middle income countries and 15% in high income countries.

One of the most surprising results of using a measure of disease burden which incorporates time lived with disability is the magnitude it ascribes to the burden of neuropsychiatric conditions. Because of the limited mortality consequences, this burden was previously underestimated. As shown in Box 2.1, a large proportion of the burden of disease resulting from neuropsychiatric conditions is attributable to unipolar major depression, which was the leading cause of disability globally in 1990. The disease burden resulting from depression is estimated to be increasing both in developing and developed regions. Alcohol use is also quantified as a major cause of disease burden, particularly for adult men. It is the leading cause of disability for men in the developed regions and the fourth leading cause in developing regions.

These findings also highlight the "hidden epidemic of cardiovascular disease" (7). Within cardiovascular diseases (CVD), which collectively are responsible for about one in eight DALYs globally, ischaemic heart disease and cerebrovascular disease (stroke) are the most significant conditions. It has been estimated that ischaemic heart disease will be the largest single cause of disease burden globally by the year 2020 (1). Box 2.2 discusses in more detail the nature of cardiovascular diseases in the Eastern Mediterranean Region. Substantive

evidence suggests that current programmes for CVD risk factor prevention and low-cost case management offer feasible, cost-effective ways to reduce CVD mortality and disability in populations both in developed and developing countries (8). Implementation of such programmes should be a priority for health policy-makers as the burden of CVD rises in all socioeconomic groups and inflicts major human and economic costs on societies.

The third largest cause of disease burden within noncommunicable conditions is cancer. Cancers are responsible for a large proportion of years of life lost and years lived with disability. Among cancers, the most significant cause of disease burden is lung cancer, which is projected to become ever more prevalent over the next few decades, if current smoking trends continue. Tobacco is a major risk factor for several other noncommunicable diseases as well. As discussed in detail in Chapter 5, tobacco control is one of the major public health priorities for the 21st century.

Noncommunicable diseases are expected to account for an increasing share of disease burden, rising from 43% in 1998 to 73% by 2020, assuming a continuation of recent downward trends in overall mortality (which have yet to be realized in China and elsewhere) (9). The expected increase is likely to be particularly rapid in developing countries. In India, deaths from noncommunicable causes are projected to almost double from about 4.5 million in 1998 to about 8 million a year in 2020.

The steep projected increase in the burden of noncommunicable diseases worldwide – the epidemiological transition – is largely driven by population ageing, augmented by the rapidly increasing numbers of people who are at present exposed to tobacco and other risk factors, such as obesity, physical inactivity and heavy alcohol consumption. This increase in noncommunicable diseases induced by changes in age distribution poses significant problems. Health systems must adjust to deal effectively and efficiently with the globally chang-

#### Box 2.1 The rising burden of neuropsychiatric disorders

Disease priorities change dramatically as measurement of disease burden shifts from simple mortality indicators to indicators that incorporate disability. Neuropsychiatric conditions have been ignored for a long time as they are absent from cause of death lists. However, when disease burden measurement includes time lived with a disability, several of the neuropsychiatric disorders become leading causes of disease burden worldwide.

Annex Table 3 reports that 11% of the global burden of disease in 1998 was attributable to neuropsychiatric conditions; in high income countries, one out of every four DALYs was lost to a neuropsychiatric condition, while in low and middle income countries this group of conditions was responsible for one out of ten DALYs.

Of the ten leading causes of disease burden in young adults (in the 15–44 year age group) four were neuropsychiatric conditions. More specifically, unipolar major depression was the fourth leading cause of overall disease burden in 1990, while in adults aged 15–44 years it was the leading cause

of DALYs, both in high income and in low and middle income countries. Alcohol dependence, bipolar disorder, and schizophrenia were among the leading causes of disease burden in this age group in 1998.

Great attention needs to be paid to the growing needs of populations in

the area of mental health. As shown in the table, neuropsychiatric conditions are among the leading causes of disability and burden. Psychiatric disorders are frequently a considerable drain on health resources as a consequence of being misunderstood, misdiagnosed or improperly treated. With proper budgetary planning and allocation of resources, introducing an effective mental health programme into primary health care can reduce overall health costs. Mental health care, unlike many other areas of health, does not generally demand costly technology; rather, it requires the sensitive deployment of personnel who have been properly trained in the use of relatively inexpensive drugs and psychological support skills on an outpatient basis.

Rank of selected conditions among all causes of disease burden: estimates for 1998

Disease or injury	Rank in cause-list		
	World	High income countries	Low and middle income countries
Unipolar major depression	4	2	4
Alcohol dependence	17	4	20
Bipolar disorder	18	14	19
Psychoses	22	12	24
Obsessive-compulsive disorder	28	18	27
Dementia	33	9	41
Drug dependence	41	17	45
Panic disorder	44	29	48
Epilepsy	47	34	46

Source: Annex Table 3.

ing nature of illness, and health policy-makers will be challenged to find the most cost-effective uses of their limited resources to control the rising epidemics of noncommunicable diseases. In contrast to the limited number of conditions responsible for most of the excess disease burden among the poor, policy-makers will need to develop systems capable of responding to an enormous variety of conditions as the epidemiological transition matures.

At the same time, health policy-makers will need to respond to the unexpectedly persistent inequalities in health status *within* countries. This is a problem that affects disadvantaged populations in developed and developing countries alike. Traditionally, the focus of global health policy has been on the less developed nations. Recent studies have revealed surprisingly large inequalities within developed nations, and they highlight the need for policies that focus on disadvantaged populations throughout the world. Box 2.3 summarizes some of the findings of national studies on inequalities in the USA and the UK.

## INJURIES

Injuries, intentional and unintentional, are a large and neglected health problem in all regions, accounting for 16% of the global burden of disease in 1998. Figure 2.3 shows the major categories of injuries responsible for most of the burden. Road traffic accidents were the ninth leading cause of disease burden globally in 1998, fifth in the high income countries and tenth in the low and middle income countries. For adult men aged 15–44, road traffic accidents are the biggest cause of ill-health and premature death worldwide, and the second biggest in developing countries. The burden from road traffic accidents is projected to increase globally, and particularly in developing countries. In sub-Saharan Africa, partly because of the projected reduction of the burden from infectious diseases, injuries (primarily road traffic accidents, war and violence) are expected to account for a large proportion of ill-health.

Recent figures for homicides, suicides and traffic accident deaths for countries in the Americas show that these rank as the main causes of death and disability. Every year, close to 120 000 people are killed, 55 000 commit suicide, and 126 000 die in traffic accidents in the Americas (10). At least 12 countries have homicide rates above 10 per 100 000 inhabitants.

### Box 2.2 Cardiovascular diseases in the Eastern Mediterranean

The countries of the Eastern Mediterranean are going through an epidemiological transition, leaving many of them with the double burden of infectious and noncommunicable diseases. The ageing of the population, progressive urbanization, and changes in nutritional habits and lifestyles all contribute to the occurrence of cardiovascular diseases.

Although age-specific mortality rates are declining, the risk factors for

cardiovascular diseases are more prevalent than before. Diets have a higher fat content; there are over 17 million people with diabetes and a further 17 million with impaired glucose tolerance; smoking is widespread especially among younger people; and physical activity is insufficient. Prevention has the potential to reduce mortality further.

Mortality data are inadequate in many countries of the Eastern Mediterranean, but available information

shows that coronary heart disease is increasing as a cause of hospital admission and is being seen at younger ages than before. Hypertension has been reported to affect more than 20% of adults, but it is estimated that more than half of the cases are not diagnosed.

Community-based intervention programmes have been shown to be effective in promoting healthy lifestyles and reducing the incidence of cardiovascular diseases. WHO is there-

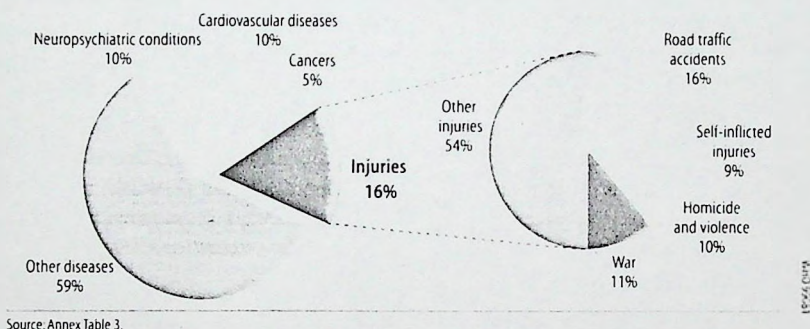
fore working with countries to establish pilot projects to provide information on risk factors and to promote healthy lifestyles with regard to tobacco use, diet and physical activity. Special emphasis is placed on inculcating good habits in children and adolescents. Efforts are made to involve local groups and community decision-makers, so as to mobilize the community and ensure that people are able to follow healthier lifestyles.

Continued by the WHO Regional Office for the Eastern Mediterranean.

Violence and self-inflicted injuries (including suicide) are a major public health concern because of their increasing significance within the global disease burden. Injuries primarily affect the younger age groups and often result in disabling conditions. In higher income countries, road traffic accidents and self-inflicted injuries were among the ten leading causes of disease burden in 1998 as measured in DALYs. In less developed countries, road traffic accidents were the most significant cause of injuries, ranking eleventh among the most important causes of lost years of healthy life. War, violence and self-inflicted injuries were all among the leading twenty causes of such loss in those countries. Intentional injuries primarily affect young adults, with males in the age group of 15–34 years bearing a particularly large proportion of the burden.

Domestic violence, especially against women, is not always reflected in physical injury but may be apparent in psychological sequelae. Traditionally, violence has been classified as intentional injury. While it is clearly important to recognize violence as a cause of injury,

Figure 2.3 The emerging challenges: DALYs attributable to injuries in low and middle income countries: estimates for 1998



Source: Annex Table 3.

### Box 2.3 Health inequalities in the USA and the UK

The use of national life expectancy at birth as a measure of health and well-being of a population places the United States among the better-off countries. National life expectancy has been rising steadily for both men and women in the last half of the century. National life expectancy is an aggregate measure and masks the remarkable variation that is observed within the nation. The results from the on-going study on the burden of disease and injury in the USA have shown that at the county level, the range in life expectancy is similar to the range observed across all countries. The range in life expect-

ancy between females in Stearns, Minnesota and males in Bennett, Jackson, Mellette, Shannon, Todd and Washabaugh counties, South Dakota, is 22.48 years. This range becomes even wider – 41.3 years – when race-specific life expectancy across counties is calculated. This difference of 41.3 years corresponds to 90% of the global range from the population with the lowest life expectancy (males in Sierra Leone) to the population with the highest (females in Japan).

The USA has been reasonably successful at reducing the inequalities in absolute terms (not relative terms) in child and adolescent mortality as com-

pared to the range in mortality observed between the established market economies and sub-Saharan Africa. On the other hand, the USA has been much less successful in reducing inequalities in adult male and to a lesser but substantial extent adult female mortality. While the focus of most public health analysis remains health conditions in children and the elderly, the largest inequalities in the USA relative to the rest of the world are found in adult male and adult female health conditions.

Large health inequalities have also been reported in the UK. Last year an independent inquiry set up by the Brit-

ish government reviewed the evidence on inequalities in health in England. The report published in November 1998 states that although average mortality rates have fallen in the last 50 years, unacceptable inequalities in health have persisted.

The report identified three crucial approaches: all policies likely to have an impact on health should be evaluated in terms of their impact on health inequalities; a high priority should be given to the health of families with children; and further steps should be taken to reduce income inequalities and improve the living standards of poor households.

Sources: Murray CJL et al. *US patterns of mortality by county and race: 1965–1994*. Cambridge MA, Harvard Center for Population and Development Studies, 1998 (US Burden of Disease and Injury Monograph Series).

*Report of the Independent Inquiry into inequalities in Health*. London, The Stationery Office, 1998.



particularly among women where the connection may not always be evident, the health consequences also need to be understood. So too does the different nature of the violence experienced by men, women and children.

Globally, injuries are responsible for one in six years lived with disability. Injuries have, nevertheless, often been a neglected area of public health policy. More attention therefore needs to be focused on dealing with the growing problem of injuries – through more comprehensive prevention, improved emergency and treatment services, and better rehabilitation.

### PERSISTENT PROBLEMS OF INFECTIOUS DISEASES AND MATERNAL AND CHILD DISABILITY AND MORTALITY

Despite the extraordinary advances of the 20th century, a significant component of the burden of illness globally still remains attributable to infectious diseases, undernutrition and complications of childbirth. These conditions are primarily concentrated in the poorest countries, and within those countries they disproportionately afflict populations that are living in poverty. The residual concentration of infectious diseases afflicting the poor is truly an avoidable burden, because inexpensive and effective tools exist to deal with much of it. In fact, it mostly results from relatively few conditions.

The disproportionate share of the burden of disease on the poor is demonstrated in Table 2.1 and Figure 2.4, based on analyses reported in Annex Table 7. Within countries, the disadvantaged fare much worse as measured by several health indicators than the better-off. Those living in absolute poverty, compared with those who are not poor, are estimated to have a five times higher probability of death between birth and the age of 5 years, and a 2.5 times higher probability of death between the ages of 15 and 59 years. Overall, the poor fare worse than the better-off in society on all health indicators studied. Figure 2.4 demonstrates the distinctly different distributions across countries of health indicators for the poor and the non-poor. It clearly shows that the non-poor have a much higher overall health level than the poor.

These data illustrate another critical point. Some countries attain far better health conditions for their poor people than others. Poor children in China have less than a third of the risk of dying before their fifth birthday than comparably poor children in the United

Table 2.1 Health status of the poor versus the non-poor in selected countries, around 1990

Country	Percentage of population in absolute poverty <sup>a</sup>	Probability of dying per 1000				Prevalence of tuberculosis	
		between birth and age 5, females		between ages 15 and 59, females		Non-poor	Poor:non-poor ratio
		Non-poor	Poor:non-poor ratio	Non-poor	Poor:non-poor ratio		
Aggregate <sup>b</sup>		38	4.8	92	4.3	23	2.6
Chile	15	7	8.3	34	12.3	2	8.0
China	22	28	6.6	35	11.0	13	3.8
Ecuador	8	45	4.9	107	4.4	25	1.8
India	53	40	4.3	84	3.7	28	2.5
Kenya	50	41	3.8	131	3.8	20	2.6
Malaysia	6	10	15.0	99	5.1	13	3.2

<sup>a</sup> Poverty is defined as income per capita of less than or equal to \$1 per day, expressed in dollars adjusted for purchasing power.

<sup>b</sup> The aggregate estimate refers to all countries listed in Annex Table 7.

See Explanatory Notes to the Statistical Annex for an explanation of the methods used to derive the estimates.

Source: Annex Table 7.

Republic of Tanzania. Poverty is not an insurmountable barrier to better health when policies are right. This further illustrates that much of the burden on the poor is unnecessary.

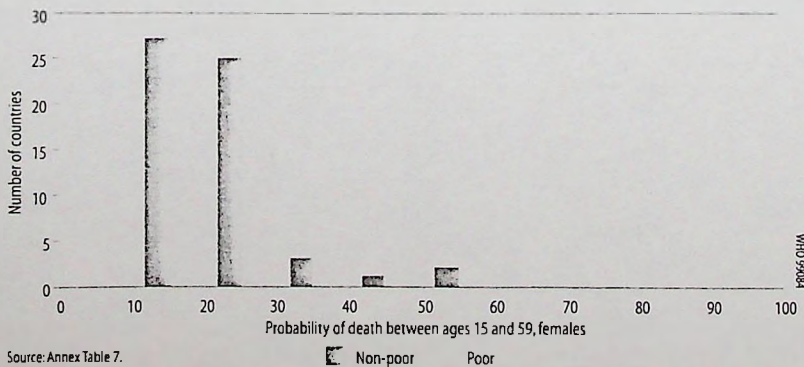
### THE UNFINISHED AGENDA

The populations of developing countries and particularly the disadvantaged groups within those countries remain in the early stages of the epidemiological transition, where infectious diseases are still the major cause of death. Figure 2.5 depicts the distribution of deaths in low and middle income countries in 1998. It illustrates the five major childhood conditions which are responsible for 21% of all deaths in low and middle income countries: diarrhoea, acute respiratory infections, malaria, measles and perinatal conditions. Almost all DALYs from these five conditions occur in developing countries. Less than 1% are registered in high income countries. It is noteworthy that most of the DALYs among infants and young children are attributable to a limited number of conditions for which either preventive or curative interventions exist. This report will argue, in Chapter 3, that a priority for health systems development is to achieve effective delivery of these interventions, which are delineated below.

Immunization programmes have yielded the most significant changes in child health in the last few decades. Although some vaccines represent the most cost-effective public health intervention of all, the world does not use them enough. At least 2 million children still die each year from diseases for which vaccines are available at low cost. Similarly, for diarrhoeal disease, there exists a simple, inexpensive and effective intervention: oral rehydration therapy. Diarrhoeal diseases and pneumonia together account for a high proportion of deaths of children in developing countries. In several developing countries, therefore, diarrhoeal disease control programmes have been merged with a simplified approach, promoted by WHO, to detecting acute respiratory infections (primarily pneumonia).

In adults, maternal conditions, HIV/AIDS and tuberculosis are the three major causes of disease burden in developing regions, as depicted in Figure 2.5. Together, they accounted for 7% of all DALYs in 1998. Among maternal conditions, obstructed labour, sepsis and unsafe abortion were among the ten leading causes of death and disability among women aged 15–44 years in developing countries in 1998. The burden of maternal conditions has been hard to quantify because of the lack of reliable data. But it is a major public health problem and represents a major and unnecessary burden for which policy-makers should increasingly be held accountable.

Figure 2.4 Distribution of the probability of death, selected countries, around 1990

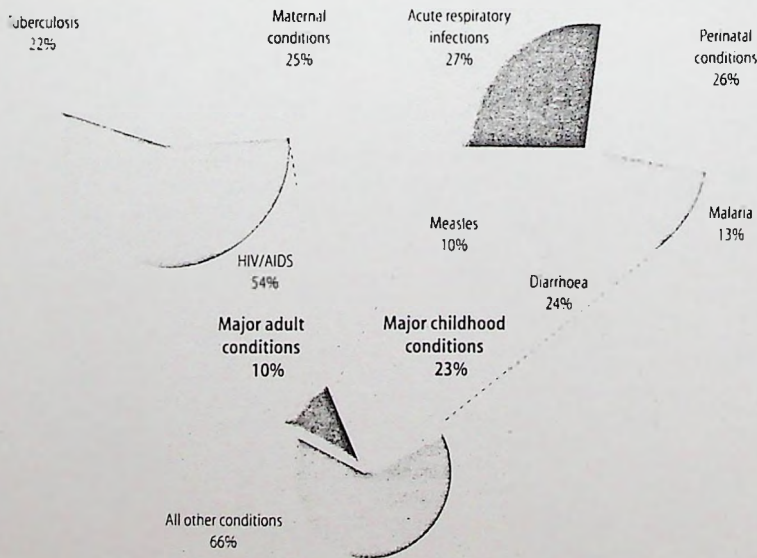


THE PERSISTING AND EVOLVING CHALLENGES

Despite the successful eradication of smallpox and the control of several infectious diseases in the 20th century, there remain some significant threats that are particularly challenging because of the changing nature of the disease pattern and the ways it manifests itself in populations. A clear example is malaria. Public health efforts in the last four decades have been remarkably effective in reducing the burden of malaria in South-East Asia and Latin America. Despite this achievement, malaria remains a major public health problem, particularly in Africa (see Annex Table 8). Malaria has been named as one of WHO's top priorities. Chapter 4 provides a detailed overview of the problem and the WHO approach to it.

Malaria, along with HIV/AIDS and tuberculosis, can be classified among a group of diseases for which control efforts are being jeopardized by microbial evolution. This problem is described in Box 2.4. Figure 2.5 demonstrates that a large proportion of the deaths occurring between the ages of 15 and 59 years in low and middle income countries can be attributed to HIV and tuberculosis. Effective and cost-effective strategies for controlling tuberculosis exist; but standard treatment regimens require six or more months of chemotherapy and rely on well-organized services to achieve high rates of adherence. The interaction of HIV and tuberculosis is also an important public health matter, as individuals who are infected with both are more likely to die from tuberculosis than from other infections. During the period of active tuberculosis infection, they may transmit the infection to previously uninfected contacts. Because HIV infection is projected to increase over the coming decade, the burden from tuberculosis may also increase unless there are energetic efforts to extend the reach of existing control measures with proven effectiveness and cost-effective-

Figure 2.5 DALYs attributable to conditions in the unfinished agenda in low and middle income countries, estimates for 1998



Source: Annex Table 3.

ness, as well as to invest in the development of new tools for tuberculosis control. The tuberculosis situation in the Western Pacific Region is described in Box 2.5.

The challenge posed by these persisting and evolving conditions is that tools to control them have either not been developed or, if available, are not used effectively or, in some cases, are becoming increasingly ineffective (11). As examined in more detail in Box 2.4, antimicrobial resistance is a worrying phenomenon since it could have great adverse effects on the control and treatment of diseases such as pneumonia, tuberculosis and malaria. These conditions emphasize the need, as discussed further in Chapter 3, for health systems to invest in research and development strategies to come up with cost-effective tools to control the remaining threats from infectious diseases.

Increases in international air travel, trade – particularly the food trade – and tourism mean that disease-producing organisms, the deadly as well as the commonplace, can be transported rapidly from one continent to another (4). This trend may threaten international public health security, although so far the consequences have remained quantitatively unimportant. To counter any such threat, the global surveillance of infectious diseases is being improved through an international information network. This should make it possible to recognize outbreaks faster.

## THE AVOIDABLE BURDEN OF DISEASE

The most significant fact about the unnecessary burden is that it is concentrated on a few conditions, most of which are avoidable. There are many vaccines, drugs and clinical algorithms that if employed globally would lead to a dramatic reduction in the burden of infectious diseases. Figure 2.6 illustrates the links between infant mortality rates and per capita income in some of the most populous low and middle income countries. The countries that are above the curve in 1990 are low and middle income countries which had a higher infant mortality rate than expected, given their average income per capita. Their distance above the curve indicates potential reductions in mortality, i.e. the gains that would

### Box 2.4 Microbial evolution – the continually changing threat of infectious disease

Resistance of disease-causing organisms to antimicrobial drugs and other agents has become a great public health concern worldwide. It is having a deadly impact on the control of diseases such as tuberculosis, malaria, cholera, dysentery and pneumonia.

Antimicrobial resistance is not a new, nor a surprising problem, but it has worsened in the last decade. All bacteria possess an inherent flexibility that enables them, sooner or later, to evolve genes that render them resistant to any antimicrobial. By killing susceptible bacteria, an antimicrobial provides selective pressures

that favour overgrowth of bacteria carrying a gene that confers resistance. The continuous use of antimicrobial agents encourages the multiplication and spread of resistant strains.

The result is that drugs which cost tens of millions of dollars to produce, and take perhaps 10 years to reach the market, are only effective for a limited time period. Examples of diseases whose agents have demonstrated drug resistance include tuberculosis, malaria, gonorrhoea and typhoid fever.

In the case of tuberculosis, poor prescribing practices or poor patient

compliance with treatment have led to the development of strains of *Mycobacterium tuberculosis* which are resistant to the available drugs. Malaria presents a double resistance problem: resistance of the *Plasmodium* parasites, which cause the disease, to antimalarial drugs; and resistance of the *Anopheles* mosquitoes, the vectors of the disease, to insecticides. Pneumococci and *Haemophilus influenzae*, the most common bacteria causing acute respiratory infections in children, are becoming more resistant to drugs. More than 90% of *Staphylococcus aureus* strains and about 40% of pneumococci strains are resistant to penicillin.

In the USA, antibiotic-resistant bacteria generate costs of a minimum of \$4 billion to \$5 billion yearly; these costs are likely to be much higher in developing countries.

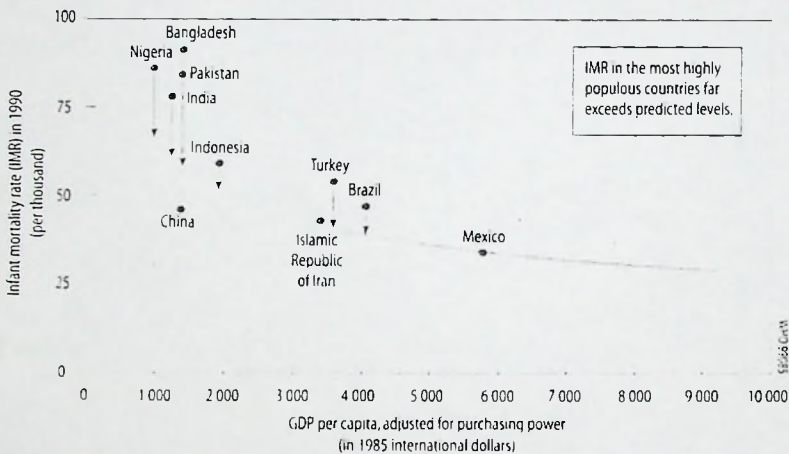
Answering questions concerning the use of antibiotics in food production, emphasizing ways to prolong the effectiveness of existing antibiotics, pursuing key areas of basic research and seeking incentives for developing new antibiotics, and exploring legal and regulatory mechanisms in key areas of need are priorities that need to be addressed by policy-makers.

result from their *joining the curve*. That the infant mortality rate in low and middle income countries is higher in the most populous countries suggests the importance of focused international assistance. Health systems need to provide the existing, cost-effective interventions to these populations so that the countries that are currently lagging behind can join the curve.

Immunization is the greatest public health success story in history (12). The basic vaccines are available to combat the six major diseases in children (measles, tetanus, pertussis, tuberculosis, poliomyelitis and diphtheria). Immunization coverage falls far short of 100%, and it is the world's poorest and most vulnerable children who remain unreached.

Poliomyelitis is an example of a disease for which eradication is possible. The only reason for the existence of remaining cases is insufficient coverage. WHO is committed to

Figure 2.6 infant mortality rate related to income



Note: For explanation of the curve relating IMR to income, see note to Figure 1.4.

#### Box 2.5 Tuberculosis in the Western Pacific

The notified cases of tuberculosis in the Western Pacific Region in 1996 represented 25% of the global total, mainly because expansion of the WHO tuberculosis control strategy, particularly in China, improved case management and brought many more cases under treatment. There were 2.16 million estimated new cases in 1997, and the average case fatality rate was 20%. Coinfection with HIV is still low in the Region as a whole, but those who are coinfecting with tuberculosis and HIV may reach 26 per 100 000 population by 2000. WHO has been collaborating closely in the establishment of surveillance

of HIV infection among tuberculosis patients in Cambodia, Malaysia, and Viet Nam.

Data from 21 countries and areas in the Region show that the majority of cases occurred during the productive years of life. Delayed diagnosis or partial treatment often lead to long-standing lung disability and job loss, causing socioeconomic hardship. Untreated or inadequately treated tuberculosis patients spread the infection to others, especially in crowded and poor communities. Children aged 5–9 years living in urban slums in the Philippines showed more than twice the prevalence rate of infection for the general

urban population: 39% of them were infected with the disease.

Tuberculosis ignores national boundaries. In Australia, Hong Kong (China), Malaysia and Singapore, the numbers of tuberculosis cases have not decreased for several years because of the increased or continued detection of new tuberculosis patients among immigrants.

The directly observed treatment, short course (DOTS) strategy was introduced in the Western Pacific in the early 1990s and is now used in 28 countries and areas: 35% of tuberculosis cases are treated with DOTS, and 55% of the total population have ac-

cess to the strategy. In China, a DOTS programme supported by the World Bank is being implemented with WHO collaboration in 13 provinces. The programme has so far achieved a cure rate of over 90% and is accessible to 560 million people. In Cambodia, more than 90% of district health facilities are using DOTS as a routine strategy. In the Philippines, a new approach using DOTS began in three provinces in 1996, in collaboration with WHO, raising the cure rate from 60% to 80%. DOTS will be accessible to more than half of the total population in the country by the end of 1999.

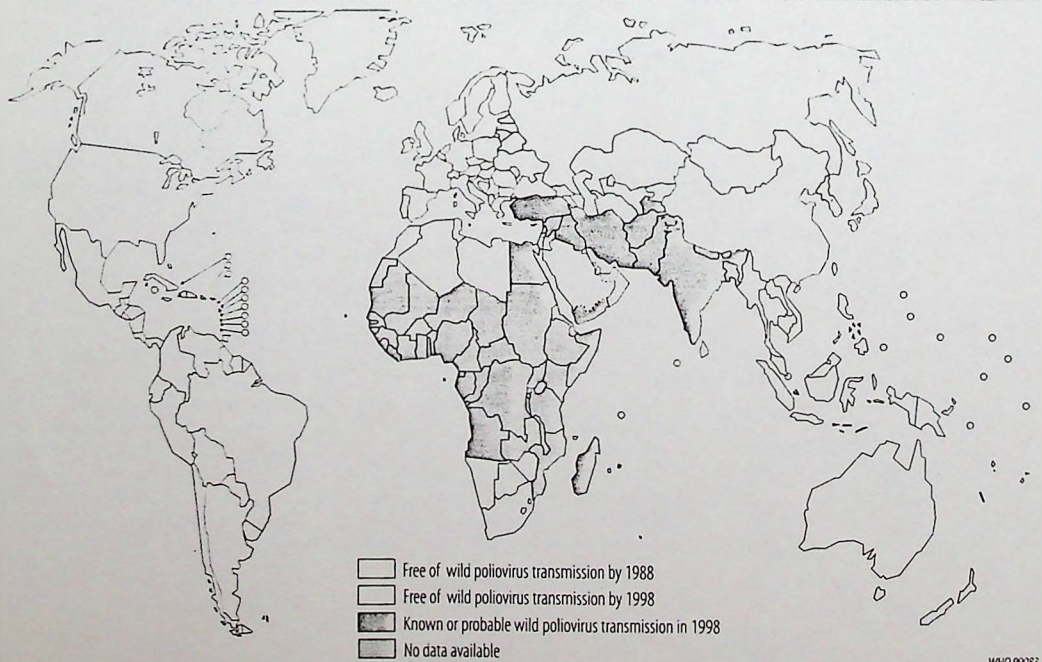
Contributed by the WHO Regional Office for the Western Pacific.

eliminating poliomyelitis cases by the year 2000. As is shown in Figure 2.7, there have been remarkable reductions in the geographical spread of the disease since 1988. The last case caused by wild poliovirus in the Western hemisphere occurred in Junin, Peru, on 23 August 1991. The last case in WHO's Western Pacific Region was recorded in March 1997 near Phnom Penh in Cambodia. WHO has just initiated a "final stretch" effort with the goal of stopping transmission globally by December 2000, of certifying this achievement by 2005 and of stopping immunization by 2010. The eradication effort illustrates two important points. First, partnerships with nongovernmental organizations can be very productive: Rotary International has made major commitments to polio eradication and its influence with local leaders plus financial contributions (about US\$ 500 million) have been critical to success. Second, properly designed, highly goal-oriented programmes can contribute importantly to health systems development.

WHO is also involved with the provision of interventions against several other infectious diseases. The Integrated Management of Childhood Illness is a group of preventive and curative interventions. The strategy focuses on pneumonia, diarrhoea, measles, malaria and malnutrition, as these account for 70% of all childhood deaths globally, but it also addresses other serious infections (for example, meningitis), other causes of febrile disease (for example, dengue) and other associated problems (such as eye problems associated with measles or vitamin A deficiency, and ear infections). Preventive interventions including immunization, support for breastfeeding and other nutrition counselling are also emphasized.

Other similar initiatives are in different stages of development and implementation. For tuberculosis, the "directly observed treatment, short course" (DOTS) intervention has been

Figure 2.7 Reductions in wild poliovirus transmission between 1988 and 1998



shown to be highly cost-effective (see Box 2.6). Tuberculosis is highly concentrated in poor subgroups of populations, as indicated in Table 2.1. Prevalence of tuberculosis is estimated to be almost four times higher in populations living below the poverty line than in the better-off. The adult lung health initiative has grown out of the tuberculosis control activities of WHO, recognizing that only a small proportion of adults presenting with a cough have tuberculosis and that adequate treatment or advice should be provided to individuals with other lung diseases. The initiative offers an integrated approach to detecting and treating tuberculosis, asthma and chronic obstructive lung disease.

Maternal mortality risks, which are highly concentrated in developing countries, are also to a large extent preventable and avoidable. The mother-baby package aims to reduce mortality and disability associated with maternal reproductive health, the risks of delivery for both mother and child, and the first weeks of life.

At the end of the 20th century, it is unacceptable that women continue to suffer and die as a result of complications related to pregnancy and childbirth. The enormous disparities in levels of maternal mortality and morbidity between rich and poor are a continuing affront. The evidence of what works to reduce maternal mortality already exists. The interventions needed are cost-effective. Expanding health system coverage is required: women must have access to skilled assistance during pregnancy and childbirth, and they must be able to reach a functioning health care facility when complications arise.

#### Box 2.6 Tuberculosis and the "Stop TB" Initiative

Tuberculosis was one of the chief causes of death in northern Europe and the Americas until about 1900. Mortality rates gradually fell because of improved living conditions and the advent of effective chemotherapy, but the disease persisted in developing countries, where it causes some 25% of preventable mortality among young people. It is still a leading killer of young women worldwide. About 1.8 billion people are infected with the tuberculosis bacillus, and the tuberculosis burden will grow with an expanding global population. Inappropriate or inadequate tuberculosis treatment further increases transmission. So do such assaults on the health of the poor as hunger, civil disturbances and, most importantly, HIV which alone will account for some 14% of global cases by the year 2000.

Because tuberculosis predominantly hits young adults, its social and economic consequences are among the greatest of any infectious disease. Almost all cases are in countries least able financially to mount an effective response. In countries

where resources are generally sufficient, their poor allocation and ineffective use often result in treatment which fails to cure almost all patients. These conditions explain the evolution of multidrug-resistant strains of tuberculosis.

Since 1989, WHO has encapsulated current best practice for tuberculosis case-finding and treatment into the DOTS (directly observed treatment, short course) strategy and, together with the World Bank and Harvard University, has shown it to be one of the most cost-effective health interventions available. Over 100 countries now accept DOTS as a standard approach, and over 1 million patients have been treated with it since 1990. Global surveillance systems have been established and the spread of drug resistance is being charted.

But progress is too slow, mainly because of the lack of political will and commitment within a number of high prevalence countries to broaden the deployment of the strategy to all who need it. The "Stop TB" initiative arose from discussion of these constraints between representatives of several of

the high burden countries which account for 80% of the global epidemic, the International Union against Tuberculosis and Lung Disease, the Royal Netherlands Tuberculosis Association, the American Lung Association, the American Thoracic Society, the US Centers for Disease Control and Prevention, the World Bank and WHO. WHO aims to expand significantly this global coalition and to increase investment in tuberculosis control, in order to attain the Stop TB goal of reducing the tuberculosis disease burden.

The Stop TB initiative will focus on four products to accomplish its objectives.

- A global action plan to guide and accelerate coordinated responses to tuberculosis control internationally, regionally and nationally. It will offer an analytical framework and recommendations for immediate action in high burden countries and particular settings, such as areas significantly affected by multidrug-resistant strains of tuberculosis.
- A global tuberculosis drug facility to provide universal access to high quality Fixed Dose Combination

preparations of anti-tuberculosis drugs and to ensure coordinated international arrangements for their financing, procurement and supply, quality control and distribution.

- A global research agenda to address short-term operational constraints and the development of new diagnostic agents, drugs and vaccines. It will facilitate collaboration on research capacity strengthening in low income, high prevalence countries; expansion of appropriate policy-relevant health systems research; control and treatment of multidrug-resistant tuberculosis; and the development of new tools.
- A global charter for advocacy and commitment to enable endemic countries and their partners to declare renewed commitment and agreement on specific steps to be taken. It will generate increased international attention to tuberculosis. Specific performance targets will enable the monitoring and reporting of progress.

Syndromic treatment of sexually transmitted infections is another example of defining best practices in the face of resource constraints. Box 2.7 describes successful interventions to stop HIV transmission in Thailand and elsewhere in South-East Asia.

Rationalization of drug use and development of drug supply systems can similarly be aided by clearly defined standard guidelines where first and second line drugs for each level are specified. Revision of the regulations on who can use which drugs is often needed. For example, an injection of quinine for severe malaria or chloramphenicol for severe pneumonia, prior to referral to a higher level in the health system, may be life saving. But health staff at first-level facilities may not be authorized to use injectable drugs or the drugs may be supplied regularly only to hospitals. Policies may need to be changed to accommodate broader use of certain drugs for defined purposes.

In addition to the disease-specific interventions and control programmes which are available, there is also a need to deal with a significant risk factor for disease, malnutrition, which is primarily concentrated in the world's poorest and most disadvantaged populations. Malnutrition is estimated to be the single most important risk factor for disease, being responsible for 16% of the global burden in 1995, measured in DALYs (1). Malnutrition, either in the form of protein-energy malnutrition or micronutrient malnutrition, primarily of iron, vitamin A and iodine, often contributes to premature death, poor health, blindness, growth stunting, mental retardation, learning disabilities and low work capacity (13,14). Protein-energy malnutrition, as indicated by slow or incomplete physical growth is, however, as much a consequence of disease as a cause. Infection may, in many environments, contribute more to malnutrition than dietary inadequacy. Hence disease control is important for reducing the malnutrition burden.

#### Box 2.7 HIV/AIDS control in South-East Asia: the challenge of expanding successful programmes

The human immunodeficiency virus (HIV) was slower to emerge in South-East Asia than in other parts of the world, but it is now a serious public health problem and a threat to development. The first patient with AIDS was reported in 1984 from Thailand, since when a total of 92 391 cases of the disease have been reported up to 1 July 1997, mostly from Thailand, India and Myanmar. However, because of under-reporting and under-diagnosis the reported cases only reflect a proportion of the true problem. UNAIDS and WHO estimate that there are currently more than 5.5 million people in WHO's South-East Asia Region (which includes India) who are infected with HIV – 18% of the global total. In 1998 alone there were estimated to be 1.2 million new infections in the Region. Heterosexual transmission may spread the virus

from high-risk groups to the general population.

National authorities in the Region are responding to the pandemic with urgency. They have developed strategic plans and are implementing a variety of control measures, as the following examples show.

- Thailand's 100% condom use programme has received worldwide attention. Its effectiveness can be assessed by the declining HIV incidence among military recruits: from 3.6% in 1993 to 2.1% in 1995. At the same time, sexually transmitted diseases are at a lower rate than ever before.
- In Calcutta, India, the Sonagachi health care and education project among sex workers has become a model for successful peer education; HIV prevalence remains low and sexually transmitted diseases are declining.

- Needle exchange programmes and community-based treatment approaches for injecting drug users in Myanmar and Nepal have been effective in bringing about behavioural change and reducing HIV infection rates.

WHO continues to provide technical, material and logistical support to national programmes for AIDS prevention and the control of sexually transmitted diseases, through the Regional Office in New Delhi and in selected countries. WHO collaborates with the World Bank and with UNAIDS – of which it is a cosponsor – in assisting national programmes and in carrying out intercountry and regional activities.

The integration of care of sexually transmitted diseases into the general health services is considered a priority in the region, necessitating the train-

ing of primary care workers, managers and private practitioners. WHO and UNAIDS provide support to governments in order to monitor the trends of the HIV/AIDS pandemic through surveillance, to promote research, to ensure safe blood transfusions, and to strengthen laboratory diagnostic services. Other priority interventions include case management capacity building, health promotion and education, and the planning of comprehensive care and counselling for people with AIDS or infected with HIV.

Evidence shows that intervention can succeed. Augmented political, financial and technical support is required to make sure that interventions are delivered where they are needed.



Interventions to reduce micronutrient malnutrition are likely to prove particularly cost-effective. Programmes can include four strategies – supplementation, fortification, food-based approaches leading to dietary diversification, and complementary public health control measures – to the degree appropriate and feasible (13). The long-term goal of intervention should be to shift emphasis away from supplementation towards a combination of food fortification – universal salt iodization or iron-fortified flour, for example – and dietary diversification.

In conclusion, the double burden of disease defines the complexity of the problems health systems must address. The two elements of the double burden differ markedly in their implications for policy. The unfinished agenda deals with a limited number of conditions, highly concentrated on the poor and for most of which extremely cost-effective interventions are available. This burden on the poor is, indeed, an unnecessary one that targeted programmes can alleviate. Epidemiological transition, on the other hand, generates epidemiological diversity. This aspect of the double burden involves large numbers of conditions potentially affecting everyone, although here again the poor suffer more. Interventions – whether preventive or curative – are less likely to be decisive, although there are important exceptions, such as tobacco control discussed in Chapter 5. Health systems must be able to respond flexibly to this diversity.

## REFERENCES

1. Murray CJL, Lopez AD (eds). *The global burden of disease: A comprehensive assessment of mortality and disability from diseases, injuries, and risk factors in 1990 and projected to 2020*. Cambridge, Harvard School of Public Health on behalf of the World Health Organization and The World Bank, 1996 (Global Burden of Disease and Injury Series, Vol 1).
2. Preston SH, Keyfitz N, Schoen R. *Causes of death: Life tables for national populations*. New York and London, Seminar Press, 1972.
3. Frenk J et al. Health transition in middle-income countries: new challenges for health care. *Health policy and planning*, 1989, 4(1): 29-39.
4. *The world health report 1996 – Fighting disease, fostering development*. Geneva, World Health Organization, 1996.
5. *The world health report 1998 – Life in the 21st century. A vision for all*. Geneva, World Health Organization, 1998.
6. *World development report 1993 – Investing in health*. New York, Oxford University Press for The World Bank, 1993.
7. Editorial. The hidden epidemic of cardiovascular disease. *The Lancet*, 1998, 352(9143):1795.
8. Howson CP, Reddy KS, Ryan TJ, Bale JR (eds). *Control of cardiovascular diseases in developing countries. Research, development and institutional strengthening*. Institute of Medicine, Washington DC, National Academy Press, 1998.
9. *Investing in health research and development. Report of the Ad Hoc Committee on Health Research Relating to Future Intervention Options*. Geneva, World Health Organization, 1996 (document WHO/TDR/Gen/96.1).
10. *Health situation in the Americas: Basic indicators 1998*. Washington, PAHO/WHO, 1998 (document PAHO/HDP/HDA/98.01).
11. Harrison PF, Lederberg J (eds). *Antimicrobial resistance: Issues and options*. Institute of Medicine, Washington DC, National Academy Press, 1998.
12. Henderson RH. Immunization: going the extra mile. In: *The progress of nations 1998*. New York, UNICEF, 1998.
13. Howson CP, Kennedy ET, Horwitz A (eds). *Prevention of micronutrient deficiencies: Tools for policymakers and public health workers*. Institute of Medicine, Washington DC, National Academy Press, 1998.
14. *WHO global database on child growth and malnutrition*. Geneva, World Health Organization, 1997 (document WHO/NUT/97.4).

# INTEGRATED MANAGEMENT OF CHILDHOOD ILLNESS

*Material as downloaded from internet*

## IMCI a joint WHO/UNICEF initiative

Every year, about 12 million children die before reaching their fifth birthday. Over 70% of these deaths, the vast majority occurring in the developing world, are due to acute respiratory infections, diarrhoeal diseases, malaria, measles and malnutrition, often in combination.

In the past decade, major progress has been made to reduce and contain childhood mortality and morbidity through universal childhood immunization, control of diarrhoeal diseases and acute respiratory infections, nutrition programmes (including breast-feeding promotion) and through implementation of other primary health care activities. In spite of this progress, major challenges remain, as mortality rates are still unacceptably high, especially in the sub-Saharan Africa and South Asia.

In keeping with the Convention on the Rights of the Child, every child has the right to, inter alia, access to care for the most prevalent causes of illness and death, as well as the measures to prevent them.

## What is IMCI?

Integrated Management of Childhood Illness (IMCI) is a strategy for reducing the mortality and morbidity associated with the major causes of childhood illness. Its development by WHO and UNICEF started in 1992. It was decided to initially focus on improving care at the first level health facilities where millions of children arrive sick each day, most of them with one or more of the major causes of illness and death. A set of generic guidelines for management of childhood illness at this level was completed in 1996 and is now starting to be used as the basis for introducing this component of IMCI in countries. These generic materials cannot be used without substantial adaptation at country level, based on the country-specific situation.

The current focus is on improving the quality of care of children at first-level health facilities (health centres and outpatient services) in both rural and urban areas through the use of standardized procedures and on integrated approach to health care. The curative component of IMCI is adapted to address the most common life-threatening conditions for children in each country focusing on diarrhoea, pneumonia, measles and malaria (where applicable) as well as the management of severe malnutrition and nutrition counseling. IMCI incorporates simple life-saving technologies promoted by WHO and UNICEF, such as ORT, into a more comprehensive approach which addresses not only individual diseases but the sick child as a whole. IMCI also has health promoting and preventive elements including: reducing missed opportunities for immunization, breast-feeding and other nutritional counselling, vitamin A and iron supplementation, and treatment of helminth infestations. It should be noted that all children, not only sick children, should be targeted with these preventive and promotive interventions. IMCI pays particular attention to improving the communication and counselling skills of health workers.

The IMCI strategy, therefore, seeks to reduce childhood mortality and morbidity by adopting a broad and cross-cutting approach with the following components:

- improving case management skills of health workers through the provision of guidelines on integrated management of childhood illness, adapted to the local context, and activities to promote their use;
- improving the health system by:
  - ensuring the availability of essential drugs and other supplies
  - improving organization of work at the health facility level
  - improving monitoring and supervision; and
- improving family and community practices through education of mothers, fathers, other child care-takers and members of the community with focus on: health seeking behaviour, compliance, care at home and on overall health promotion.

### Implementation principles

IMCI is not a vertical programme. It is an integrated strategy that incorporates many of the elements of diarrhoeal disease and ARI control programmes and some of the child-oriented aspects of malaria control, nutrition and other related programmes. It also depends on the effective functioning of the EPI and essential drugs programmes. It demands and facilitates an active collaboration between all of these existing programmes. It is an important step toward improving the quality of care of sick children within the primary health care context.

IMCI implementation involves a combination of focused appropriate technical guidance and problem-solving at district and health facility levels around issues affecting service delivery. The latter must involve the district-level health staff, first-level health workers and members of the communities they serve. In this way, IMCI can contribute to capacity building at district and local levels while revitalizing the health services to improve primary health care services for children.

A number of principles underlie and should guide the implementation of the IMCI strategy:

- Is based on a rights approach to access to good quality child care;
- Adopts an integrated and holistic approach to child care;
- Addresses the leading causes of childhood morbidity and mortality;
- Requires adaptation to the local and country situation, taking into account epidemiology, policies, infrastructure and capacity (including human resources);
- Builds upon existing child health services/programmes;
- Strengthens elements of the health system needed to deliver IMCI;
- Improves health worker communication with communities and support outreach services;
- Encourages local and national ownership and institutional capacity building; and
- Aims to ensure active household/community participation in IMCI implementation, monitoring and evaluation.

## Introduction of IMCI into countries

The first step in the introduction of IMCI in a country is a thorough orientation of all relevant stakeholders as to what this strategy entails. This process seeks consensus on the priority problems to be addressed, based on the country specific situation, and on how to proceed with implementation of the integrated approach and a statement of national commitment to the strategy.

Following a decision to work towards integration of management of childhood illness, the first step is to define standard guidelines for care specifically tailored to the country. Sometimes aspects of this will need to be modified for different regions of a country. A convenient and cost-effective way of achieving this step is to start with the generic WHO/UNICEF guidelines and adapt them. This adaptation process must involve programme managers of all relevant sections of the ministry of health as well as relevant partners from other relevant sectors/institutions, paediatricians and their professional associations, NGOs and potential partners in funding and technical support.

It provides the opportunity to review policies and practices related to child health care and to revise them in a way that allows integration and avoids contradiction. An important component is the development of food and feeding guidelines that are practical and appropriate to families, taking into account local feeding practices and needs. The process of adaptation requires active consensus building and takes time but yields guidelines appropriate to the context and ensures a sense of ownership of those involved, an essential factor in their subsequent use. Once adapted guidelines are available, the process of modifying the materials of the generic WHO/UNICEF training course for first-level health workers can be undertaken relatively easily.

In parallel with the process of adapting the case management guidelines, it is essential to start planning for the introduction of the IMCI approach. Hence, an IMCI implementation plan that addresses the various elements, including a training plan, should be developed. Consideration must also be given to factors enabling trained health workers to apply their skills, including the availability of the necessary essential drugs and supplies.

## Experience to date

Globally, more than 35 countries have expressed an interest in IMCI. In the countries that have taken an early lead in implementing IMCI, locally-adapted guidelines on management of childhood illness have already been developed in ten countries (Bolivia, Dominican Republic, Ecuador, Indonesia, Nepal, Peru, Philippines, Tanzania, Uganda, Zambia) and in six of these the first round of training at district level has been carried out. This early experience has demonstrated the feasibility of the approach, provided encouraging evidence of improved care and identified important issues that will need to be addressed in expanding beyond a few districts.

Early experience with IMCI implementation has underlined the importance of involving all stakeholders in the process of consensus building. It has also highlighted the importance of national capacity building and the

identification of local, national and external resources and institutions to support the introduction, and expansion of the coverage, of IMCI activities.

## **IMCI and CDD/ARI**

As IMCI activities expand in countries, it is anticipated that single disease programmes focused on childhood diarrhoea (CDD) and ARI will be phased out. It is important, however, that support to these programmes continue in countries and districts where IMCI is not yet implemented so as not to lose the considerable gains already made.

In those countries where IMCI implementation has not yet started, efforts should be made toward greater integration in the planning and implementation (including training) of CDD and ARI programmes. Such integration will enable countries to be in a better position to implement IMCI. As part of this early preparatory phase, policy makers and programme managers should strengthen the foundation for IMCI introduction by addressing key issues such as improving the availability of essential drugs, organization of services and on-going support for preventive and promotive child health action including communication activities for CDD, ARI and other programmes.

## **IMCI and Quality assurance**

The overall potential impact of IMCI is the reduction of mortality, as well as morbidity and suffering, through assuring children's access to quality health care in health facilities and improved correct case management at home, in addition to improved preventive and promotive health action. IMCI has potential to contribute to quality assurance through:

- the setting of standards and procedures depending on the local situation;
- the improvement of health worker skills and knowledge and promotion of technical quality of care through use of better procedures and improved communication with mothers and other caretakers;
- the improvement of the organization of work at the health facility level through participatory problem solving techniques;
- the improvement of supervision and monitoring in order to improve standards of care through quality control techniques; and
- monitoring user satisfaction.

## **Communication in support of IMCI**

Considerable effort has been invested over the last decade by UNICEF and WHO to develop information, education and communication materials, approaches and activities related to the individual health conditions addressed by the IMCI approach. These remain valid and their continued use is important. Nevertheless, as countries move towards greater integration and review and, where necessary, revise their policies, it will be necessary to develop appropriate messages and materials compatible with the new integrated guidelines.

These should include advice on health promoting behaviour, early home care for illness, appropriate care seeking and compliance with treatment advice. Communication strategies to address these concerns and to accelerate household/community based action will be further developed by WHO and UNICEF for adaptation at country level.

### **IMCI in relation to equity and child rights**

No child should leave a health facility with a common but life-threatening condition undiagnosed and/or untreated. Fortunately, this does not happen frequently in developed countries. Yet it is a widespread daily occurrence in the less developed countries. This is a gross inequity that must be addressed; the fact that we know well how to address this problem increases the moral imperative to do so as a matter of priority. Hence, the training of health workers in order to improve their skills, including communication and counseling skills, and to enable them to improve the quality of care provided to children as well as effective communication with mothers, other child-care takers and community is essential. Further, every effort should be made to reach the difficult-to-reach children.

### **Partnerships for IMCI**

From its outset, the IMCI approach has been a joint WHO/UNICEF initiative. It quickly attracted the attention of the World Bank. In a recent World Development Report, IMCI was recognized as one of the most cost-effective components of a package of essential clinical and public health services, in fact, the one likely to have the greatest overall impact on the global burden of disease. The World Bank, as well as some development assistance agencies, are now working to include IMCI in selected country programmes focused in areas such as child health, early childhood development, improving the quality of health services and health system reform. IMCI is already receiving the financial support of a number of governments through their development assistance agencies, both for global activities and in individual countries.

At country level, as mentioned above, essential and productive partnerships have been established involving government departments, universities, NGOs, community-based organizations and development agencies, as well as WHO and UNICEF.

### **Monitoring progress**

Indicators for monitoring progress in the implementation of IMCI are now under development by WHO and UNICEF, in consultation with countries that have started implementing IMCI.

## *Why an integrated approach to management of the sick child ?*

Every year some 12 million children die before they reach their fifth birthday, many of them during the first year of life. Seven in every 10 of these child deaths are due to diarrhoea, pneumonia, measles, malaria or malnutrition - and often to a combination of these conditions. Every day, millions of parents seek health care for their children, taking them to hospitals, health centres, pharmacists, community health care providers and traditional healers. At least three out of four of these children are suffering from one of these five conditions. Because there is considerable overlap in the signs and symptoms of several of the major childhood diseases, a single diagnosis for a sick child is often inappropriate. Focusing on the most apparent problem may lead to an associated, and potentially life-threatening, condition being overlooked. Treating the child may be complicated too by the need to combine therapy for several conditions.

## *What are the advantages of this approach?*

Integrated management of the sick child leads to more accurate identification of illnesses in outpatient settings, ensures more appropriate and, where possible, combined treatment of all the major illnesses and speeds up referral of severely ill children. Health workers are trained in how to communicate key health messages to mothers, thus helping them understand how best to ensure the health of their children.

This situation argues for child health programmes that address not single diseases but the sick child as a whole. A lot has been learned from disease-specific control programmes in the past 15 years. The challenge is to combine these lessons into a single more efficient and effective approach to managing childhood illness. A number of programmes in WHO and UNICEF have responded to this challenge by developing an approach now referred to as integrated management of the sick child. Already a number of other agencies, institutions and individuals are contributing to this initiative.

Evidence from surveys of health worker performance and of management of illness in the home suggest that, in both these areas, improvements can be made that are likely to reduce mortality significantly. As potentially fatal illnesses in children are often brought to the attention of health workers at first-level health facilities, the initiative for integrated management of the sick child is focusing first on improving their performance through training and support. At the same time work has started on approaches to changing family behaviour in relation to sick children including when and where families seek care outside the home.

The approach gives attention to prevention of childhood disease as well as to treatment. It emphasizes the importance of immunization, vitamin A supplementation if necessary, and improved infant feeding, including exclusive breastfeeding.

Integrated management of the sick child means efficiency in training, and in the supervision and management of outpatient health facilities. Wastage of resources is reduced because children are treated with the most cost-effective intervention for their condition. The approach avoids the duplication of effort that may occur in a series of separate disease control programmes.

According to the World Bank's World Development Report 1993, management of the sick child is the intervention likely to have the greatest impact in reducing the global burden of disease. This approach alone is calculated to be able to prevent 14% of that burden in low-income countries. According to the same report, management of the sick child ranks among the most cost-effective health interventions in both low-income and middle-income countries.

### ***Why integrated management of the sick child is a priority?***

The health system and the services it delivers should:

- address major health problems
- respond to the demands of the population
- have a significant impact on health status
- address prevention as well as cure
- cost effective
- improve equity

**Integrated management of the sick child meets all of these criteria.**

#### **Addressing a major health problem:**

Pneumonia, diarrhoea, measles, malaria and malnutrition together account for 7 out of 10 of the 33,000 deaths that occur daily among the children of the developing world.

#### **Responding to a demand:**

Every day millions of parents take their children for care to hospitals and health centres, pharmacists and community health care providers. At least 3 out of 4 of these sick children is suffering one of these five conditions.

#### **Impact on health status:**

The World Bank's World Development Report 1993, "Investing in Health" identified management of the sick child as the intervention likely to have the greatest impact on the global burden of disease, potentially averting 14% of that burden in low income countries or more than twice the amount averted by the next most effective intervention, childhood immunization.

#### **Prevention as well as cure:**

While management of the sick child focuses on treatment. It also provides the opportunity for, and emphasizes, the two most important preventive interventions for child health: immunization and improved nutrition, especially breastfeeding.



**Cost-effectiveness:**

The same World Bank report ranked management of the sick child among the 10 most cost-effective interventions in both low and middle income countries. Inappropriate management of childhood disease is wasteful of scarce resources, for example, intravenous fluids and antibiotics. Control programmes specific to a single disease have been effective but can be inefficient because of duplication of effort. Integrated management of the sick child addresses both of these concerns and should result eventually in cost-saving although an initial increased investment will be needed for training and reorganization.

**Improving equity:**

Virtually all children of the developed world and most well-off children in the developing world have ready access to the simple affordable treatments needed to protect them from death due to these five diseases. However, most children of the developing world do not have access to this life saving care. Given that this is one aspect of inequity which can be addressed immediately, with proven, inexpensive interventions, it should not be addressed as a matter of urgency.

***What tools are being developed?*****Case management guidelines**

Integrated outpatient management of the sick child at the first-level health facility has been described on four wallcharts which will also be available in booklet form. These guidelines are based on experience to date and on the findings of some focused research studies. The charts are titled, respectively:

- \_ Assess and classify the sick child age 2 months up to 5 years
- \_ Treat the child
- \_ Counsel the mother
- \_ Assess, classify and treat the sick young infant age 1 week up to 2 months.

The guidelines focus on detecting and managing the most common potentially fatal illnesses and associated conditions. They do not attempt to cover all childhood illnesses.

The assessment process uses a colour-coded triage system with which many health workers are already familiar through use of the WHO case management guidelines for diarrhoea and acute respiratory infections (ARI).

This procedure classifies each illness according to whether it requires:

- urgent referral,
- specific medical treatment and advice, or
- simple advice on home management.

The first step in the process is to look for non-specific danger signs that indicate the child is severely ill and needs urgent referral. Following this, for all children, the health worker asks questions about four main presenting symptoms.

The child presenting with cough or difficult breathing is handled according to the previous WHO/ARI management charts. The illness is classified as "severe pneumonia or other very serious disease" (requiring referral), "pneumonia" or "cough and cold".

A child presenting with diarrhoea is managed according to the already widely used WHO diarrhoea management charts. The child's dehydration status is classified, as persistent diarrhoea and dysentery if present. Treatment is defined accordingly.

If fever is among the presenting complaints, a classification of "severe febrile illness" indicates that urgent referral is needed. Depending on the other symptoms present and the risk of malaria, this disease may be diagnosed. Fever may also be the starting point for a classification of measles with or without complications.

Mastoiditis and chronic or acute ear infection are the classifications that can be made from the examination of an ear problem.

In addition to these classifications based on presenting symptoms, nutritional status is assessed for all children. Severe malnutrition or severe anaemia indicate the need for referral while less severe deficiencies result in treatment and/or advice in the health facility.

Each child's immunization status is also checked and vaccinations given as needed.

Finally the health worker is reminded to assess and treat any other problems detected.

### **Management of childhood illness : a training course**

The case management guidelines constitute the technical core of a training course that has been developed for first-level health facility workers. This course consists of a set of six training modules for participants, still-photo exercises, video film and detailed instructions for the course director and course facilitators. It emphasizes hands-on practice of the skills taught.

A pretest of the course in Gondar, Ethiopia, in August 1994, followed by several weeks of observation of the trained health workers, yielded very promising results. A complete field test of the materials is planned for February-March 1995 in Arusha, Tanzania. It is anticipated that the course will be available in mid-1995.

A guide to local adaptation of the training materials is also in preparation. This will include guidance on modification of such things as foods and fluids to be included when counselling the mother, antimicrobials of choice in a particular epidemiological context, and other policy decisions.

## On-the-job training in management of drug supplies

Guidelines for conducting a training workshop followed by supervised practice in the place of work have been developed in collaboration with BASICS to help health workers better manage the drugs essential for management of sick children. They will be field tested in Africa in the second quarter of 1995 and are expected to be ready for use by July 1995.

## Other materials under development

Two other sets of guidelines - on improving health workers' performance and on assessing and changing family behaviours related to care for sick children - are being developed with the help of specialists in these areas.

As many sick children require referral to a hospital, a further training course is being developed on inpatient case management of the sick child.

Work has also begun on a survey manual for assessing health worker performance, based on those already available for diarrhoea and ARI. Guidelines for introducing the integrated approach in countries are also being put together.

## *Research on the management of the sick child*

Research is an essential component of all programmes to reduce mortality and morbidity in children. Several research studies have already been carried out to provide information for finalizing the four sick child case management charts. These include evaluation of the Assess and classify chart in Gambia and Kenya, and studies on the clinical predictors of anaemia in India and Malawi. The studies have led to modification or validation of the following aspects of the protocol:

- \_ the clinical signs for classifying children as requiring antimalarials in low-risk areas have been refined;
- \_ the clinical signs for classifying children as having severe anaemia requiring referral have been improved for greater specificity;
- \_ detection of fever by touch was shown to be sufficiently sensitive and specific to justify the recommendation to "feel the child for fever" if no thermometer is available;
- \_ visible severe wasting was found to be adequate to detect most children with very low weight-for-height for referral to hospital;
- \_ the rate of referral and antibiotic use with the revised protocol were found to be acceptable.

A multicentre study on persistent diarrhoea in Bangladesh, India, Mexico, Pakistan, Peru and Viet Nam has provided important findings that have been used to update the recommendations for management of persistent diarrhoea.

Findings from a study on pneumonia, sepsis and meningitis in Ethiopia, Gambia, Papua New Guinea and the Philippines have also been used to complete the recommendations for diagnosis and treatment in young infants.

WHO has drawn up a list of future research priorities related to management of the sick child. In addition to improving the detection and treatment of the five major illnesses, areas where more information is needed include:

- \_ detection and management of anaemia and meningitis
- \_ nutritional management
- \_ management specific to the sick young infant
- \_ reasons why mothers do not seek health care for sick children
- \_ identification of high-risk children
- \_ adequacy of clinical management in first-level health facilities.

While much research is concerned with biomedical questions, there is also a need for further behavioural research on, for example, communication with mothers, including the adaptation of advice on feeding to local conditions.

Research has been carried out by a number of collaborating institutions and coordinated by the WHO Division of Diarrhoeal and Acute Respiratory Disease Control and the WHO Special Programme for Research and Training in Tropical Diseases. In 1993 and 1994 a series of consultations were organized to obtain expert advice on various topics, to review research findings and to redefine research priorities. Two research and development coordination meetings have also been held with participation of a wide range of current or potential collaborators.

### ***Plans for implementation***

The concept of the integrated approach to childhood illness has been welcomed by many countries. In some it will fit well into reorganizations of health service management that are already under way. In others, organizational changes or clearly defined collaborative arrangements between existing disease-specific programmes will be needed.

WHO, UNICEF and their collaborative partners will work with countries to help adapt the new materials to the country context, to plan how implementation of activities can best be managed and to evaluate the experience. Particularly close monitoring of initial experience will be carried out in a small number of countries.

### ***Collaborating partners***

Many institutions are collaborating in this initiative as listed in the attached table.

Bilateral aid agencies from many countries, the World Bank, UNDP and UNICEF are supporting these efforts through their funding of WHO Programmes. Funds specifically designated for this initiative have been provided to WHO by the Governments of Norway and Switzerland and by the US Agency for International Development.

### **Collaborating institutions**

In addition to the Ministries of Health in countries where activities related to integrated management of the sick child have been carried out, the following institutions have collaborated:

#### **World Health Organization**

- \_ Division of Diarrhoeal and Acute Respiratory Disease Control (CDR)
- \_ Division of Communicable Diseases (CDS)
- \_ Division of Control of Tropical Diseases (CTD)
- \_ Action Programme on Essential Drugs (DAP)
- \_ Global Programme for Vaccines (GPV)
- \_ Maternal and Child Health and Family Planning (MCH)
- \_ Nutrition (NUT)
- \_ Oral Health (ORH)
- \_ Programme for the Prevention of Blindness (PBL)
- \_ Special Programme for Research and Training in Tropical Diseases (TDR)

#### **World Bank**

- \_ Department of Population, Health and Nutrition

#### **UNICEF**

- \_ Child Survival Unit
- \_ Bamako Initiative Unit

#### **Other institutions**

\_ Ethiopia:

Addis Ababa University

Gondar Medical College

\_ The Gambia:

Medical Research Council

\_ Italy:

Istituto "Burlo Garofalo"

\_Kenya:

Kenya Medical Research Institute

Wellcome Trust

\_South Africa:

The South African Institute for Medical Research

University of Cape Town

\_Tanzania:

Tanzanian Food and Nutrition Unit

\_UK:

Cambridge University

London School of Hygiene and Tropical Medicine

Liverpool School of Tropical Medicine

Medical Research Council

Save the Children Fund

University of Edinburgh

\_USA:

Academy for Educational Development, USAID/SARA

Center for Disease Control and Prevention

Johns Hopkins University, USAID/Child Survival Project

Harvard Institute for International Development, USAID/ADDR

Michigan State University

The Partnership for Child Health Care, Inc., USAID/ BASICS

University of Colorado

University Research Corporation, USAID/Quality Assurance Project

## ***The management of childhood illness in developing countries: Rationale for an integrated strategy***

### **Introduction**

Every year some 11 million children in developing countries die before they reach their fifth birthday, many during the first year of life. Seven in ten of these deaths are due to acute respiratory infections (mostly pneumonia), diarrhoea, measles, malaria or malnutrition - and often to a combination of these conditions (see figure 1). In addition, at least three out of four episodes of childhood illness are caused by one of these five conditions, and every day millions of parents seek health care for sick children, taking them to hospitals, health centres, pharmacists, community health care providers and traditional healers. Projections based on the global burden of disease analysis completed in 1996 indicate that these conditions will continue to be major contributors to child deaths in the year 2020, unless significantly greater efforts are made to control them.

The evidence that a large proportion of childhood morbidity and mortality in the developing world is caused by just five conditions does not in itself argue for an integrated approach to the management of childhood illness. However, most sick children present with signs and symptoms related to more than one of these conditions and this overlap means that a single diagnosis may be neither possible nor appropriate (see figure 2). Treatment of childhood illness may also be complicated by the need to combine therapy for several conditions. An integrated approach to managing sick children is, therefore, indicated as is the need for child health programmes to go beyond single diseases and address the overall health of a child.

Much has been learned from disease-specific control programmes in the past 15 years. The current challenge is to apply the lessons from these programmes to strategies that promote coordination and, where appropriate, greater integration of activities in order to improve the prevention and management of childhood illness. The WHO Division of Child Health and Development (CHD), in collaboration with ten other WHO programmes and UNICEF, has responded to this challenge by developing the Integrated Management of Childhood Illness (IMCI) strategy. While many agencies, institutions and individuals are contributing to the initiative, WHO/CHD is responsible for overseeing the development, implementation, and monitoring of IMCI materials and activities.

### **The IMCI strategy**

The strategy combines improved management of childhood illness with aspects of nutrition, immunization, and several other important influences on child health, including maternal health (see figure 3). Using a set of interventions for the integrated treatment and prevention of major childhood illnesses, the IMCI strategy aims to reduce death and the frequency and severity of illness and disability, and to contribute to improved growth and development. This set of interventions aims to improve practices in both health facilities and in the home (see figure 4).

### **Interventions**

The core intervention is integrated case management of the five most important causes of childhood deaths - acute respiratory infections (ARI), diarrhoea, measles, malaria and malnutrition - and of common associated conditions.

In individual countries, the combination of interventions that makes up IMCI may be modified to include other important conditions for which effective treatment and/or preventive practices have been identified. The main interventions of the global IMCI strategy may evolve, as new findings from analysis of the global burden of childhood disease and from child health research become available.

### **Components**

Implementation of the IMCI strategy in countries involves the following three components:

- Improvements in the case management skills of health staff through the provision of locally adapted guidelines on integrated management of childhood illness and activities to promote their use.
- Improvements in the health system required for effective management of childhood illness.
- Improvements in family and community practices.

These components will be supported by programme planning, including the selection of indicators and the setting of targets, and by evaluation.

### **Benefits of the IMCI strategy**

In health facilities, the IMCI strategy promotes the accurate identification of childhood illnesses in outpatient settings, ensures appropriate combined treatment of all major illnesses, strengthens the counselling of caretakers and the provision of preventive services, and speeds up the referral of severely ill children. The strategy also aims to improve the quality of care of sick children at the referral level. In the home setting, it promotes appropriate careseeking behaviours, improved nutrition and preventive care, and the correct implementation of prescribed care. The benefits of the IMCI strategy are summarised in Box 1.



Box 1

### Benefits of Integrated Management of Childhood Illness (IMCI)

The IMCI strategy:

Addresses major health problems - The strategy systematically addresses the most important causes of childhood death and illness.

Responds to demand - Every day millions of parents take their sick children to hospitals and health centres, pharmacists and community health care providers. At least three out of four of these children suffer from one of the five conditions that are the focus of IMCI.

Is likely to have a major impact on health status - The 1993 World Bank World Development Report, Investing in Health, estimated integrated management of childhood illness to be the group of interventions with the potential to have the greatest impact on the global burden of disease.

Promotes prevention as well as cure - In addition to its focus on treatment, it also provides the opportunity for, and emphasizes, important preventive interventions such as immunization and improved infant and child nutrition, including breastfeeding.

Is cost-effective - Investing in Health ranked IMCI among the 10 most cost-effective interventions in both low- and middle-income countries.

Promotes cost saving - Inappropriate management of childhood illness wastes scarce resources. Although increased investment will be needed initially for training and reorganization, the IMCI strategy will result in cost savings.

Improves equity - While nearly all children in the developed world have ready access to simple and affordable preventive and curative care which protects them from death due to ARI, diarrhoea, measles, malaria and malnutrition, millions of children in the developing world do not have access to this same life-saving care. The IMCI strategy addresses this inequity in global health care.

### The relationship of IMCI with other technical programmes

The IMCI strategy promotes a number of interventions and areas of activity, such as immunization, vitamin A supplementation and drug supply management, that are managed by other technical programmes (see figure 5). IMCI management in countries will not involve taking on responsibility for these other programmes, but will seek to ensure that activities are well coordinated and effectively implemented in order to contribute to IMCI. Examples of what IMCI can offer to other programmes and what it requires from them are given in table 1. In all countries, the collaboration of all relevant programmes is essential for the development and endorsement of the IMCI clinical guidelines and for their promotion and use.

Table 1

### The IMCI approach in relation to other technical programmes

*Note: In all countries, the collaboration of all relevant programmes is essential for the development and endorsement of the IMCI clinical guidelines and in their promotion and use.*

Programme	What IMCI offers	What IMCI needs
CDD/ARI	<ul style="list-style-type: none"> <li>• more effective case management</li> <li>• greater emphasis on nutrition aspects of diarrhoea case management</li> </ul>	<ul style="list-style-type: none"> <li>• combined CDD/ARI activities</li> <li>• as a step toward IMCI</li> </ul>
Malaria	<ul style="list-style-type: none"> <li>• improved case management for children</li> <li>• promotion of bednets</li> </ul>	<ul style="list-style-type: none"> <li>• policy on antimalarial drugs compatible with IMCI</li> </ul>
EPI	<ul style="list-style-type: none"> <li>• case management of measles</li> <li>• avoidance of missed opportunities</li> <li>• encouragement of routine vaccination</li> </ul>	<ul style="list-style-type: none"> <li>• vaccine availability and vaccination policies compatible with IMCI</li> </ul>
Nutrition	<ul style="list-style-type: none"> <li>• opportunity to review/develop practical child feeding advice</li> <li>• counselling on breastfeeding and complementary feeding</li> <li>• treatment of malnourished children</li> <li>• vitamin A, iron supplementation</li> <li>• treatment of helminths</li> </ul>	<ul style="list-style-type: none"> <li>• collaboration in developing feeding advice</li> <li>• micronutrient, breastfeeding and complementary feeding policies compatible with IMCI</li> </ul>
Maternal and perinatal health	<ul style="list-style-type: none"> <li>• breastfeeding counselling</li> <li>• case management for sick young infants</li> <li>• opportunity to enquire about the mother's health and provide services</li> </ul>	<ul style="list-style-type: none"> <li>• guidelines for illness in first week of life compatible with IMCI</li> <li>• clear guidance on available maternal health services</li> </ul>
Essential drugs	<ul style="list-style-type: none"> <li>• clear policy on drugs for childhood illness</li> <li>• rationalization of drug use (including decreased use of antibiotics)</li> </ul>	<ul style="list-style-type: none"> <li>• availability of essential drugs for IMCI (including prereferral injectable drugs)</li> <li>• drug use policies compatible with IMCI</li> </ul>

## IMCI and health system reform

In many developing countries some type of reform of the health system is underway, often involving decentralization of management, including responsibilities for training and drug supplies. The emphasis in IMCI implementation on capacity building at district level is compatible with, and can contribute to, this aspect of health system reform. Another aspect of health system reform being promoted in some countries is "essential services" or a minimum package of activities and there is a strong rationale for including IMCI in such an approach. IMCI can also strengthen other aspects of reform such as improving the quality of care and improving cost-effectiveness.

Regardless of the approach taken by a country to health system reform, it is important that IMCI be explicitly discussed early in the process and included in plans, especially plans for capacity building at district level.

### Conclusion

The IMCI strategy clearly focuses on the diseases of childhood that cause the greatest burden, globally, while allowing for the content to be adapted to individual country needs. An integrated approach is needed because of overlap in the signs and symptoms of the major diseases and because it is important to treat the child as a whole, not simply the most apparent disease. The strategy involves not only curative care interventions but also those to promote healthy growth and prevent diseases. Often, these too are aimed at more than one disease.

Effective IMCI requires action at different levels of the health service and in the home and the community. Through improving the coordination and quality of services provided by existing child health programmes, the IMCI strategy will increase the effectiveness of care and at the same time reduce costs. It offers a model for improving one aspect of service delivery that could be applied to other aspects of health care. Finally, IMCI has the potential to make a major contribution to health system reform and, because it is one of the essential components of health services, should be taken into account early in the reform process.

## **IMCI in the Community:**

# **Improving family and community practices in support of child health and development**

## **Introduction**

Success in reducing childhood mortality will not be achieved solely through the availability of health services with well-trained personnel. Success also depends on what families provide - adequate nutrition and care, appropriate responses to illness, including seeking medical care when children need it, and the correct implementation of prescribed treatment. Expanding on experiences in ARI and CDD programmes, CHD is increasing its efforts to strengthen the ability of families and their communities to raise healthy children.

## **CURRENT ACTIVITIES**

### ***Improving family practices through the sick child visit***

Face-to-face communication between health workers and caretakers who bring a sick child to a health facility provides an important opportunity for promoting child health in the home. Home care advice is an integral part of case management and during sick child visits, health workers instruct mothers on how to give home treatments. During such visits health workers also assess feeding practices, including breastfeeding and giving complementary foods, and help mothers solve feeding problems. An evaluation of nutritional counselling is being conducted to identify how to improve this important component of the sick child visit. Health workers also provide advice about signs to enable caretakers to recognize when they need to bring the sick child back. To ensure that caretakers can remember instructions, health workers select the most important messages, verify the caretaker's understanding of what they should do by asking checking questions and observing as the caretaker demonstrates how to give prescribed treatments.

Communication skills are, therefore, emphasized throughout the IMCI course for first-level health workers. Using local terms and phrases that are common in the community increases the ability of health workers to communicate effectively with caretakers. Using a locally adapted counselling card also facilitates communication. The Adaptation Guide for IMCI training materials provides instructions on how to make the counselling card more appropriate to the communities in which IMCI is implemented. In particular it suggests how to identify local terms to communicate important signs of illness, especially those used to advise mothers on when to seek care, and how to identify feeding recommendations that are culturally acceptable in the community, as well as nutritionally adequate. In some countries mothers will be able to take the cards home to remind them about these important messages.

### ***Improving breastfeeding practices through early interventions with mothers***

Good nutrition is critical for healthy growth and reducing mortality from disease. IMCI recommendations support good nutrition through the promotion of exclusive breastfeeding initiated immediately after birth and extending for four to six months. Mothers are encouraged to continue breastfeeding as the infant matures, while adding nutritionally appropriate complementary foods.

In addition to the IMCI training course for first-level health workers, CHD has developed the Breastfeeding

**Counselling:** A Training Course for maternity staff and other health workers. The course trains health workers to assist mothers in initiating breastfeeding and improving their skills in feeding the child. It stresses the importance of support groups as a means of providing ongoing help to breastfeeding mothers in the community. Health workers also learn how to help mothers be more responsive in general to the needs of their new infants and develop the skills to provide better care through the early years of the child's growth and development. An evaluation of the course has demonstrated its ability to achieve lasting improvements in the knowledge and practices of breastfeeding counsellors.

### ***Other methods of improving family practices***

IMCI includes other interventions to help families provide better care. During the planning process, family needs and resources are considered in the development of guidelines. For example, availability and cost are reviewed when selecting drugs, in addition to their effectiveness in treating illness. Where it is possible to choose and provide paediatric formulations, it is easier for families to give correct doses.

In planning and implementing IMCI, communication materials (e.g. radio messages and written materials) in current use need to be reviewed to ensure that they are consistent with the messages delivered through the sick child visit. As new messages are developed, they can be strengthened by using information available from IMCI activities, including local feeding recommendations and the terms understood by mothers. Existing CDD and ARI tools for collecting information and designing communication interventions can be used in IMCI activities when countries have identified a need for specific actions with respect to household management of diarrhoeal diseases or acute respiratory infections.

## **FUTURE ACTIVITIES**

### ***Helping countries to develop community interventions***

Expanding the implementation of IMCI will mean working with the communities, as well as through the health facilities, to reach more families. Many children who need care are not brought to a health facility and the caretakers of those who are may only have brief contact with the health worker. New channels for promoting child health, therefore, are required.

To assist countries to expand IMCI activities beyond health facilities, CHD is developing a guide, *Selecting and Designing Interventions to Improve Family Practices*, which describes a systematic process for choosing effective interventions and implementing them at community level.

This practical guide indicates how countries can organise local information from a variety of sources and use this information to identify current family practices related to a range of potential health risks and the factors that influence them. It then shows how this information can be used to select and design specific interventions. Facilitated by a trained person, the guide can be used by members of a planning team with diverse experiences, in implementing health programmes (e.g. programme managers, health workers, and communication specialists), in conducting research (e.g. nutritionists and social scientists), and in working in communities (e.g. from NGOs and schools). The guide will also direct the planning team to the use of technical manuals that provide assistance with planning, testing, carrying out and evaluating the specific interventions selected

by the team. To produce messages and use mass communication channels for example, planning teams can use the WHO/UNICEF/USAID Radio Guide. Technical manuals will be gathered from a variety of sources and will cover a range of activities, for example, provision of health education, counselling family members, and improving the design of products, packaging, and communication materials. CHD will also work on the development of new manuals for interventions for which there are no existing materials, and it is anticipated that a technical manual will be produced based on the results of a current project on careseeking (see below).

### ***Improving specific family practices***

Work began in 1996 to examine the rationale and feasibility of initiating intervention research aimed at improving careseeking for acute illness in infants and young children. As a first step in this potentially important area for household behaviour change, CHD reviewed the evidence concerning the following questions:

1. What is the nature and extent of problems in careseeking, and what is the evidence that family behaviours with respect to careseeking contribute significantly to infant and young child mortality and morbidity?
2. Is there sufficient knowledge about the determinants of careseeking to allow interventions aimed explicitly at this behaviour to be designed?
3. Is there evidence that careseeking behaviours can be changed?

The findings showed that:

1. Scientific documentation of the extent to which initial delays in careseeking affect mortality is very limited, but there is considerable evidence that families do not always make the best decisions with respect to the utilization of health care services.
2. In general, the determinants of careseeking have been well described, although there is greater knowledge about household decisions on where to seek care than about initial decisions concerning when to seek help.
3. Interventions aimed specifically at improving careseeking for sick children have not been rigorously evaluated, but changing patterns of health service utilization indicate that these behaviours can be changed.

CHD is currently undertaking a project to develop and evaluate culturally appropriate interventions to improve family care-seeking. Research on family and community practices will also continue to evaluate current activities and identify additional ways to improve home care. For example, evaluation studies in China and Viet Nam have shown that using local illness terms improves caretakers' recall and understanding of the importance of signs that the child needs medical attention. The results of a recently completed review on child growth and development will be used in the design of an approach to interventions to promote physical and psychological growth, and research on community-based nutrition interventions will strengthen IMCI nutrition counselling efforts.

# NUTRITION

## An Overview of Research Findings Abstracts of Research Studies

### Nutrition : An Overview of Research Findings

Adequate nutrition for all is among the most obvious priorities of total development. Malnutrition impairs development and malnourished children are at a greater risk of survival than healthy ones. To combat the problem of malnutrition and to further reduce the incidence of mortality and morbidity among the vulnerable sections of society, an integrated multisectoral approach has been adopted by the Government by introducing ICDS programme.

The nutrition component of the package of services offered under ICDS includes supplementary nutrition, nutrition and health education and prophylaxis against nutritional anaemia and vitamin A deficiency. The scheme provides supplementary nutrition to needy children and to expectant and nursing mothers from low-income families for 300 days in a year. The aim is to supplement the nutritional intake by 300 calories and 8-10 g of protein for children; 600 calories and 20 g protein for severely malnourished children and 500 calories and 20-25 g protein for expectant and nursing mothers. The cost of supplementary nutrition for children, severely malnourished children and expectant and nursing mothers per day is 0.75 p. Rs. 1.25 and Rs. 1.05\* respectively. In fact the major share of the total cost of an ICDS project is claimed by supplementary nutrition, which is Rs. 0.75 million per rural or urban project and Rs. 0.67 million per tribal project, (Krishnamurthy, 1983).

With the expansion of ICDS projects from 33 in 1975 to 1,952 in 1988, the number of children receiving supplementary nutrition had increased from 1.63 lakhs (October 1975) to 104.19 lakhs (December 1988), and that of expectant and nursing mothers had increased from 4.73 lakhs (March 1983) to 19.96 lakhs (December 1988).\*\*

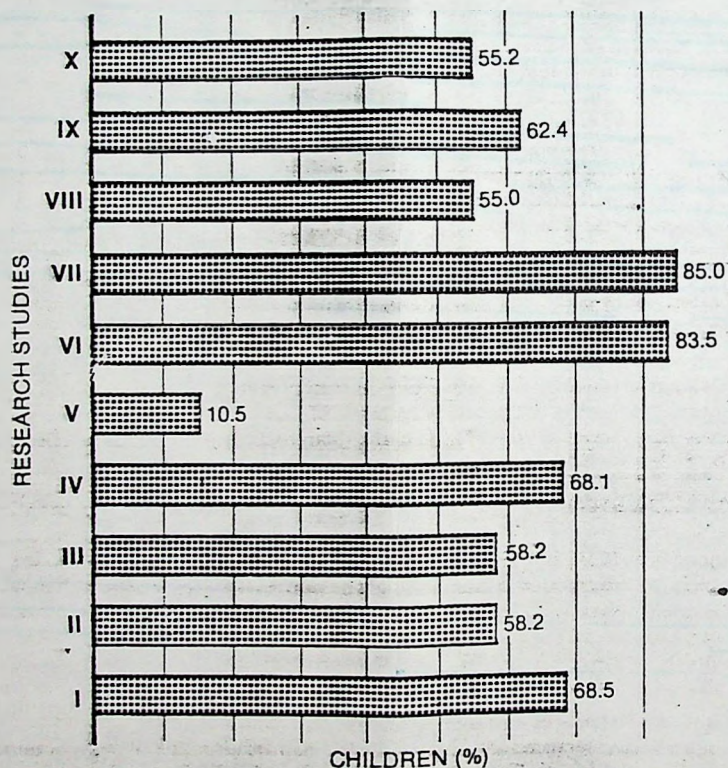
The studies reported in this section have assessed the nutritional status of children from various angles. Though quantitatively the research conducted on this component of ICDS is quite adequate, still many areas have not been studied. For example, the information related to food and nutrient intake is limited. Prabhakara (1984) and Singhal (1981) found that there was an adequate intake of all the nutrients except vitamin A in ICDS areas. Joshi (1977) reported that the intake of protein was low. In the study conducted by Jyoti Kumari (1985) the dietary intake of children revealed a caloric gap of 400-500 and adequate intake of protein.

Nutritional status of children is an excellent indicator of their survival. Many researchers have reported the prevalence of malnutrition and a large number of studies assessed the nutritional status of children in ICDS areas by incidence of malnutrition in different grades. The research findings revealed that ICDS has

Source: \* Department of Women and Child Development, Ministry of Human Resource Development, New Delhi.

\*\* India, Ministry of Human Resource Development, Department of Women and Child Development, Status Report of the ICDS, December, 1988.

FIGURE - 5  
 PERCENTAGE IMPROVEMENT IN THE  
 NUTRITIONAL STATUS OF PRE-SCHOOL  
 CHILDREN COVERED UNDER ICDS



I. Sunder Lal, 1978. II. Sunder Lal, 1980. III. Sunder Lal, 1980.  
 IV. Kushwaha, 1981. V. Singal, 1981. VI. Patel, 1982.  
 VII. Tandon, 1982. VIII. Bapat, 1983. IX. Bhandari. X. Mandowara.

helped in reducing the incidence of malnutrition in many areas. Fig. 5 illustrates the percentage improvement in the nutritional status of children in ICDS blocks. On the other hand few studies reported high incidence of mild and moderate PEM. About 30 per cent children were suffering from chronic malnutrition resulting in stunted growth (Jyoti Kumari, 1985). The low nutritional status of children was also observed in a study by Tarun Kumar (1983) where 49 per cent children were identified at risk, requiring special intervention. Prabhu (1985) also identified 81 per cent malnourished children according to Gomez classification. In the studies conducted by Sunderlal (1977) and Bhandari (1979), not much improvement was observed in the nutritional status of children, though the decline in the incidence of severe malnutrition was one per cent or less.



(125) (Jakher, 1981). About 37 per cent children in an ICDS area and 45.3 per cent in non-ICDS had haemoglobin level of less than 11 g (Sinha, 1984).

Vitamin A deficiency was the leading cause for nutritional blindness in Tamil Nadu. However, there had been a rapid decline in the prevalence of Xerophthalmia over a period of two years due to the impact of ICDS Programme (Chandra, 1984; Chopdar, 1977).

In another study, it was reported that more than 50 per cent adults, adolescents and school-going children were suffering from varying degrees of goitre. The iodine content in drinking water was found to be less than 3  $\mu\text{g/L}$  with a mean value of 0.9  $\mu\text{g/L}$  (Rao, 1985).

In ICDS blocks malnutrition and its causes are entrenched in society. Malnutrition was attributed to factors like poor socio-economic conditions, inadequate health and nutrition education, faulty weaning practices, lack of ante-natal care, low birth weight, repeated pregnancies, superstitions and beliefs, large-sized families and insanitation (Chopdar, 1977; Bapat, 1983). Ninety-seven per cent malnourished children belonged to deprived environment as measured by PDS. Ninety per cent had very poor home stimulation; their homes provided least stimulation in terms of the availability of toys, games and reading material and provision of affection and warmth (Jyoti Kumari, 1985). Of the background variables, literacy of parents, occupation and per capita income of the family had a marked influence on the nutritional status of children (Jakher, 1984).

The role of related variables in enhancing the impact of supplementary nutrition indicated that taste is an important factor and influences the quantity of supplement consumed as unpalatable supplements were partially consumed (Patel, 1982). Other related factors were brought to light by Soundarajan's study (1985). The nutritional status of pre-school children improved and their level of haemoglobin increased after deworming and on introducing supplementary nutrition and iron therapy.

Regular intake of therapeutic nutrition helped in treating severely malnourished children. The incidence of severe malnutrition and morbidity declined in many cases; maximum improvement was seen in children who had received therapeutic nutrition for 50-80 per cent of prescribed days. Malnutrition was reduced by 60 per cent due to regular and steady supply of therapeutic nutrition (Mandowara).

Breast-feeding, weaning at an early age and complete protection by immunization were identified as important determinants of nutritional status and helped in protecting children against nutritional deficiency diseases as well (Kamla, 1985). Mathur (1983) also observed that IMR among breast-fed and weaned infants was comparatively low. Khanna further concluded that in a majority of malnourished children, poor growth and development was due to prolonged breast-feeding beyond six months of age and faulty weaning practices, which resulted in inadequate intake of protein and calories. However, the infant-feeding practices in an ICDS area were better than those in a non-ICDS area (Ananthakrishnan, 1984). Grand mothers and parents-in-laws played a significant role in advising mothers regarding infant-feeding practices. Breast-feeding was universal but some mothers started breast-feeding two to six hours after birth and some as late as the sixth day. Child care and feeding practices were affected by mother's education, socio-economic status and size of family (Vijaya, 1985).

Most of the studies reported that the nutritional status of children was assessed by using indices like weight-for-age, weight-for-height, height-for-age and  $\text{Weight} \times 100 / \text{Height}^2$ . The indices found to be more suitable for male and female children were  $\text{Weight} \times 100 / \text{Height}^{1.4}$  and  $\text{Weight} \times 100 / \text{Height}^{1.45}$  respectively (Rao, 1985). According to Jakher (1984), weight-for-height and height-for-age combination was a sensitive measure for detecting malnutrition, but as per Desai's study (1984), weight-for-age parameter should be used for screening severely malnourished children. They should be further examined using weight-for-height parameter and those found to be severely malnourished should be considered for therapeutic nutrition. Mehendale (1982) was also of the view that nutritional grading by weight-for-age could help in detecting malnourished children who did not have visible symptoms of marasmus or kwashiorkor. In another study by Desai (1981), weight-for-height was preferred in assessment of PEM where stunting was common as it did not lead to over-diagnosis of PEM.

The nutritional status of children was also assessed by using Child Bangle (Sunder Lal, 1979) and Thinness Chart (Chopdar, 1981). Child Bangle was considered as a quick screening device for detecting severely malnourished children. The bangle test was assessed as a simple, age independent, time saving device which could be conveniently used by community health workers and AWWs to monitor feeding programmes in the absence of growth charts and weighing scales. The Thinness Chart was as effective as the Weight Chart in assessing malnourished children. It was most effective in areas where a large portion of the child population had stunted growth. It was considered an effective tool for screening acute malnutrition rather than for monitoring growth.

Some studies had investigated the techniques of managing malnourished children. Domiciliary monitoring and management of severely malnourished children by AWWs in a rural setting was found to be effective (Sunder Lal, 1980). The total cost of domiciliary management of a malnourished child was Rs. 36 as against Rs. 1,029 in hospitals. Village level management of severely malnourished children by AWWs and ANMs was found to be less expensive. (Tandon, 1982; Patel, 1982).

The nutritional status of expectant and nursing mothers was assessed in very few studies although it is an accepted fact that the percentage of malnourished women in this group is quite high. In the study by Durge (1979) the values of anthropometric measurements indicated chronic malnutrition among the expectant mothers. It was found that 75 per cent expectant mothers showed signs of nutritional deficiency; 93 per cent were anaemic and had inadequate intake of food rich in minerals and vitamins. Tandon (1978) reported that the distribution of nutritional supplement to expectant and nursing mothers significantly improved. In the study conducted by Gopaldas (1987) efforts were made to formulate a recipe for low-cost, culturally acceptable maternal food supplement for expectant and nursing mothers. Biscuits with 4 per cent fenugreek powder were prepared. Fenugreek imparted bitter taste to the biscuits and hence were unacceptable to children. They were recommended for expectant and nursing mothers because of their therapeutic properties.

In conclusion, nutrition component has been studied extensively covering a few important areas like nutritional status of children, management of severe malnutrition, infant feeding practices, etc., but still there are research gaps. There is a

The percentage of children (0-6 years) suffering from various grades of malnutrition in a few ICDS blocks, as reported in the research studies, is given in Table 1.1.

Table 1.1  
Nutritional status of children in ICDS blocks

Author Year	Nutritional Grades				
	Normal	Grade I	Grade II	Grade III	Grade IV
	Children (%)				
Sunder Lal (1.1)* 1976	12.7	9.6	12.0	7.8	5.8
Joshi (3.1) 1977	27.8	32.0	28.7	(..... 1.8 .....	
Bansal (3.5) 1978	34.0	(..... 66.4 .....			
Ellahabadi, Sunder Lal (3.5) 1978					
3-4 years	54.4	36.9	7.1	0.5	1.1
4-5 years	60.3	32.7	5.9	1.1	0.0
5-6 years	85.3	11.9	2.8	0.0	0.0
Kushwaha (1.3) 1981	23.9	35.3	31.9	6.7	2.2
Ketker (8) 1982	—	—	18.2	10.2	7.9
Narmada (3.5) 1982	—	(..... 47.0 .....		2.0	—
Krishnamurthy (8) 1982	(.....		4.5		
Sunder Lal (3.3) 1983	51.6	30.7	14.6	1.7	0.4
Kamalanathan (3.1) 1984	55.0	(..... 45.0 .....			0.0
Jakher (1.1) 1984	28.4	45.9	23.6	2.1	—
Prabhakara (3.1) 1984	—	—	—	4.9	0.6
Roy (1.3) 1984	—	27.1	17.2	—	1.5
Kubde (8) 1985	23.2	43.0	24.1	8.5	1.2
Udani (3.5) 1985	37.2	(..... 62.8 .....			
Nair (8)	—	—	—	(..... 4.1 .....	

An age trend was observed in the incidence of malnutrition in few studies. The newborns were found to be below WHO reference standards on all parameters (Chopdar, 1979). Further, the age group (7-24) months seemed to be the most vulnerable group (Behera, 1977). A few researchers reported that maximum malnutrition was prevalent in the age group 0-3 years. (Chopdar, 1977; Sunderlal, 1976; Singhal, 1981; Seth, 1976; Behera, 1977). Mandowara reported that a majority of malnourished children were under two years of age followed by the 3-6 years age group. The incidence of malnutrition was also high in children with the birth order of four and above (Bansal, 1978).

A few studies related to malnutrition threw light on rural-urban differentials and sex-differences. The prevalence of severe malnutrition was highest among rural children (75.3%) followed by tribal (63.2%) and urban children (57.6%), (Tandon, 1982). Seventy-eight per cent malnourished children belonged to low castes and 64 per cent to high castes (Jakher, 1984).

Research studies (Behera, 1977; Chopdar, 1979; Mandowara; Gupta, S.B., 1982; Seth, 1977) also revealed that the physical parameters of male children were higher than those of female. The incidence of severe PEM in female children was almost double as compared to male children because of negligence and socio-cultural factors (Desai, 1980). Devadas (1983) also found prevalence of PEM to the extent 20 per cent among female children and 14.5 per cent among male. Kamalanathan (1984) was of the view that percentage of female children (53%) suffering from malnutrition was higher than that of male children (38%).

Interesting seasonal variations were reported by Patel (1982) and Sunder Lal (1980). The incidence of severe malnutrition was maximum from June to October as this was the period of incidence of malaria, skin infections, diarrhoeal diseases and other illnesses.

Malnutrition predisposes children to infection and impairs the body's defence mechanism. Malnourished children have much higher mortality and morbidity rates. The fact that the health status of severely malnourished children is poor and incidence of diseases is high among them was corroborated by a study conducted by Tandon (1982). Most of the children with severe malnutrition had one or more associated illnesses; diarrhoea being the most common one. Udani (1978) also observed that prevalence of illnesses was much more in severely malnourished children. Malnutrition as one of the causes of infant mortality had been reported in research studies conducted by Jugal Kishore (1983), Sunder Lal (1983), Tandon (1983) and Thakur (1984).

The prevalence of nutritional deficiencies among children was attributed to prolonged breast-feeding with delayed introduction of poor quality supplements (Arjun Kumar, 1983). Clinical signs of nutritional deficiency were detected among 45 per cent children, the most common being anaemia, followed by PEM, rickets, vitaminosis and vitamin B-complex deficiency. Joshi (1977) reported that in spite of giving vitamin and mineral supplements, 30 per cent children were anaemic and 10 per cent had vitamin A deficiency.

Anaemia was the major nutritional deficiency observed in 38.7 per cent children followed by angular stomatitis (5.7%), conjunctival xerosis (2.9%) and marasmus

—prevention is better than cure—applies to children and expectant mothers.

### Immunization : An Overview of Research Findings

The age old saying—prevention is better than cure—applies so very aptly to the immunization of young children and expectant mothers. While ensuring good health by way of proper nutrition, reducing the incidence of disease is equally important. Hence, the provision of immunization services is the other important in-built component under ICDS, safeguarding the health of beneficiaries against vaccine preventable diseases. Immunization is the most economical and cost-effective of all the health interventions and thus an important component of health services, particularly the ones directed towards children and mothers. The challenge of the decade is to build up a comprehensive vaccination system for immunizing each beneficiary. The National Health Policy also aims at universal immunization of children and expectant mothers against preventable diseases by 2000 A.D., as a part of the overall strategy for improving the child survival rate.

In ICDS projects, immunization of children and expectant mothers is carried out by PHC, Urban health unit and its subordinate health infrastructure. Children are vaccinated against preventable childhood diseases, like poliomyelitis, diphtheria, pertussis, tetanus, tuberculosis and measles. Expectant mothers are immunized against tetanus.

Immunization programmes are easy to provide and evaluate but require careful planning, effective management, proper execution by trained functionaries and optimal use of available resources.

The research conducted on immunization is limited. Immunization coverage or status of ICDS beneficiaries has been reported in many studies included in this document. Under this section, studies exclusively related to immunization or vaccine preventable diseases and their incidence and prevalence are reviewed.

The incidence of vaccine preventable diseases varies with the immunization coverage. The higher the coverage, the lower is the incidence rate and vice versa. The incidence of these diseases was definitely on the decline in ICDS project areas as the immunization status of children had improved significantly (Subrahmanyam, 1985; Santhanakrishnan, 1985; and Mandowara). There was also an improvement in the immunization services provided in anganwadis. Devadas (1983) found that 78 to 90 per cent children had been immunized in an ICDS block. The immunization coverage of the target population as reported in many studies, may be seen in Table 2.1.

Table 2.1  
Immunization coverage in ICDS blocks

Author	Year of study	Immunization coverage			
		BCG	DPT	OPV	Small Pox
Children (%)					
Chopdar (7.2)*	1977	—	80.0	—	—
Joshi (3.5)	1977	—	16.2	0.1	NR
Ellahabadi, Sunder Lal (3.5)	1978	22.4	42.8	11.0	91.0
Bansal (3.5)	1978	—	32.0	14.6	87.0
Sunder Lal (7.3)	1981	61.0	41.0	40.0	—
Kushwaha (7.3)	1981	31.7	63.0	24.4	30.4
Deb (7.6)	1982	66.4	86.5	—	92.7
Ketker (8)	1982	2.7	5.0	11.0	—
Khanolkar (3.5)	1982	73.5	—	63.5	100.0
Prabhakara (3.5)	1984	89.6	10.5	—	—
Chakladar (7.1)	1984	41.6	68.0	66.4	—
Kubde (8)	1985	48.7	45.5	45.2	—
Subramanyam (7.6)	1987	100.0	100.0	100.0	65.0
Kamalanathan (3.5)	All children fully immunized				
Raina (10)	—	—	32.0	—	—
Bawaskar (Rural) (10)	—	38.9	29.9	30.6	—
Bawaskar (Urban) (10)	—	40.2	45.3	46.3	—
Nair (8)	—	67.2	41.3	12.4	—

\* Numbers in parentheses are as per the List of Classified Research Studies.

In some ICDS blocks information and education regarding immunization was imparted by medical and paramedical personnel but it was not effective. Many AWWs, by and large, had fair to poor knowledge about the immunization schedule. Padmanabhan (1985) observed that private practitioners were more effective in advising parents regarding the immunization schedule and the services provided were much better. The parents and grandparents were more knowledgeable regarding immunization in an ICDS block than those in a non-ICDS block. Kanthimathi also reported that most of the mothers lacked information regarding the severity of vaccine preventable diseases and methods of preventing them by immunization. About 90 per cent mothers were aware of the primary doses of immunization but only 50 per cent knew about the booster doses.

Incomplete immunization is as good as not being immunized. It has been observed that the immunization coverage is generally quite good for the first dose of vaccine but gradually for subsequent doses the number of beneficiaries decreases. Patel (1980) found that almost two-thirds children dropped out during the third dose of polio and triple antigen because of febrile reactions following the injection.

In the studies conducted by Khanna (1983) and Kanthimathi, it was found that only 52 per cent mothers adhered to the immunization schedule. The reasons for non-adherence were ignorance, indifferent attitude, lack of awareness regarding immunization schedule and medical advice, non-availability of vaccines, fear of side effects, inconvenient timings and long distances to be travelled by mothers for getting their children immunized.

Only few research studies had reported the prevalence of various vaccine preventable diseases in ICDS projects. High prevalence rate of any of these six diseases is a sure indication of poor coverage of beneficiaries which may be due to non-acceptance of the vaccine, lack of community participation, superstitions, poor implementation of the programme, etc.

Measles vaccine was willingly accepted and was considered to be safe and effective (Basu, 1982). The parents were cooperative and differences in their socio-economic status and literacy level did not seem to affect the acceptance of measles immunization programme (Subramanyam, 1984). The incidence of measles was low in an ICDS area and measles vaccine efficacy rate was 81 per cent (Mazumdar). Basu (1982) also reported high morbidity among children not vaccinated against measles.

In a few cases, side effects due to administration of measles vaccine were noticed. Basu (1982) observed that after the measles vaccine was administered about 16 per cent children were reported to have developed fever, bronchopneumonia and diarrhoea. Subramanyam (1984) observed maximum reactions in children in the age group 17-20 months, followed by those in the 13-16 months age group. The reactions were more among malnourished and female children.

Polio is the leading cause of lameness in children. In India, the prevalence rate of poliomyelitis was comparatively lower in an ICDS area (2/1000) than in a non-ICDS area (4/1000). Pulse immunization against polio was found to be effective as it ensured herd immunity. Due to this, the coverage was over 85 per cent as it created awareness among parents and health workers; gave doctors, medical students and paramedical staff first-hand information about field conditions and helped them in establishing rapport between the mothers and the health workers (Santhana-krishnan, 1985).

In another study conducted by Vidya Prakash (1985) it was found that the prevalence rate of poliomyelitis was 7.9 per 1000 children. Most of the children contracted the disease between 7-18 months of age. After the launching of the polio immunization campaign the incidence of poliomyelitis was reduced from 1.05 per 1000 in 1979-81 to 0.59 per 1000 in 1982-84.

The approach of mass immunization through organized camps was reported to be successful in the case of tuberculosis as well (Kanthimathi).

There is not much research data available from these studies to assess the immunization coverage of expectant mothers against tetanus. Annual survey reports of CTC, AIIMS do report that there is an increase in the immunization coverage of expectant mothers. Deb (1982) and Sunderlal (1981) observed that 78 per cent and 47 per cent expectant mothers were immunized against tetanus in ICDS blocks respectively. Gupta (1978) reported that the coverage of expectant mothers was better in rural areas (46%) than in the urban slums (33%).

The research studies also revealed that health functionaries faced many problems while implementing the immunization programme such as irregular supply of vaccine, lack of transport, defective refrigeration and frequent load shedding, etc. In spite of all these hazards, the records maintained in an ICDS block were complete. The immunization records in non-ICDS areas were incomplete as these only indicated the coverage of immunization under each dose. In an ICDS block, there was a date and dose-wise immunization record of all the children. (Khanna, 1983).

To sum up, it may be concluded that the coverage of beneficiaries under the immunization programme is still much below the target. There is a need to strengthen this component by imparting education and information on immunization to the community through mass media; informing the parents in advance about the date of immunization; regular surveillance of the immunization programme; ensuring adequate and timely supply of vaccines and improving the working of the cold chain system.

The research conducted on immunization is inadequate. There is a need to monitor the immunization status of ICDS beneficiaries regularly and the data collected may be used to assess the impact of this service on the beneficiaries. Research is required to assess the prevalence rate of diseases, morbidity and mortality pattern of the beneficiaries and efficacy rate of vaccines. Delivery of vaccines, health education and training of staff also needs attention of the researchers.

## Feasibility of an Immunization Programme Against Measles in the Community

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### KEY WORDS

Immunization, Measles, Effectiveness, Urban ICDS Block

**Objectives:** The study was undertaken to find out the feasibility of an immunization programme against measles in the community and to assess its efficacy in the existing circumstances.

**Duration:** September 1980-April 1982

**Methodology:** The study was conducted in the urban ICDS block, Beliaghata, northern Calcutta, West Bengal. One hundred and seventy-seven children in the age group 9-23 months constituted the sample, of which 44 were included in the experimental group and 66 in the control group. Children in both the groups were matched for their socio-economic status, nutritional and immunization status, age and sex ratio. In the experimental group, 51.4 per cent children were male and the corresponding figure in the control group was 51.5 per cent. The sample did not include children who had measles in the past or had been vaccinated against any disease within a month.

A dose of measles vaccine (Rimevax 0.5 ml) was administered to the children of experimental group by subcutaneous injection. After vaccination, they were observed for a week to record any untoward reaction. Monthly home visits were made for medical check-up of all the children. These children were also followed up for a period of two years to note episodes of different illnesses.

**Major findings and conclusions:** A significant difference was observed between the two groups regarding the incidence of measles. In the experimental group, only 7 children (7.9%) developed measles subsequently, one of them had measles within a week of vaccination. Twenty-five children (37.9%) of the control group had measles during the follow-up period.

2. Measles vaccine efficacy rate was found to be 81 per cent.
3. In the experimental group only 16.2 per cent children developed any illness within a week after receiving the measles vaccine. These were cough (1.7%), fever (10.8%), bronchopneumonia (0.9%) and diarrhoea (3.8%).
4. During the entire period of the follow-up, incidence of measles was significantly lower in the non-vaccinated group as shown in the following table.

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## Health : An Overview of Research Findings

Health is a prerequisite as well as an integral part of human development and neglecting health component in development can lead to deterioration in the environment affecting all aspects of the quality of life. India is committed to attain the goal of Health for All by the year 2000 A.D. through the universal provision of a comprehensive primary health care service with focus on mother and child as a single biological and social unit.

ICDS aims at enhancing the child survival rate by improving the nutritional and health status of children and expectant and nursing mothers through a package of services including health care. Health component of ICDS comprises health check-up, referral services, immunization and nutrition and health education. Health check-up of the beneficiaries includes health care of children under six years of age, antenatal care of expectant mothers and post-natal care of nursing mothers. The various health services provided for children by AWWs and PHC staff include regular health check-up, recording of weight, immunization, detection of malnutrition, treatment of diarrhoea, deworming, etc.

A review of the reported research work on health component of ICDS indicates that it has been extensively surveyed, but very few studies have assessed the health status completely. The important indicators of health status include items relating to functional abilities and quality of life and may be classified as mortality indicators, morbidity indicators, utilization of health care services, indicators of social and mental health and indicators of quality of life. To assess the health status of ICDS beneficiaries an attempt has been made to collate the findings on the health indicators available from the studies classified under various sections.

*Mortality Status* : Mortality indicators are one of the most important health indicators. In most of the developing countries, infant and childhood mortality can be reduced with low-cost-interventions like growth surveillance of small children, oral rehydration therapy, breast-feeding, better weaning practices, food supplements, immunization and family planning. Mortality is measured quantitatively through death rate, infant mortality rate, age-specific childhood mortality, still birth, expectation of life, maternal mortality rate, etc.

Many researchers have reported mortality rates in ICDS blocks and have identified the causes leading to infant and early childhood mortality. The birth rate and infant mortality rate in a few ICDS blocks were as given in the following table.

Table 3.1  
Birth rate and mortality status in ICDS blocks

Author Year	Birth rate	Death rate	IMR	MMR
Sunder Lal (3.3)* 1983	31.5	11.8	107.5	—
Aswath (3.3) 1984	23.4	2.8	59.7	0.0
Kamala (3.3) 1984	15.6	—	40.7	0.0
Suri (3.3) 1985	25.0	8.0	58.6	—
Sunder Lal (3.4) 1985	—	—	96.0	—
Subrahmanyam (3.5) 1985	—	—	86.0	—
Swami Saran (3.5) 1985	—	—	55.3 (0.3 months)	—
Janardhan Reddy (3.3) 1985	26.8	8.7	95.4	—
Mandowara (3.3)	—	—	202.5	—

\* Numbers in parentheses are as per the List of Classified Research Studies.

In an ICDS block, 50 per cent of the total deaths were of infants only (Aswath, 1984), the maximum being in the first month of life (Subrahmanyam, 1985). About 38 per cent infants died on the first day of birth (Swami Saran, 1985) and 51 per cent during the neonatal period (Mandowara). The causes of death in neonatal period were asphyxia-neonatorum, septicaemia, (Mandowara) respiratory disorders, low birth weight and jaundice (Kamla, 1984) whereas post-neonatal deaths were due to pneumonia, diarrhoea, (Mandowara), gastroenteritis, respiratory disorders, fever/fits, low birth weight, malnutrition, measles, brain fever, jaundice and cholera (Kamla, 1984).

The perinatal mortality rate was found to be 80.4. High perinatal loss was found in the maternal age group below 20 years and above 34 years amongst primiparae mothers beyond fourth para and those who did not receive any antenatal care. Perinatal mortality was directly related to twin pregnancy, prematurity, previous pregnancy wastage, failure to identify high-risk pregnancies and their inadequate management and maternal problems such as anaemia, pre-eclamptic toxemia, antepartum and haemorrhage and hyperpyrexia (Mohapatra, 1981).

Malnutrition had been reported as the major cause of infant mortality in studies conducted by Jugal Kishore (1983), Sunderlal (1983), Tandon (1983) and Thakur (1984). The other common causes of infant mortality were fever, respiratory infections, diarrhoea, prematurity and pneumonia (Sunder Lal, 1983; Aswath, 1984; Subrahmanyam, 1985; Swami Saran, 1985). High IMR was also due to non-utilization of referral services by mothers as they were reluctant to hospitalize their infants suffering from malnutrition and measles. But in spite of this the perinatal and infant mortality had decreased in ICDS blocks due to good antenatal care, referral of high-risk pregnancy cases to hospitals, surveillance of morbidity in infants, etc. (Kamla, 1984).

However, in another ICDS block IMR was found to be low in the sample covered, but it was mainly due to poor reporting, ignorance and illiteracy prevailing in the area (Aswath, 1984).

Age-specific mortality reported in few studies was found to be closely associated with poor living and environmental conditions. In the age group 1-3 years, the mortality rate reported by Subrahmanyam (1980) was 20 per thousand live births whereas according to Sunder Lal (1983) it was 16.3 per thousand live births and was almost double (8.1) the mortality rate of children in the age group 3-6 years. The various diseases leading to early childhood mortality were fever, prematurity, diarrhoea, respiratory infections, tetanus, accidents, severe malnutrition and gastrointestinal infections (Sunder Lal, 1983; Seth, 1979).

**Morbidity Status:** Morbidity indicators are preferred to mortality as the latter do not estimate the sickness load and disability that precedes death. In many chronic conditions of low fatality, mortality statistics are not of much use and one has to depend on morbidity statistics. Morbidity is measured in terms of persons who are ill, episodes of sickness and duration of sickness. The frequency of the indicators of illness is estimated in terms of incidence and prevalence rates.

The childhood diseases prevalent in ICDS blocks were affected by innumerable social, cultural and biological factors. The data available from the studies in relation to the incidence and prevalence of diseases was inadequate and not reported in a systematic manner. The studies related to diarrhoeal diseases and worm infestations have been reviewed separately in this section.

Many children suffered from more than one illness simultaneously or remained sick at one time or the other. (Sunder Lal, 1985; Bansal, 1978; Subrahmanyam, 1985). It was observed that 54 per cent diseases led to loss of weight among infants; the maximum being due to diarrhoea (Swami Saran, 1985). The frequent occurrence of diseases also led to retarded growth (Sunder Lal, 1985). Interesting seasonal variations were also observed in the morbidity pattern. The incidence of diseases was high during summer and rainy seasons (Allahabadi, 1978; Subrahmanyam, 1985). The common causes of morbidity among neonates were diarrhoea, jaundice, fever and cordsepsis (Nasir, 1986) whereas among pre-school children malnutrition was the major factor responsible for mortality and morbidity followed by gastrointestinal and respiratory infections (Seth, 1979).

On the other hand the most common diseases prevalent among children were malnutrition, diarrhoea, respiratory infections, viral fever, gastro-intestinal disorders, followed by skin infections, worm infestations, anaemia, vitamin A

Table 3.2  
Childhood morbidity in ICDS blocks

Name of the disease	Percentage of children suffering from various diseases													
	Prasad (7.2)** 1985	Swami Saram (8.5) 1985	Devidas (7.2) 1985	Khand- kar (3.5) 1982	Suhrajanyam (8.5) 1985	Bansal (5.5) 1978	Seth (3.3) 1979	Udani (4.5) 1978	Joshi (3.1) 1977	Kumala- nathan (3.1) 1981	Prabhu- kara (3.1) 1981	Ellaha- badi (3.5) 1978	Nair (4.2) 1986	Mandowara Piniya (3.5) 1985
Respiratory diseases*	24.9	24.7	15.0	20.6	15.4	9.2	8.5	16.7	51.0					
Fever														
Diarrhoea		22.7		4.0	28.8	29.3	5.5							
Viral infection				37.4										
Pyrexia					20.0	23.5								
Minor infections and injuries					24.7	30.5			24.0					
Skin infections						5.8	7.7							
Eye infections							22.7							
Eg dysplasia							9.3							
Worm infestations						10.0	10.0	4.8	46.0					
Polio							0.8							
Scabies								12.2						
Anemia			5.0											
Vitamin A deficiency			5.0					38.0	10.0					
Gastro-intestinal infections									11.0					
Malnutrition			4.0											12.0

\* Indicates the prevalence of the disease; percentage of prevalence of disease was not reported.

\*\* Number in parentheses are as per the use of Classified Research Studies.

deficiency, etc. Table 3.2 gives the causes of childhood morbidity as reported in various research studies.

The incidence of morbidity was influenced by nutritional status, literacy rate, age, income, occupation, and birth order (Ellahabadi, 1978). The episodes of sickness per child ranged between 1.0 to 7.0 in ICDS blocks. There were certain age-specific variations in the morbidity pattern. The duration and incidence of sickness was maximum among infants and more among children in the age group 1-2 years than 2-3 years.

**Diarrhoeal diseases:** Diarrhoea is one of the important components in the complex web of childhood ill-health and a major health problem especially among children below five years of age. Diarrhoeal diseases and malnutrition are inextricably linked as major causal factors contributing to childhood mortality. Diarrhoea aggravates malnutrition, and which itself is a contributing cause to the high number of deaths associated with diarrhoea during childhood.

In ICDS blocks, detection and treatment of diarrhoeal diseases by promoting use of ORS is one of the services provided under the health component. The research data available highlights the fact that diarrhoea is prevalent in ICDS blocks and is the major factor for high morbidity. The maximum number of diarrhoeal diseases were prevalent in a village where a majority of the population belonged to Scheduled Castes and Scheduled Tribes (Vasundhra, 1984). The incidence and fatality due to diarrhoea was higher in infants than children in the age group 1-3 years (Sunder Lal, 1985). The various factors associated with diarrhoea were teething, weaning, unhygienic dietary practices, eating heavy food and change of seasons (Sunder Lal, 1983).

Experience shows that food should not be withheld from infants and children with acute diarrhoea. However, the beliefs and taboos prevalent in the community do impose certain restrictions on the diet of children suffering from diarrhoea as well as that of nursing mothers. Mothers preferred to give small quantities of cold and easily digestible foods like *khichri*, curd, banana, wheat porridge, etc. to the children and avoided roti, milk, buttermilk and fried foods. Nursing mothers were not allowed to eat pulses, vegetables, groundnuts, beans, etc. (Sunder Lal, 1983).

AWWs play a crucial role in disseminating knowledge about ORS and in the management of diarrhoea at the village level. It was reported that 95 per cent children suffering from diarrhoea were managed by AWWs. As mothers need to be actively involved in the treatment of diarrhoea, they were advised by AWWs regarding practices to be carried out during the episodes of diarrhoea (Sunder Lal, 1985). As a result, a significant improvement was observed in their knowledge and attitude regarding management of diarrhoea (Vasundhra, 1984). About 17 per cent cases of diarrhoea were managed by mothers. In the treatment of diarrhoea, 25 per cent mothers utilized ORS packets, 42.5 per cent preferred home-made salt and sugar solution and 63.8 per cent gave plenty of fluids. Only 24.4 per cent mothers used herbal and allopathic medicines (Sunder Lal, 1985). A significant reduction in the number of diarrhoea cases was observed in an ICDS block; the percentage of children suffering from the disease decreased from 26.5 to 7.5 over a period of one year during which ICDS programme was being implemented.



In sum, diarrhoea is both an infection and a nutrition problem. To make rehydration effective, there is a need to bring about a change in the attitude and practices of not only mothers but also of health functionaries. Specialists with the help of sound communication and mass media programmes may also involve nutrient enrichment of the electrolyte solution, promotion of breast-feeding, sound feeding practices during diarrhoea and improvement in personal and household hygiene, water and sanitation. There is a need to have an exhaustive research on beliefs and taboos prevalent in society related to diarrhoea management. Accurate statistics related to prevalence of diarrhoeal diseases, causal impact of ORT, etc. are also needed to prevent a large number of deaths due to disease.

**Worm Infestations :** Prevalence of worm infestations is attributed to poor personal hygiene, unsatisfactory environmental sanitation, faulty food habits, unavailability of clean water, poor health education, etc.

The findings of the research studies available revealed that the prevalence of *Ascariasis* infestation was the highest followed by roundworms, *Enterobius vermicularis*, *Strongyloides stercoralis*, *Ankylostoma duodenale* and *Ascariasis*. Some of the children were also suffering from more than one kind of worm infestation. Roundworm and *T. Trichura* infestations were maximum in double infection and roundworm, *T. Trichura* and hookworm infestations were found in triple infection (Prabhakara, 1984; Aswath, 1982; Narmada, 1982; Khobragade, 1982).

Age and sex-wise differences in the incidence of worm infestations were reported; it was maximum among male children and those in the age group 4-6 years. Triple infection was not seen in children below the age of four years (Aswath, 1982). However, according to Khobragade (1982), maximum worm infestations were in the age group 5-10 years (24.1%) and minimum in 10-15 years (17.1%).

The prevalence of parasitic infestations was high among children from large families, low socio-economic status group and having poor environmental sanitation. It was also more among children who were non-vegetarian, bare footed (58%), were using well water and not using latrine facilities (51.9%) (Khobragade, 1982; Aswath, 1983; Prabhakara, 1984).

Worm infestations were detected by using special techniques. The Formalin Eosin Sedimentation Technique was found to be the best method of stool examination as it gave high positive percentage (78.6%) as compared to Direct Examination (69.9%) and Salt Floatation Technique (72.2%) (Aswath, 1983).

**Childhood disabilities :** At present, disability of one kind or the other afflicts a large percentage of children. In sheer size, the challenge of disabilities is next only to poverty. But when one thinks of the high per capita cost of institutional facilities for treatment, education and rehabilitative care and the magnitude of the problem, one comes to the conclusion that only a few could be helped and receive the facilities available. The common childhood disabilities are either physical, mental or psychological. Extensive studies have reached the conclusion that most of the impairments occurring among children can be prevented as they are caused by inadequate nutrition, faulty child rearing practices, preventable diseases and avoidable accidents.

AWWs in ICDS blocks are also responsible for early detection of disabilities among children. ICDS scheme provides immunization to protect the children from half a dozen diseases which lead to various types of handicap.

The available research studies related to childhood disabilities are limited. These have reported the prevalence of one type of disability or the other in a few ICDS blocks. The prevalence of disability in an ICDS block was 12.8/1000 children, the maximum being in the age group 2-3 years and among male children (Chawla). About 15 per cent children were found to be handicapped in an ICDS project area (U'dani, 1978). In another study 53 children were identified as physically handicapped (Kamla, 1982). Among the various types of physical disabilities, orthopaedic disability was maximum (77.7%) followed by speech (7.2%), visual (6.7%) and hearing (2.4%) (Chawla). Nearly 76 per cent of the disabilities were acquired and 24 per cent were congenital. However, leprosy was prevalent among children to the extent of one in 2,000 (Chandra P., 1984); the prevalence rate among rural children was 22.9 per thousand and that among the urban 23 per thousand (Rao, 1981). Only 0.2 per cent children and youth were identified as mentally handicapped. The cases of mild mental handicap and scholastic backwardness were not included in the sample surveyed.

The major causes of physical disabilities were poverty and ignorance (Chawla) and that of mental handicap were birth-anoxia, encephalitis, Down's syndrome, microcephaly and cretinism (Mathur, 1982).

Experts are of the view that a large number of children not immunized become disabled, usually for life, through brain damage, paralysis, stunted growth, deafness, blindness, etc. ICDS lays special emphasis on immunization of children. In an ICDS project, mass immunization was found to be effective in reducing the incidence of poliomyelitis.

Parents education and involvement is important in implementing any welfare programme for handicapped children. Mathur (1982) observed that parents were neither aware of special schools for mentally handicapped children nor were they advised to educate their children or give them any vocational training.

Tehal Kohli (1983) evolved a portage training programme for developmentally handicapped infants. The training had a positive impact on the Development Quotient of the infants and on bringing about a change in the attitude of the parents towards their handicapped infants. All the mothers were satisfied with the portage service as they found it quite helpful. It was found that out of 103 tasks, ninety-seven were learnt to the desired criterion by the handicapped infants and 11 infants in the experimental group attained success in all the skills set during the training period.

In sum, the childhood disabilities are prevalent but the data related to their incidence, prevalence, causative factors and the services provided is extremely inadequate. There is a need to promote research in this area.

**Children at risk :** Low birth weight is the single most crucial determinant of the chances of the newborn to survive and experience healthy growth and development. Low birth weight babies (weight below 2,500 g) are at risk during the entire period of their childhood. The other important indicators of children at risk are malnutrition, more than five siblings in a family, recurrent diarrhoea and respiratory infections.

more than two infant deaths in the family, one of the parents sterilized, failure of breast-feeding, twins, parental deaths, etc.

There is enough research evidence to indicate that low birth weight remains the leading cause of perinatal and infant deaths. Low birth weight is mainly attributed to maternal malnutrition and anaemia. The other contributing factors are closely spaced pregnancies, antenatal infection, shorter gestation period, etc. Sunder Lal (1984) observed that low birth weight was high in economically weaker sections of the community and in high birth order.

Only a few research studies on ICDS have reported the birth weight of the babies. In an ICDS block, 3.4 per cent infants weighed less than 2,000 g, 24 per cent less than 2,500 g and 43.5 per cent weighed between 2,500-3,000 g. On an average the rate of growth was favourable upto six months and thereafter it faltered (Sunder Lal, 1985). In two ICDS blocks the mean birth weight of infants reported were 2.8 kg and 2.7 kg respectively (Nasir, 1986; Sunder Lal, 1984). Nasir also identified 183 high-risk neonates, of which 70 had low birth weight and 15 per cent were of fifth or higher birth order. The mortality risk was found to be five times more in infants weighing less than 2000 g as compared to infants weighing 2,500 g or more (Sunder Lal, 1984). It was reported that about 48 per cent deaths occurred in low-birth-weight babies (Sunder Lal, 1984).

Sunder Lal (1978) identified 43.4 per cent children at risk due to severe PEM and 56.6 per cent due to other factors, like more than five siblings in a-family, recurrent diarrhoea and respiratory infections, etc.

Nutritionally at-risk expectant mothers are likely to deliver low-birth-weight babies. Mohapatra (1981) evolved a simplified scoring system to identify expectant mothers at risk and observed a significant direct correlation between high-risk scores and perinatal mortality.

There is hardly any data available related to low birth weight babies. Research should be undertaken to assess the number of children at risk, their growth pattern, the causative factors, skills of ICDS functionaries in identifying at-risk children and the impact of services available to reduce low birth weight. Constant monitoring of low-birth-weight babies and other children at risk can help in introducing effective preventive measures.

**Population education :** In this era of population explosion, a child welfare and survival programme can be successful only if services in family planning and maternal and child care are delivered to the community in an integrated manner. When the parents are ensured of the survival of their children, the number of births gradually decreases.

ICDS functionaries impart population education to the mothers during HNE sessions and home visits. In a study conducted by Bhatnagar (1982) efforts were made to integrate population education with functional literacy classes, HNE classes and home visits after training ICDS functionaries. Jain (1986) reported that due to training of ICDS functionaries in integration of population activities in anganwadis, community members developed a positive attitude towards the family planning programme. There was an increase in the number of family planning acceptors and a majority of community members preferred to have small families so that they could fulfil the basic needs of their children.

**Health Status of expectant and nursing mothers :** Pregnancy and lactation are the periods of physiological stress with an increased requirement for most of the essential nutrients. Expectant mothers need to be given regular health check-up and dietary supplementation as foetal growth and development puts a great strain on the maternal nutrition resources. Nutrition constraints during this period have direct bearing on the birth weight of the infants which is a major factor responsible for high perinatal and infant mortality and impaired physical growth. Similarly, adequate nutritional status of nursing mothers has the desired impact on the development of infants. Under ICDS scheme, expectant and nursing mothers are given regular health check-up and supplementary nutrition.

A review of the research available indicates that very few researchers have assessed the health status of expectant and nursing mothers. It was observed that a majority of mothers were aware of the significance of antenatal care (Naurajan) and most of the deliveries were conducted in the hospitals. (Kamla, 1984; Mohapatra, 1981; Aswath, 1984; Naurajan, Joshi, 1985; Sunder Lal, 1983). However, in another ICDS block, expectant mothers had only 2-3 antenatal examinations instead of five (Kamla, 1981).

TBAs were mainly responsible for natal care in the rural areas and in many cases unhygienic delivery practices were followed due to lack of appropriate facilities and equipment (Joshi, 1985). Sunder Lal (1983) observed that over 90 per cent TBAs washed their hands and sterilized the equipment required during child birth but only 10 per cent TBAs tied the cord with sterilized thread.

ICDS functionaries are trained to identify expectant mothers at risk so as to provide them therapeutic nutrition and timely referral services. Yajnik (1984) prepared a slide set showing mothers at risk to guide paramedical workers in identifying such cases. These slides were found to be effective and the author had already supplied 12 sets to ICMR.

**Referral Services :** The aim of referral services is to provide adequate medical care to the beneficiaries depending upon the seriousness of their disease and also to follow up cases that have been treated or given medical attention at appropriate levels.

Referral services provided in ICDS programme have not been surveyed by researchers. In an ICDS block, the major referral services rendered were related to PUO, LRTI and health and antenatal check-up. Children suffering from common diseases were also referred to the hospital as the health personnel at the grass-roots level lacked adequate knowledge regarding their treatment (Naurajan, 1985).

Medical Officers were of the view that at the village level the referrals between ANMs and AWWs for malnutrition and ailing cases should be done through referral cards. ANMs must refer the cases to the doctors in case there is no improvement rather than persist with their own treatment. Severely malnourished children should be referred to MOs at PHCs or to specialized hospitals. (Ramniyata Kumar, 1978).

As is evident, many crucial indicators of health status have been surveyed but there are hardly any studies that give complete health status of the beneficiaries. There are certain areas like referral services, delivery and cost effectiveness of services rendered, prevalence of deficiency diseases, incidence of vaccine preventable diseases, etc. which need the attention of the researchers. Further, the health status of expectant and nursing mothers has not been reflected adequately.

There is a need to have more qualitative and quantitative data on all the health indicators to assess the impact of the programme and to introduce the necessary modifications in the delivery of services to enhance child survival rate.

## HEALTH STATUS OF ICDS BENEFICIARIES

### An Epidemiological Survey to Assess the Health and Nutritional Status of Pre-school Children in a Rural Community of Kathura Block, District Rohtak

V S Joshi, V P Sood, Y L Vasudeva, \* Sunder Lal

#### KEY WORDS

Health and nutritional status, Immunization, Rural ICDS block

**Objectives :** The study was undertaken to assess the health and nutritional status of pre-school children in a rural community.

**Duration :** July 1976-February 1977

**Methodology :** The study was conducted in the rural ICDS block Kathura, district Rohtak, Haryana. A sample of 632 children below six years of age was selected randomly. The health and immunization status, including parasitic infestations and haemoglobin level, were assessed by clinical and laboratory examinations. The nutritional status of the children was assessed by using weight-for-age index and the nutritional grading was done as per the Harvard Standard. Parents of the children were interviewed to find out their economic status and literacy level.

**Major findings and conclusions :** The immunization coverage for DPT and polio was 16.2 per cent and 0.1 per cent respectively.

2. Mean weight for various age groups was much below the standard measurements. Only 27.8 per cent children were found to be normal and the percentage of children suffering from PEM Grade I, II and III + IV was 32.0, 28.7 and 1.8 respectively. The intake of protein was also found to be low.

3. About 58 per cent children were anaemic and 46 per cent had parasitic infestations, the most predominant being *E-histolytica*, giardia, round worms and hookworms.

**Recommendations :** Adequate supplementary nutrition and nutrition education should become an integral part of ICDS. Deworming and iron supplementation programmes should be undertaken on a regular basis as short-term measures.

**Publication Details :** Unpublished.

## Health and Nutrition Education : An Overview of Research Findings

Health and nutrition education (HNE) is a tool to enhance the level of awareness of individuals and thereby bring about a change in their behaviour for the protection and promotion of their health and well-being. It has been well accepted that increase in the health and nutrition knowledge of the community is an effective strategy to prevent malnutrition and enhance child survival rate. HNE, an integral part of ICDS, is imparted to expectant and nursing mothers and women in the age group 15-45 years by ICDS functionaries, Medical Officers and ANMs.

It is very important that these messages should be simple, appropriate and down-to-earth based on the needs of the people so that they could be easily adopted. In the context of ICDS, HNE aims at effective communication of certain basic health and nutrition messages with a view to enhancing the mother's awareness of the child's need and her capacity to look after him within the family environment. The various HNE messages imparted to ICDS beneficiaries are related to infant feeding practices, immunization, utilization of health services, family planning and environmental sanitation. In spite of the fact that HNE is an important service provided under ICDS and has the potential of bringing about a directional change in the attitude and practices in the community, it is not being implemented effectively. It has not yet received due emphasis in the job curriculum of ICDS functionaries. As is evident, the research conducted in this area is quite inadequate but the research findings available have supported the fact that HNE can make the community aware of their health and nutrition problems.

It was observed that the mothers who had received health and nutrition education showed significant improvement in their knowledge, attitude and practices regarding infant feeding, deficiency diseases and hygiene and sanitation as compared to mothers who had not received HNE (Mushtari Begum).

The health and nutrition practices in a community were affected by level of education, income and types of occupation of the respondents (Nair, Mushtari Begum). In an urban ICDS block, use of ORS and management of diarrhoea was influenced by literacy rate and traditional beliefs and taboos prevalent in society (Rajagopal, 1985).

Health education was imparted to mothers mainly by doctors, neighbours and primary health workers. It was found that the messages given by private practitioners were more effective (Rajagopal, 1985). It was felt that when local leaders were involved in the programme the public was more receptive to health education (Sunder Lal, 1978).

To a large extent, successful delivery of HNE component depends upon the attitudes and skills of ICDS functionaries. It was reported that HNE was rarely conducted by AWWs. Only a small percentage of AWWs were rated satisfactory on skills in planning and implementation of HNE (Sharma, 1986). Sunder Lal (1978)

found that only 15 per cent AWWs were imparting HNE with enthusiasm while the performance of others was either average or they had indifferent attitude towards work. Pramila in her study also corroborated the fact that tremendous efforts were required to motivate ICDS functionaries to organize methodical health education programme. It was observed that the time spent by tribal AWWs on HNE was less than 10 per cent of the total time spent in other activities. Of the various messages recommended by ICDS, the two commonly given messages were 'use the available health services' and 'improve personal hygiene' (Seshadari, 1986). Experience says that teaching aids enhance the learning process. Anganwadi workers are provided with training kits to impart HNE effectively. Sunder Lal (1978) reported that 50 per cent ANMs and AWWs did not use any aids for imparting HNE in spite of the fact that adequate educational material was available in the anganwadis. However, Seshadari (1986) was of the view that teaching materials with AWWs for HNE were inadequate and ineffective as aids.

ICDS functionaries and ANMs are given job training and in-service training from time to time to improve their knowledge and skills. Sunder Lal (1978) observed that in his study the basic training imparted to ANMs was not satisfactory. Of the four month training period, only 15 days were spent on HNE and this time was spent mostly in preparing educational aids rather than developing communication skills. Moreover, the trainers of ANMs had no knowledge about their job responsibilities in the rural areas and the training imparted was more medical oriented whereas the work in the village was field oriented. Supervisors and AWWs also reported that they had not received any in-service training in nutrition and health education (Seshadari, 1986).

In sum, we may conclude that the HNE component of ICDS needs to be strengthened. The assessment of the component needs to be done both qualitatively and quantitatively. The role of training, use of mass media and the contents need to be further reviewed and analysed to make the component effective.

## Nutrition Knowledge, Attitudes and Practices of Rural Mothers Trained by Anganwadi Workers

• J Mushtari Begum, V Malathi

### KEY WORDS

Health and nutrition education, KAP, Training, Urban ICDS block

**Objectives :** The study was undertaken to assess the knowledge, attitudes and practices of mothers who had received training in health and nutrition education from AWWs and compare it with those who had not undergone any training.

**Duration :** Not available.

**Methodology :** The study was conducted in the urban ICDS block Anekal, district Bangalore, Karnataka. The sample comprised 80 mothers. Health and nutrition education was imparted by AWWs to mothers whose children were attending the anganwadis. AWWs in turn were trained by Department of Community Medicine, St. John's Medical College, Bangalore. A pretested questionnaire covering both nutrition and health aspects was administered to all the mothers.

**Major findings and conclusions :** There was a significant difference in the knowledge of the trained and untrained mothers on certain aspects like hygiene, sanitation and deficiency diseases.

2. There was also a significant difference in the attitude of the trained and untrained mothers on certain aspects like dietary habits of the family, deficiency diseases and infant feeding practices.
3. There was a significant improvement in general health practices, hygiene and sanitation after the training.
4. Nutrition knowledge and practices were influenced considerably by associated socio-economic factors in both the trained and untrained mothers. Attitude towards nutrition was not associated significantly with any socio-economic factor.
5. Nutrition knowledge and practices were significantly correlated with each other. Hence, the training imparted by AWWs had some impact on mothers.

**Recommendations :** Incentives should be provided to AWWs so that they have job satisfaction.

2. Refresher training in nutrition should be given to AWWs from time to time.

**Publication Details :** Unpublished.

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## Early Childhood Development and Education: An Overview of Research Findings

'Catch them young' is the proverb for inculcating the appropriate traits in children as early childhood is the period of rapid growth and development. The faculties of child's physical, mental, emotional and social development are all at their peak growing curve in the first 2-3 years of the child's life span. The period is more commonly known as the pre-school years, the most formative stage and, therefore, also the most important span to inculcate the desirable traits for the child's balanced overall development. Therefore, the National Policy on Education has placed high priority on Early Childhood Care and Education and has emphasized on its integration into ICDS programme. Thus, pre-school education has become an important intervention in programmes for pre-school children. ICDS is the largest programme of early childhood development with non-formal pre-school education as its most important social component. It not only emphasizes on all round development of the child but also prepares the child for formal schooling and helps in reducing the wastage and stagnation at the primary stage. Pre-school education is imparted to the children in the anganwadis by AWWs using non-formal play-way methods of learning. With the expansion of ICDS, the number of children attending pre-school has increased from 74, 564\* in October 1976 to 56,86,310 in December 1988.

Only a few research studies have been conducted in relation to pre-school education and child development in ICDS blocks. One of the reasons may be that it is comparatively difficult to assess the psycho-social development of children. However, the studies related to the subject have indicated improvement in the educational and developmental status of children in ICDS areas.

The role of pre-school education in improving scholastic performance was reflected in the study conducted by Sunder Lal (1981). It was observed that pre-school education resulted in higher enrolment as 70 per cent children who had received pre-school education were enrolled in the primary school. The enrolment of male children and those from higher castes was slightly better than female children and those from lower castes. Once in school, the majority of these children were well adjusted as compared to other children.

Pre-school education also brings about an improvement in the various inter-related dimensions of child development such as social, emotional and cognitive development. Although there is some evidence to show that malnutrition hampers cognitive development, yet it is difficult to determine the extent of its adverse effects. Muralidharan found that in the age group 3-5 years, there were significant

\* Source ; India, Ministry of Human Resource Development, Department of Women and Child Development, Status Report of the ICDS as on 30th December 1988.

differences between cognitive and language abilities and anthropometric measurements of children, such as weight, height, mid-arm circumference and head circumference. Sahni reported that the cognitive abilities of children could be improved with intervention programmes. Hunshal (1979) observed that cognitive and social development of urban children was comparatively better than that of rural children and it was related to variables like educational and occupational levels of the parents.

Play has its own importance in the life of a child. It enhances physical, intellectual, emotional, social, aesthetic, motor, language and attitudinal development. It is through play that children learn to explore, construct, create and also destroy. There is only one study to report that play was considered extremely essential by pre-school teachers in various types of pre-schools like anganwadis, nursery schools, and laboratory nursery schools. All the laboratory nursery schools, 37 per cent nursery schools and 40 per cent anganwadis had sufficient space to play (Seshama, 1985).

Socialization, education and training facilitates acquisition of socially desirable behaviour in children. Behaviour problems arise in children generally because of conflicts and experiences during early childhood. The number of children exhibiting behaviour disorders is increasing and these problems are as numerous as diverse. Abrol (1985) found that on an average three children per anganwadi exhibited symptoms of behaviour problems and they were more among girls (54%) than boys (46%). It was also reported that to reduce the severity of these problems there is a need to educate parents to enable them to identify the signs and causes of deviant behaviour in their children and seek timely treatment. The major problems identified were speech, slow learning, mental retardation, shyness/withdrawal, aggressiveness, hyperactivity, hearing problems, temper tantrums, bed wetting, thumb sucking, physical problems, visual and poor motor coordination.

To sum up, it can be said that non-formal pre-school education, a crucial component of ICDS has improved the enrolment and scholastic performance of children, and has had positive impact on their cognitive and language development. If strengthened, it can help in reaching children from the most vulnerable strata of society and enhance their all round development.

The research conducted in this area is not adequate. Studies undertaken have mostly reviewed the programme in a psychological perspective. There is a need to conduct more qualitative research on all the areas related to pre-school education including training, enrolment, retention, achievement, school dropout, facilities and equipment available, time management of anganwadis, etc.

## PRE-SCHOOL EDUCATION

### A Comparative Study of Routine and Modified Anganwadi Programme under Integrated Child Development Services in a Selected Block

Rashmika Gupta, \* S P Rahgir

#### KEY WORDS

Pre-school education, Curriculum, Rural ICDS block

**Objectives :** The study was undertaken to (i) assess the effect of pre-school education on the development of children; and (ii) ascertain the impact of modified pre-school education programme on the progress of their education.

**Duration :** Not available

**Methodology :** The study was conducted in 10 anganwadis of the rural ICDS block Fatehpur Sikri, Agra. One hundred and fortyfive children from five anganwadis constituted the experimental group and 125 children from the other five anganwadis formed the control group. All the children were in the age group 2-5 years and were matched for their performance in the anganwadis.

A modified pre-school education programme was developed and implemented in the experimental group anganwadis for one month while the control group children had their routine pre-school education programme. The ability and performance of the children of both the groups was assessed by the teachers concerned by awarding scores. The "t" test was applied to see the level of significance between the two groups.

**Major findings and conclusions :** The children of the experimental group showed a significant improvement and progress in their learning activities after receiving the modified pre-school education programme whereas those in the control group did not show any significant improvement.

**Recommendations :** Action-oriented activities and audio-visual aids should be used to teach pre-school children.

**Publication Details :** Published: Regional Seminar on Pre-school Education Component of ICDS, Nov. 1984, NIPCCD Regional Centre (Lucknow).

## Community Participation : An Overview of Research Findings

People's active participation and cooperation is the key to the success of a social and developmental programme which is aimed at bringing about a change in the life of the people. To ensure people's participation to the maximum, it is imperative that they are involved in the programme right from its inception and the objectives and services of the programme are interpreted in a manner that enables them to perceive the programme as the one based on their felt needs. Community participation is not an automatic process. It moves at its own pace and requires systematic planned efforts on behalf of the social workers to stimulate and motivate people to actively participate in it.

In ICDS programme, community participation is an essential built-in component. The anganwadi worker is expected to elicit community participation in running the programme, not only to minimize the operational cost, but also to make the people aware of the special needs of children and their mothers, and enhance their capabilities in taking care of them in the family environment.

Community participation, a social component of ICDS, is not subjected to evaluation very easily. The findings of the limited research studies indicate that participation of the community is only marginal or low in most of ICDS blocks and needs special efforts on behalf of ICDS functionaries to elicit community participation to make ICDS programme a success. In the research available, community participation has been mostly assessed by the knowledge of the beneficiaries about ICDS, their perception and extent of participation in the programme. The data available from the research studies is not given in a systematic manner and is also inadequate.

Community members can fully participate in ICDS only when they are aware of the objectives and services provided and have full knowledge of its beneficiaries and mode of implementation. It was observed that women and community leaders had low level of awareness regarding ICDS programme (Sharma Sushma, 1986). In a community only 4 per cent respondents could link the scheme with child welfare and only 9 per cent respondents knew that women in the age group 15-44 years were also among the beneficiary group. They also had limited knowledge about ICDS functionaries and their job responsibilities. However, AWWs and helpers were better known than CPDOs. Further, the level of knowledge was comparatively higher in a rural area than in an urban area (Paranjpe, 1984). The awareness of the community members was maximum regarding supplementary nutrition followed by pre-school education and immunization and that of health functionaries was of immunization followed by supplementary nutrition and prophylaxis programme. (Sharma Sushma, 1986).

However, other researchers (Ramdev, 1982; Sharma A., 1986) found that people were aware of the scheme and had fairly adequate information regarding ICDS functionaries and various categories of beneficiaries but had low knowledge about the activities of other voluntary organizations. Variables like age, caste, type of



family and literacy level had a significant effect on the knowledge of respondents about ICDS (Bhatnagar).

A majority of ICDS functionaries were not able to perceive the importance of community participation (Sharma Sushma, 1986). It was reported that the community perceived non-formal pre-school education as learning of counts through AWW considered pre-school education as a better way to acquire good habits and moral values. It was found that ANMs and LHV's had not understood the purpose of pre-school education (Rajesh Kumar, 1984). In another study, it was observed that pre-school education was the most liked service in all the three blocks surveyed. It inculcated good habits and children could get admission in schools easily (Paranjpe, 1984). Community leaders considered supplementary nutrition only as a means of supplementing the diet of the beneficiaries. However all AWWs, ANMs, LHV's found HNE more useful than supplementary nutrition. In an urban ICDS project, 67 per cent beneficiaries felt that their children did not benefit by supplementary nutrition (Paranjpe, 1984). In another ICDS block the community members had a favourable attitude towards health check-up and immunization. (Rajesh Kumar, 1984).

The level of participation of both the beneficiaries and community leaders was low in rural, urban and tribal ICDS blocks, the highest being in a tribal ICDS block and the lowest in an urban project (Sharma S., 1986). Sharma A. (1986) also observed that participation and involvement of beneficiaries and local organization in ICDS was minimal. A majority of ICDS functionaries had no concept of the importance of community participation. They were of the view that the community could be involved in giving accommodation or motivating people for immunization. However, Paranjpe (1984) observed that participation by way of giving accommodation and assistance was totally absent. According to community members, participation in ICDS was limited to utilization of services rendered. Gandhi (1984) was of the view that in an ICDS block, mahila mandals and youth clubs were actively involved in implementing ICDS programme. They were helping AWWs regularly in all the activities. But Sharma A. (1986) found that very few women were members of mahila mandals and those who were, did not attend the meetings regularly. Ramdev (1982) found that community's involvement in relation to anganwadi activities was minimal although ICDS functionaries agreed that community participation was essential for effective implementation of the programme. According to CDPOs, there was a higher level of community participation in 40 per cent anganwadis, moderate in 20 per cent and low in 25 per cent anganwadis.

ICDS functionaries felt that low level of community participation was attributed to lack of awareness and knowledge of ICDS scheme, ignorance, poverty, lack of time on the part of the villagers, inadequate training of AWWs, lack of transport facilities etc. (Ramdev, 1982).

The factors considered crucial for strengthening and promoting community participation were skills of the worker in eliciting community participation, existence of coordination committees, frequency of their meetings and the involvement of local organizations (Sharma A., 1986).

However, in 15 per cent anganwadis the community did not participate due to inefficiency of AWWs and negative attitude of pradhans and members of mahila mandals (Ramdev, 1982). Over 50 per cent of the potential beneficiaries were not availing the benefits of ICDS scheme because women in the age group 15-44 years were not utilizing the services, anganwadis were at a greater distance from their homes, lack of regular supplies, lack of time, ignorance, poverty, negative attitude of parents towards supplementary food and anganwadis. (Paranjpe, 1984; Ramdev, 1982).

To sum up, the research conducted in this area is too meagre to come to any conclusion. There is a need to draw the attention of researchers towards this important social component of ICDS. There are certain constraints which restrict community participation in ICDS and there is lack of clarity about the concept of community participation. It is important to develop an operational definition of community participation and identify the indicators to measure this social component of ICDS to enable ICDS functionaries and researchers to promote and analyse it effectively. There is also a need to have constant feedback from the community to strengthen this component.

## Impact of ICDS: An Overview of Research Findings

The ultimate aim of ICDS is to produce an impact in the form of lasting benefits to the community by bringing about changes in the well-being of children and their mothers. Impact of a programme is assessed by evaluating the programme objectively and systematically with the help of a set of indicators. It is not an easy task to undertake impact analysis. This is particularly difficult in the absence of clearly defined indicators required to assess the changes which take place in children in the community as a result of the programme inputs; and involvement of various variables which do not yield easily to quantification. Besides this, impact analysis stresses on assessment of the programme at regular intervals, including its cost-effectiveness, utilization of services and welfare of beneficiaries; and highlights the success or failure of the programme.

The Planning Commission and a few researchers have made an attempt to evaluate ICDS as a whole or its isolated services; sometimes even providing conflicting results. From the findings of these studies, it is difficult to generalise the actual impact of ICDS. Nonetheless, the experience of thirteen years of ICDS has indicated that it has the potential to improve the status and well-being of the target population.

In the research available, the researchers by and large have used before-after or experimental-control designs to assess the impact of services. Very few longitudinal studies are available in this section. An attempt has been made to analyse these findings and integrate them. The trends arrived at collating the findings service-wise are presented below.

### *Impact of ICDS on the Nutritional Status of Beneficiaries*

Research studies reviewed under the Nutrition section have indicated that malnutrition was prevalent in ICDS blocks and was attributed to poor socio-economic conditions. Poverty, ignorance of the special needs of children, faulty weaning practices, inappropriate beliefs, etc. have often resulted in providing children with inadequate and poor quality diet by families. Unsatisfactory environmental sanitation combined with limited knowledge of nutrition and health further contributed to the high incidence of infectious diseases, which in turn adversely affected the utilization of nutrients. In almost all ICDS blocks supplementary nutrition was provided but its acceptability and quality has not been fully assessed.

ICDS programme has certainly brought about reduction in the prevalence of malnutrition. It can be said with confidence that though PEM is prevalent in India, it is comparatively less in ICDS blocks (Mehendale, 1982; Masood, 1984; Tandon, 1982; Gupta; J.P., 1978; Krishnamurthy, 1983). Further, studies have demonstrated conclusively that nutritional status of children in ICDS areas is better than those in non-ICDS areas. The scheme has brought significant change in the nutritional status of children and has the potential to enhance it further. Gupta (1982) observed that though the mean values of all the anthropometric measurements of children in ICDS

and non-ICDS groups were lower than ICMR Standard, the values in non-ICDS group were the lowest. Devadas (1982) found significant improvement in the height and weight of children during a repeat survey. Tandon (1978) and Mehendale (1982) reported that in areas where ICDS was already functioning there was a definite improvement in the nutritional status of children.)

The findings presented in Table 7.1 and Table 7.2 support the claim of positive impact of ICDS on nutritional status of children. Figs. 6 and 7 further endorse higher increase in the percentage of normal children and Figs. 8 and 9 indicate decrease in the percentage of severely malnourished children in ICDS areas.

Poor infant feeding practices have a direct bearing on malnutrition and is one of the major problems in social and economic development. Breast-feeding favourably affects child survival by its role in nutrient intake, in birth spacing and in its anti-infective properties specially during the first six months. Infant feeding is further affected by the type of supplements given, age of weaning, and the manner in which they are given. There are only two studies available to compare the infant feeding practices prevalent in ICDS and non-ICDS areas. Prasad's (1985) study has supported the fact that mother's milk was the main source of nutrition for infants as 99.5 per cent infants in the baseline survey and 98.8 per cent during the repeat survey were breast-fed. Gupta (1982) found that the mean duration of breast-feeding was 17.2 months in an ICDS area and 17.4 months in a non-ICDS area, and age of weaning was 11.2 months and 15.4 months in an ICDS and a non-ICDS area respectively. Prasad (1982) further pointed out that the percentage of children weaned below the age of six months increased from 3.6 per cent during the baseline survey to 12.5 per cent during the repeat survey but a majority of children were weaned during the second year of their life only.

In spite of the fact that expectant and nursing mothers are vulnerable to the effects of malnutrition and special services are being provided to them under ICDS, there is hardly any study to assess the impact of ICDS on their nutritional status, intake of food and their attitude, beliefs and practices related to infant feeding and child rearing.

As is evident, nutrition component has received due attention of ICDS researchers. Most of the studies available are related to coverage of beneficiaries and their nutritional status but there is hardly any study related to quality, acceptance and cost-effectiveness of supplementary feeding. There is a need to continuously monitor the nutritional status of beneficiaries and prevalence of deficiency diseases in all ICDS blocks to assess the total impact of this component. Management of severely malnourished children, infant feeding practices, training of ICDS functionaries, etc. are few of the areas which may be considered for future research.

Table 7.1  
Impact of ICDS on the nutritional status of children  
(Experimental-control design studies)

S. Author No. Year	Area of the study	Nutritional grades								
		Normal	Grade I	Grade II	Grade III	Grade IV				
							Children %			
	ICDS (I)									
	Non-ICDS (NI)									
1. Mehendale (7.2)* 1981	I	32.3	33.7	(.....)	34.0	(.....)	1.9	(.....)	37.8	(.....)
	NI	22.1	40.1	(.....)	29	(.....)	1.7	(.....)	5.0	(.....)
2. Singhal (7.1) 1981	I	40.6	35.9	(.....)	30.2	(.....)		(.....)	36.3	(.....)
	NI	41.7	33.3	(.....)	2.2	(.....)	1.0	(.....)	8.4	(.....)
3. Mehendale (7.2) 1982	I	41.5	28.3	(.....)	15.3	(.....)	27.7	(.....)	7.3	(.....)
	NI	21.4	42.1	(.....)	25.7	(.....)	8.4	(.....)	9.4	(.....)
	I	—	28.6	(.....)	34.6	(.....)	1.0	(.....)	18.0	(.....)
4. Gupta (7.6) 1982	I	21.0	36.1	(.....)	26.7	(.....)	21.0	(.....)	16.0	(.....)
	NI	17.3	26.7	(.....)	9.0	(.....)	23.1	(.....)	32.5	(.....)
5. Jamal Masood (7.1) 1984	I	50.0	15.0	(.....)	71.0	(.....)	10.6	(.....)	7.3	(.....)
	NI	40.0	15.0	(.....)	80.6	(.....)	29.3	(.....)	39.2	(.....)
6. Subramaniam (7.1) 1984	I	NR	NR	(.....)	28.3	(.....)	37.1	(.....)	NR	(.....)
	NI	NR	NR	(.....)	37.1	(.....)	NR	(.....)	NR	(.....)
7. Thakur (7.1) 1984	I	31.8	23.4	(.....)	NR	(.....)	25.4	(.....)	32.4	(.....)
	NI	23.4	NR	(.....)	NR	(.....)	NR	(.....)	NR	(.....)
8. Chakladar (7.1) 1984	I	NR	NR	(.....)	NR	(.....)	NR	(.....)	NR	(.....)
	NI	NR	NR	(.....)	NR	(.....)	NR	(.....)	NR	(.....)
9. Adhish (7.1) 1985	I	NR	NR	(.....)	NR	(.....)	NR	(.....)	NR	(.....)
	NI	NR	NR	(.....)	NR	(.....)	NR	(.....)	NR	(.....)

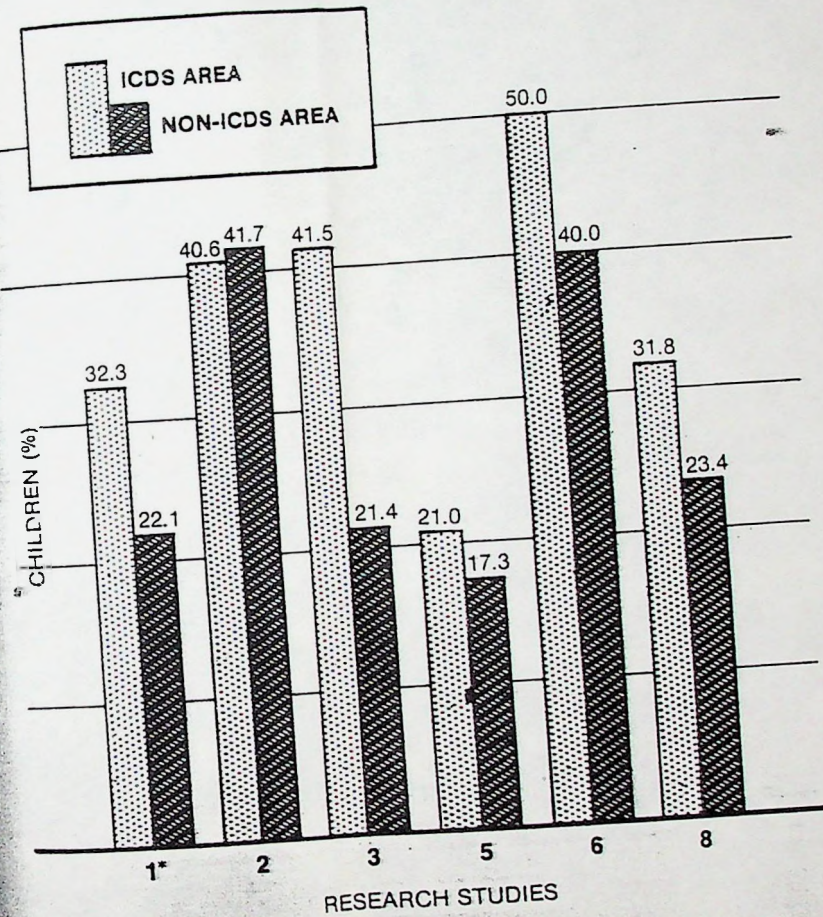
\* Numbers in the parentheses are as per the List of Classified Research Studies.

Table 7.2  
Impact of ICDS on the nutritional status of children  
(before-after design Studies)

S. No.	Author	Period of the study	Normal	Nutritional grades			
				Grade I	Grade II	Grade III	Grade IV
		Baseline survey (B) Repeat survey (R)		Children (%)			
1.	Sunder Lal (7.1)*	B (1976) R (1977)	27.8 45.3	32.0 30.3	29.7 12.2	9.7 3.6	1.8 1.1
2.	Tandon (7.2) (Rural)	B (1976) R (1978)	(.....) (.....)	(.....) (.....)	27.8 27.6	21.6 11.2	— —
3.	Tandon (7.2) (Urban)	B (1976) R (1978)	(.....) (.....)	(.....) (.....)	31.0 19.8	24.7 6.1	— —
4.	Tandon (7.2) (Tribal)	B (1976) R (1978)	(.....) (.....)	(.....) (.....)	23.3 17.3	21.9 5.5	— —
5.	Tandon (7.6)	B (1976) R (1978)	(.....) (.....)	(.....) (.....)	27.7 22.7	(.....) (.....)	21.7 8.2
6.	Sunder Lal (7.2)	B (1976) R (1978)	31.0 31.6	21.0 31.6	23.9 22.3	12.0 5.9	6.1 2.6
7.	Bhandari (7.1)	B (1976) R (1981)	32.0 50.3	28.0 21.2	22.8 16.5	12.8 7.8	4.1 1.1
8.	Prasid (7.2)	B (1977) R (1980)	25.1 33.8	28.1 29.7	31.1 29.3	15.7 4.6	— —
9.	Bhandari (7.1)	B (1978) R (1979)	36.9 39.2	23.8 21.6	25.5 21.5	10.9 9.8	2.9 1.9
10.	Mehendale (7.2)	B (1981) R (1982)	32.3 41.5	33.7 28.3	26.2 23.7	(.....) (.....)	7.8 6.5
11.	Prasad (7.2)	B (1981) R (1985)	36.1 59.5	30.0 16.2	26.1 17.0	1.8 1.5	1.1 2.9
12.	Chandra (7.1)	B (1982) R (1981)	4.9 NR	13.0 NR	13.0 NR	20.2 3.2	— —
13.	Mandowara (7.1)	B — R —	NR NR	NR NR	NR NR	6.4 3.4	1.7 0.5

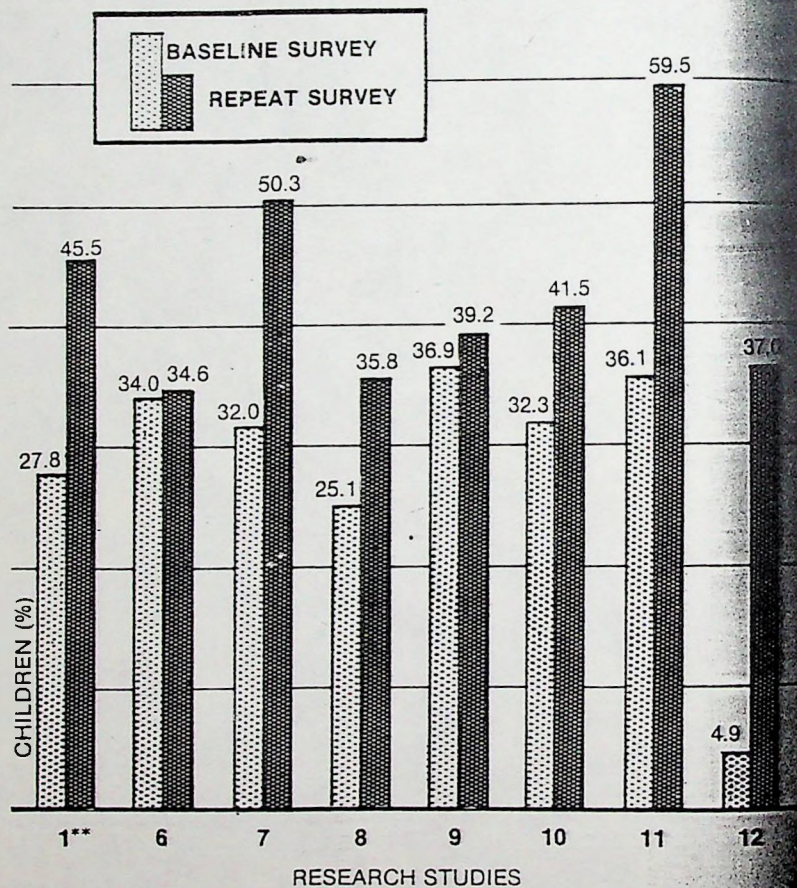
\* Numbers in the parentheses are as per the List of Classified Research Studies.

FIGURE - 6  
PERCENTAGE OF NORMAL CHILDREN IN  
ICDS AND NON-ICDS AREAS



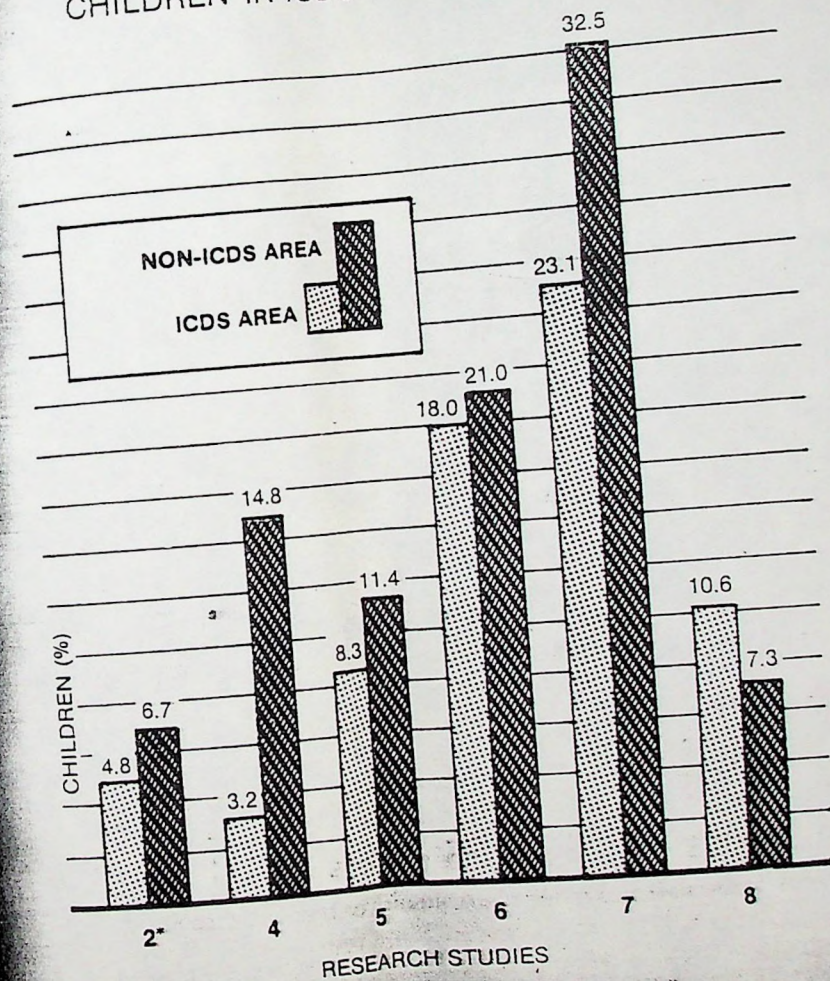
\* NUMBERS INDICATE THE SERIAL NUMBER OF STUDIES LISTED IN TABLE 7.1

FIGURE - 7  
 PERCENTAGE OF NORMAL CHILDREN DURING  
 BASELINE AND REPEAT SURVEYS



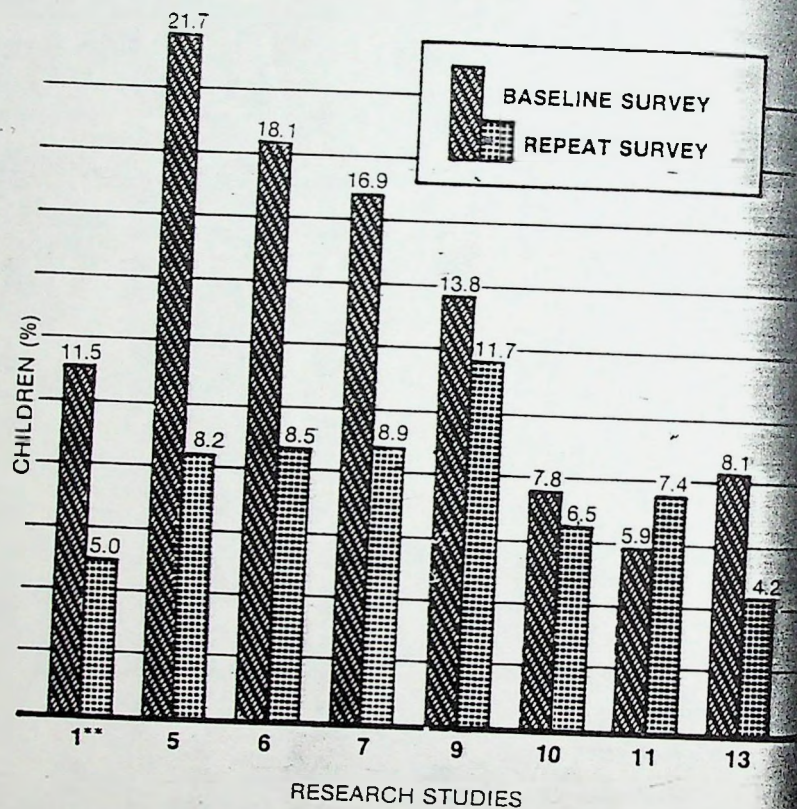
\*\* NUMBERS INDICATE THE SERIAL NUMBER OF STUDIES LISTED IN TABLE 7.2

FIGURE - 8  
 COMPARISON OF SEVERELY MALNOURISHED  
 CHILDREN IN ICDS AND NON-ICDS AREAS



\* NUMBERS INDICATE THE SERIAL NUMBER OF STUDIES LISTED IN TABLE 7.1

FIGURE - 9  
COMPARISON OF  
SEVERELY MALNOURISHED CHILDREN  
DURING BASELINE AND REPEAT SURVEYS



\*\* NUMBERS INDICATE THE SERIAL NUMBER OF STUDIES LISTED IN TABLE 7.2

*Impact of ICDS on the Immunization Status of Beneficiaries*

The research available regarding impact of ICDS on immunization status is very inadequate. The studies reviewed earlier under the Immunization section hardly assess the immunization status of the beneficiaries. However, there are studies to support the fact that immunization coverage improved by 60 per cent or above for BCG, DPT and Polio in ICDS blocks and it was significantly more in ICDS than non-ICDS blocks during the corresponding period.\*

Studies reported in Table 7.3 corroborate the fact that the percentage of children immunized in ICDS blocks was comparatively higher than that in non-ICDS areas.

The repeat surveys conducted in various ICDS blocks further revealed that there was an increase in the percentage of children immunized over a period of time during which ICDS was being implemented (Table 7.4). Figs. 10-15 illustrate the improvement in the immunization coverage of BCG, DPT and OPV in ICDS blocks as reported in the studies. However all these studies do not give much indication of the decline in the incidence of vaccine preventable diseases.

The available studies on immunization hardly give data on immunization coverage of expectant mothers. However, a few studies revealed that ICDS has improved the immunization coverage of expectant mothers. Table 7.5 gives the impact of ICDS on the immunization status of expectant mothers.

Insufficient data on immunization suggests that there is a need for greater attention of the researchers on this aspect. Immunization programme, however, should be subjected to constant monitoring and evaluation to assess its impact in terms of change in the incidence and prevalence rates of vaccine preventable diseases. There is a need to find out what factors contribute to universal immunization. Further, the data collected on immunization should be independent and not part of the data related to other health indicators which may or may not be co-terminus with research on immunization coverage, incidence and prevalence rate of diseases, factors associated with acceptance or rejection of vaccines, skills of health functionaries and impact of training imparted to them.

\* Source: India, Ministry of Human Resource Development, Department of Women and Child Development, Integrated Child Development Services, New Delhi, 1988, p. 16.

**Table 7.3**  
**Impact of ICDS on immunization status of children**  
**(Experimental-control design studies)**

S. Author No. Year	Area of the study	Immunization coverage					
		ICDS (I) Non-ICDS (NI)	Smallpox	BCG	DPT	OPV	Measles
Children (%)							
1. Mehendale (7.2)* 1981	I	—	—	61.6	52.2	52.7	—
	NI	—	—	25.7	11.9	11.9	—
2. Mehendale (7.2) 1982	I	—	—	81.1	66.2	68.2	—
	NI	—	—	27.7	19.1	24.2	—
3. Gupta (7.6) 1982	I	46.3	—	14.0	47.3	54.3	—
	NI	31.9	—	8.7	4.8	0.3	—
4. Khanna (2) 1983	I	—	—	77.3	65.8	79.6	—
	NI	—	—	32.7	22.4	21.4	—
5. Jamal Masood (7.1) 1984	I	—	—	1.5	7.3	25.9	—
	NI	—	—	8.4	3.0	22.3	—
6. Sinha (7.3) 1984	I	—	—	33.9	I 36.1	I 38.7	—
					II 32.1	II 18.4	
					III 18.0	III 15.1	
	NI	—	—	17.1	I 22.6	I 18.2	—
					II 18.4	II 20.9	
					III 11.5	III 12.8	
7. Subramaniam (7.1) 1984	I	—	—	83.0	I 67.0	I 92.0	36.0
					II 52.0	II 72.0	
					III 32.0	III 61.0	
	NI	—	—	60.0	I 36.0	I 30.0	10.0
					II 24.0	II 20.0	
					III 12.0	III 10.0	
8. Thakur (7.1)	I	—	—	29.2	68.7	81.2	—
	NI	—	—	10.3	24.4	36.6	—

\* Numbers in parentheses are as per the List of Classified Research Studies.

**Table 7.4**  
**Impact of ICDS on immunization status of children**  
**(Before-after design studies)**

S. Author No.	Period of the study	Immunization coverage				
		Baseline survey (B) Repeat survey (R)	Smallpox	BCG	DPT	OPV
Children (%)						
1. Tandon (7.2)* (Rural)	B (1976)	63.0	11.3	6.3	—	—
	R (1978)	79.5	49.3	17.6	—	—
2. Tandon (7.2) (Urban)	B (1976)	85.3	47.4	15.1	—	—
	R (1978)	79.4	74.1	51.0	—	—
3. Tandon (7.2) (Tribal)	B (1976)	60.1	20.9	1.0	—	—
	R (1978)	74.1	55.4	15.2	—	—
4. Sunder Lal (7.2)	B (1976)	93.8	18.2	6.7	0.0	—
	R (1979)	94.5	48.5	69.9	44.0	—
5. Patel (7.2)	B (1977)	67.4	37.5	I 18.1	I 18.1	—
				II 18.1	II 18.1	
				III 18.1	III 18.1	
	R (1980)	92.7	84.4	I 74.2	I 74.2	—
				II 52.8	II 52.8	
				III 38.3	III 39.3	
6. Bhandari (7.1)	B (1978)	76.6	25.2	47.0	—	—
	R (1979)	89.2	27.8	60.0	—	—
7. Bhandari (7.1)	B (1980)	—	35.9	37.3	3.1	—
	R (1984)	—	37.3	47.0	48.3	—
8. Mehendale (7.2)	B (1981)	—	61.6	52.2	52.7	—
	R (1982)	—	81.1	66.2	68.2	—
9. Prasad (7.2)	B (1981)	20.7	19.0	4.8	18.3	—
	R (1985)	10.2	29.0	29.8	57.0	—
10. Kothari (7.3)	B (1984)	—	15.0	(..... 5.0 .....	—	0.0
	R (1986)	—	98.0	(..... 94.0 .....	—	60.0

\* Numbers in parentheses are as per the List of Classified Research Studies.

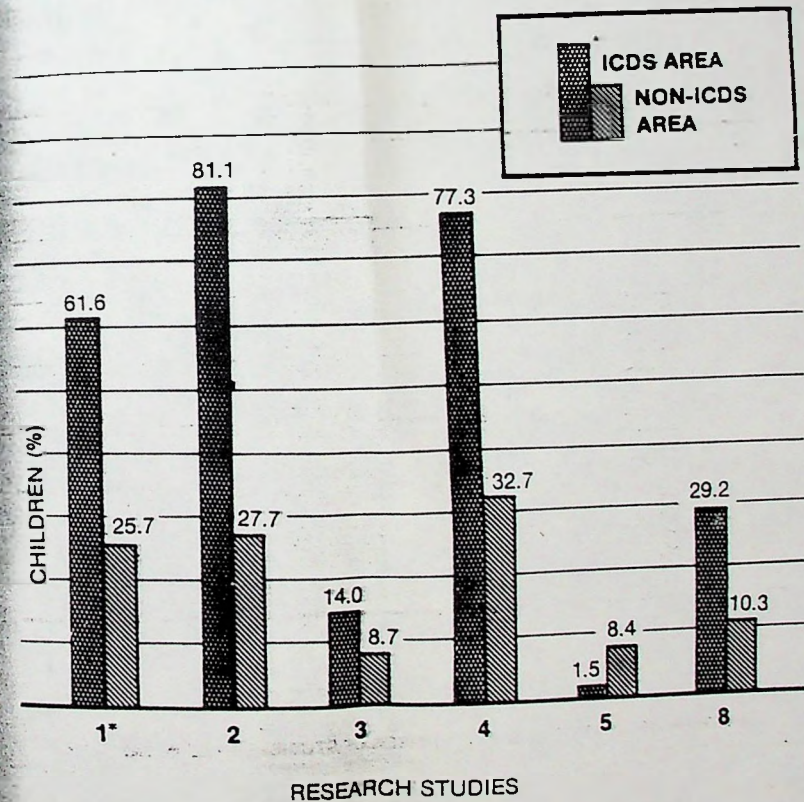
Table 7.5  
Impact of ICDS on immunization status of expectant mothers

Author	Place of study/ Period of study	Expectant mothers (%)
<i>Experimental-control design studies</i>		
Mehendale (7.2)*	I	21.8
1982	NI	16.6
Mehendale (7.2)	I	28.6
1982	NI	18.2
Khanna (2)	I	78.6
1983	NI	47.7
<i>Before-after design studies</i>		
Mehendale (7.2)	B (1981)	21.8
	R (1982)	28.6
Kothari (7.3)	B (1984)	13.0
	R (1986)	95.0
Sunder Lal (7.2)	B (1976)	1.0
	R (1979)	30.0

\* Numbers in parentheses are as per the List of Classified Research Studies.

I = ICDS; NI = Non-ICDS; B = Baseline survey; R = Repeat survey.

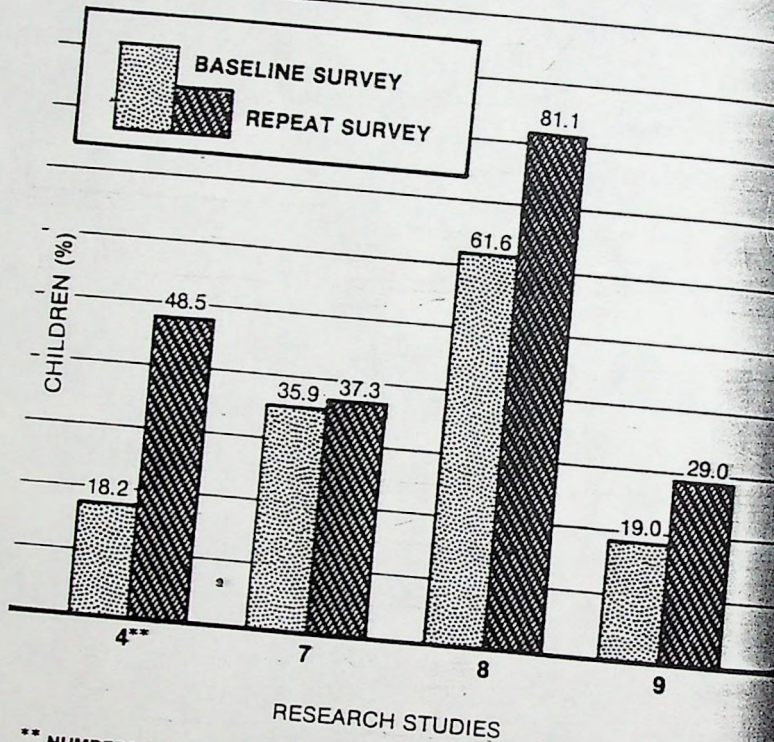
FIGURE - 10  
PERCENTAGE OF CHILDREN IMMUNIZED  
IN ICDS AND NON-ICDS AREAS: BCG



\* NUMBERS INDICATE THE SERIAL NUMBER OF STUDIES LISTED IN TABLE 7.3

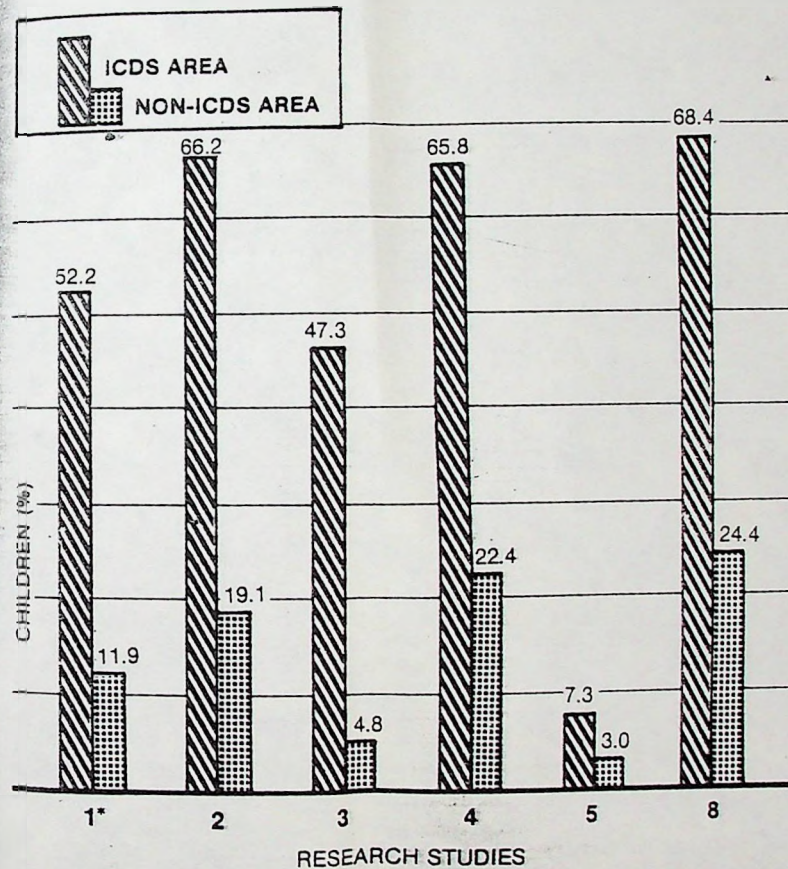


FIGURE - 11  
 PERCENTAGE OF CHILDREN IMMUNIZED DURING  
 BASELINE AND REPEAT SURVEYS: BCG



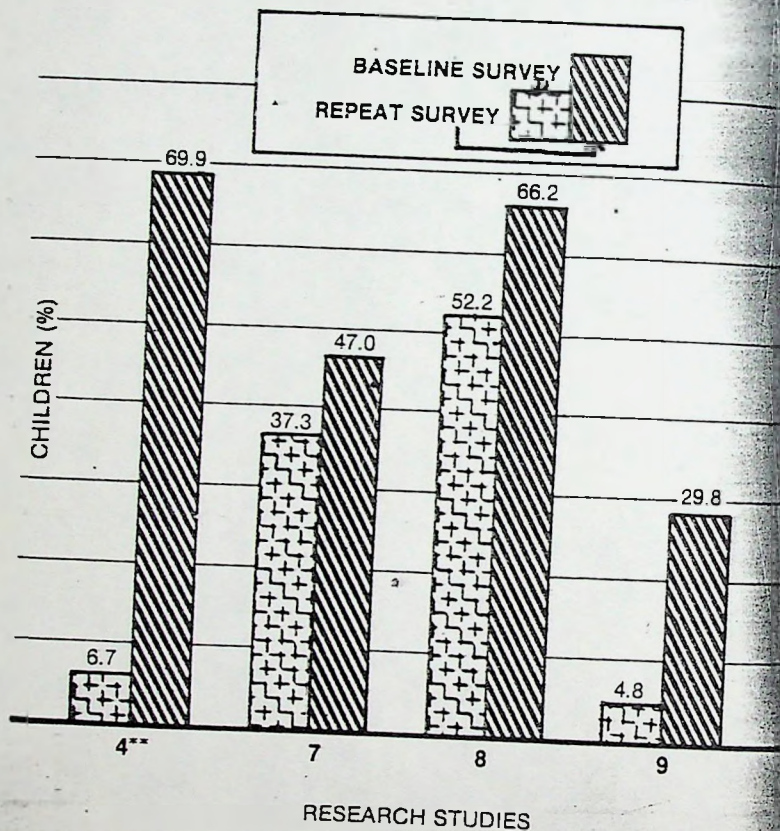
\*\* NUMBERS INDICATE THE SERIAL NUMBER OF STUDIES LISTED IN TABLE 7.4

FIGURE - 12  
 PERCENTAGE OF CHILDREN IMMUNIZED  
 IN ICDS AND NON-ICDS AREAS: DPT



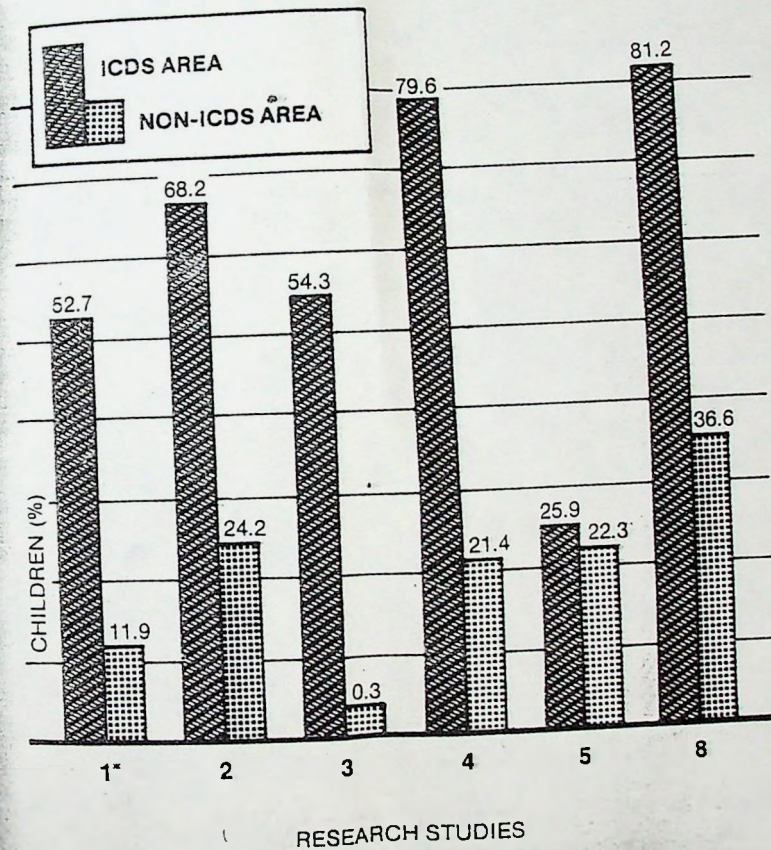
\* NUMBERS INDICATE THE SERIAL NUMBER OF STUDIES LISTED IN TABLE 7.3

FIGURE - 13  
 PERCENTAGE OF CHILDREN IMMUNIZED DURING  
 BASELINE AND REPEAT SURVEYS: DPT



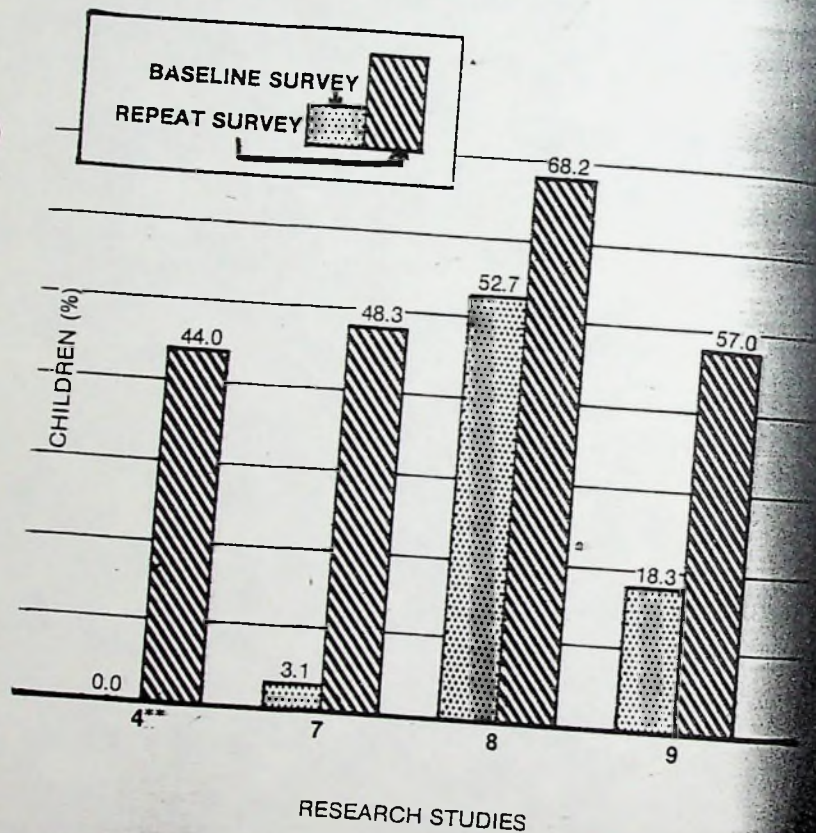
\*\* NUMBERS INDICATE THE SERIAL NUMBERS OF STUDIES LISTED IN TABLE 7.4

FIGURE - 14  
 PERCENTAGE OF CHILDREN IMMUNIZED  
 IN ICDS AND NON-ICDS AREAS: OPV



\* NUMBERS INDICATE THE SERIAL NUMBER OF STUDIES LISTED IN TABLE 7.3

FIGURE - 15  
 PERCENTAGE OF CHILDREN IMMUNIZED DURING  
 BASELINE AND REPEAT SURVEYS: OPV



\*\* NUMBERS INDICATE THE SERIAL NUMBER OF STUDIES LISTED IN TABLE 7.4

*Impact of ICDS on the Health Status of Beneficiaries*

In spite of integrated health services and intersectoral approach to maternal and child health care, the findings reviewed under the Health section indicated that the status of health of beneficiaries was far from satisfactory. IMR was high; childhood diseases including diarrhoeal diseases and worm infestations were prevalent abundantly, immunization coverage was not optimal; many infants were low birth weight babies; utilization of health services was not satisfactory and referral services were either not provided or mothers were reluctant to hospitalize their children. Poor sanitation and unhygienic surroundings further compounded the problem.

A careful analysis suggests that ICDS has the potential to enhance the survival rate of children since health services provided under the scheme have certainly improved the health status of children, which though is not optimal but is better than that of children not covered under ICDS.

The impact of ICDS on the health status of the beneficiaries can be assessed through indicators like mortality and morbidity, service coverage, use of services and changes in the knowledge, attitude and practices of the community.

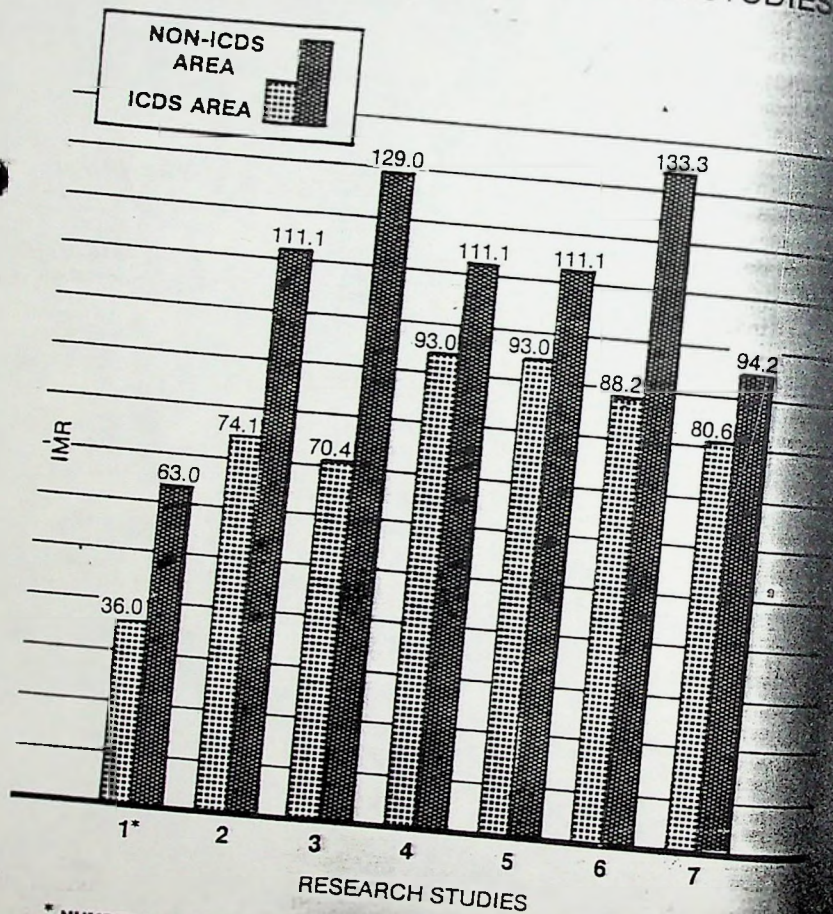
ICDS has brought a positive change in IMR, the most important measure of health status. The impact studies (Table 7.6) have revealed that IMR in ICDS areas was low as compared to that in non-ICDS areas.

Table 7.6  
 Impact of ICDS on IMR  
 (Experimental-control design studies)

S.No	Author Year	Area of the study		IMR
		ICDS- (I) Non-ICDS (NI)	Per thousand live births	
1.	Chhikara (7.3)* 1982	I	36.0	
		NI	63.0	
2.	Gupta (7.2) 1982	I	74.1	
		NI	111.1	
3.	Shah (7.2) 1983	I	70.4	
		NI	129.0	
4.	Jugal Kishore (7.3) 1983	I	93.0	
		NI	111.1	
5.	Sunder Lal (7.3) 1983	I	93.0	
		NI	111.1	
6.	Thakur (7.3) (1984)	I	88.2	
		NI	133.3	
7.	Chandra (7.3) 1985	I	80.6	
		NI	94.2	

\* Numbers in parentheses are as per the List of Classified Research Studies.

FIGURE - 16  
IMPACT OF ICDS ON IMR  
(EXPERIMENTAL-CONTROL DESIGN STUDIES)



\* NUMBERS INDICATE THE SERIAL NUMBER OF STUDIES LISTED IN TABLE 7.6

During the repeat surveys also, it was observed that IMR had declined after the implementation of ICDS programme. Table 7.7 gives the comparison of IMR during baseline and repeat surveys. Figs. 16 and 17 further illustrate the impact of ICDS on IMR.

Table 7.7  
Impact of ICDS on IMR  
(Before-after design studies)

S.No	Author Year	Period of the study		IMR Per thousand live births
		Baseline survey (B)	Repeat survey (R)	
1	Sunder Lal (7.3)*	B (1977)	R (1981)	113.0 101.0
2	Khushwaha (1.3)	B (1980)	R (1981)	153.7 147.1
3	Vidya Prakash (7.3)	B (1981)	R (1983)	110.4 94.5
4	Desai (7.3)	B (1982)	R (1984)	82.8 69.0
5	Kothari (7.3)	B (1984)	R (1986)	78.0 62.0

\* Numbers in parentheses are as per the List of Classified Research Studies.

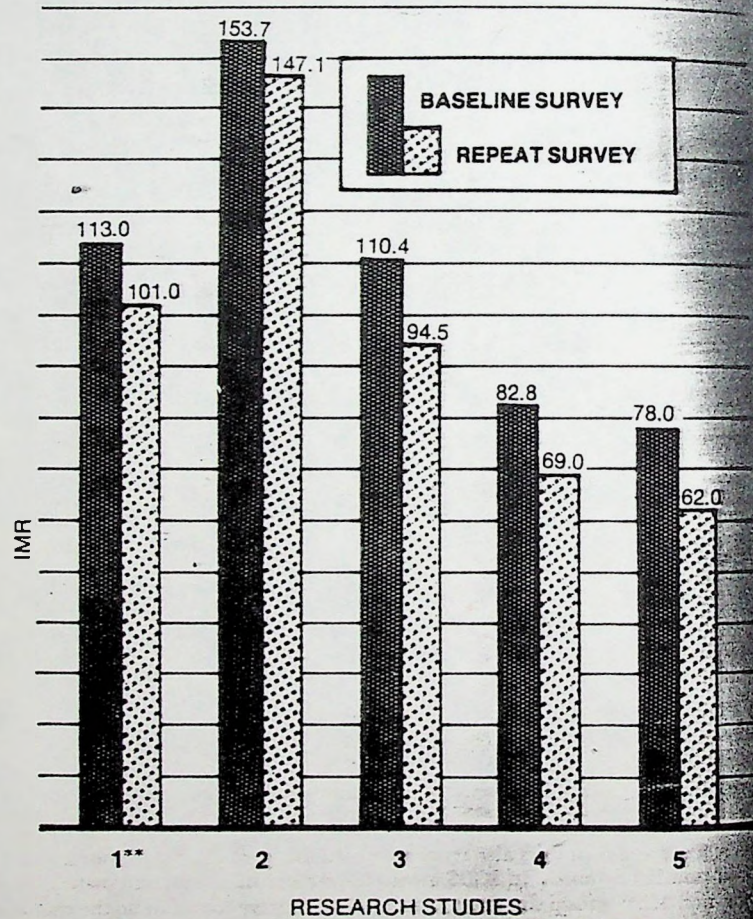
Age-specific and sex-wise variations were observed in the incidence of infant mortality. It was greater in the age group one month to one year with whom AWWs had hardly any contact (Chhikara, 1982). The female infant mortality rate had declined considerably in ICDS areas though it was much higher (142) as compared to the male (130). The major factor responsible for the decline was better delivery of health and nutrition services to infants and expectant and nursing mothers (Tandon, et al; 1985)

IMR was influenced by many factors like poor environmental sanitation, low socio-economic status, illiteracy, malnutrition, age of mothers, birth order, birth interval, income of parents, cultural constraints, etc. (Vidya Prakash, 1984; Kishore, 1983; Sunder Lal, 1981).

The causes of IMR had been analysed by researchers but only a few studies had brought out a comparative assessment of causes of IMR in ICDS and non-ICDS areas. Tables 7.8 gives the causes of IMR in ICDS blocks. In non-ICDS areas, tetanus neonatorum, PEM, diarrhoea and respiratory diseases were the leading causes of infant mortality (Gupta, 1982; Thakur, 1984; Chandra, 1985).

A few research studies also reported varied causes of childhood mortality in ICDS and non-ICDS blocks. In ICDS group respiratory infections and marasmus and in the non-ICDS group diarrhoea and marasmus were found to be the major killers (Gupta 1982). Jugal Kishore (1983) observed that early childhood mortality was mainly due to malnutrition (28%), diarrhoea (20%), respiratory diseases (16%) and unspecified causes (36%), but according to Sunder Lal (1983) childhood mortality

FIGURE - 17  
IMPACT OF ICDS ON IMR  
(BEFORE-AFTER DESIGN STUDIES)



\*\* NUMBERS INDICATE THE SERIAL NUMBER OF STUDIES LISTED IN TABLE

Table 7.8  
Causes of IMR in ICDS blocks

Author Year	Causes related to child birth	Causes related to diseases		
		Childhood diseases	Nutrition deficiency diseases	Vaccine preventable diseases
Sunder Lal (7.3) 1981	Prematurity	Diarrhoea, respiratory infections, fever	Malnutrition	Tetanus
Sunder Lal (7.3) 1983	Prematurity	Respiratory infections, fever	Malnutrition	
Gupta (7.2) 1982	Prematurity	Respiratory infections		
Chhikara (7.3) 1982		Disorders of digestive and respiratory system, fever		
Jugal Kishore (7.3) 1983	Prematurity	Respiratory infections, diarrhoea	Malnutrition	
Thakur (7.3) 1984	Prematurity with asphyxiation; neonatal septicaemia	Respiratory infections		
Chandra (7.3) 1985		Respiratory infections		

\* Numbers in parentheses are as per the List of Classified Research Studies.

was attributed to fever followed by malnutrition, diarrhoea, respiratory infections and accidents. In a study conducted by Thakur (1984) the major causes of death in the age group 0-6 years were respiratory infections (8.6%), diarrhoeal diseases (21.5%), severe malnutrition (17.9%), prematurity with asphyxiation (7.1%), neonatal septicemia (7.1%) and tetanus (3.6%). When compared with a non-ICDS block, severe malnutrition (35.3%) was found to be the major cause of IMR followed by diarrhoeal diseases (17.6%) and respiratory infections (17.6%).

In a study conducted by Tandon (1983) IMR was found to be higher in an urban ICDS project (80.2) as compared to the national figure (65). It was probably due to the location of the project in a slum area, where malnutrition, insanitation, poverty and infections were widely prevalent.

A comparison of maternal mortality rate in ICDS and non-ICDS areas was reported in studies conducted by Chandra M.R. (1985) and Chhikara (1982). The first study reported MMR to be 1.8 in an ICDS area and 3.0 in a non-ICDS area whereas the second research study it was 20.0 in an ICDS area 21.0 in a non-ICDS area. The major causes of MMR as reported by Chhikara (1982) were child birth and pregnancy, fever and disorders of circulatory and central nervous system.

ICDS had a positive impact on reducing the morbidity pattern of children. Childhood diseases were prevalent both in ICDS and non-ICDS areas but morbidity was comparatively more in non-ICDS than in ICDS areas. A decline in the prevalence of diseases was also observed in areas where ICDS was being implemented. Table 7.9 gives the impact of ICDS on the prevalence of early childhood diseases.

It was reported that the incidence of sickness was 1.3 in an ICDS block and 1.4 in a non-ICDS area (Gupta, 1982). In another research study the incidence of morbidity was reported to be 4.2 per cent/child in a non-ICDS area and 3.2 per cent/child in an ICDS area. Morbidity was influenced by social class, sex, family size and age of child (Sinha, 1984). The causes of morbidity as reported in the research studies differed from one ICDS block to another. Chhikara (1982) found that fever, cough peculiar to infancy and disorders of digestive, circulatory and central nervous systems were responsible for childhood morbidity in an ICDS block. Gupta (1981) was of the view that diarrhoea, skin infections and eye diseases were the leading causes of morbidity. Kothari (1980) reported that malnutrition, GIT, respiratory infections and fever were responsible for morbidity during the baseline and repeat survey conducted in an ICDS block. However after two years of implementation of ICDS there was reduction in the percentage of children suffering from GIT and malnutrition.

On the other hand, Prasad (1985) found that in an ICDS block, morbidity pattern did not show any significant change during the repeat survey after four years. Approximately two-thirds of the children suffered from one illness or the other but the maximum sickness load was observed in 2-4 years old children. Due to unhygienic and insanitary conditions prevailing in the block, diarrhoea and respiratory tract infections were the major causes of morbidity.

Studies available have reported that parents from both ICDS and non-ICDS areas were not aware of the various childhood diseases. Common ailments like cold, cough and diarrhoea were taken lightly and treatment was taken to some extent from AW

Table 7.9  
Impact of ICDS on the prevalence of early childhood diseases

Author/ Year	Area of the study/ Period of the study	Diseases												
		GIT deficiency	Vitamin A deficiency	Angular stomatitis	Anaemia	Diarrhoea	URI	Eye diseases	Fever	Boils	Respiratory infections	Skin infections	Worm infections	Acariasis infestation
Mehendale (7.2)* 1981	I NI	4.3	29.9											10.9
Mehendale (7.2) 1985	I NI	3.5	26.4	6.2	13.2	10.2	17.3	1.2			4.5	17.2	5.1	24.5
Gupta (7.6) 1982	I NI	0.5	7.6	4.2	27.3	15.4	17.4	2.0		7.8	10.9	6.8		21.8
Jamal Majrood (7.1) 1984	I NI	3.9	11.9		47.5	17.1				20.3	7.3	33.8	36.4	21.1
Sinha (7.3) 1984	I NI (4-6 years)	51.4	59.6		55.8	4.1				17.3	54.5	76.6	21.1	7.0
Patel (7.2)	B (1977) R (1980)	4.1	0.7		15.0	2.6								
Mehendale (7.2)	B (1981) R (1982)	4.3	3.5		1.7									
Prasad (7.2)	B (1981) R (1985)	9.6	5.7		12.8	0.3								
Kothari (7.3)	B (1984) R (1986)	25.0	18.0								20.0	30.0	10.0	10.0
										9.5	15.9			

\* Numbers in parentheses are as per the List of Classified Research Studies.

Table 7.10  
Utilization of services by children

Author Year	Place of study/ Period of study	Services utilized				
		Supplementary nutrition	Therapeutic nutrition	Health check-up	Intake of iron and folic acid	Administration of vitamin A
<i>Experimental-control design studies</i>						
Mehendale (7.2)* 1981	I NI			68.3 10.7		
Mehendale (7.2) 1982	I NI			68.3 14.8		
Gupta (7.6) 1982	I NI	14.0 0.0			41.0 10.4	76.3 17.9
<i>Before-after design studies</i>						
Sunder Lal (7.2)						
Tandon (Rural) (7.2)	B (1976) R (1979)	8.0 50.0	0.0 97.0	28.2 92.0		
Tandon (Urban) (7.2)	B (1976) R (1978)	18.7 57.3			(... 2.3 ...) (... 58.0 ...)	
Tandon (Tribal) (7.2)	B (1976) R (1978)	26.3 48.1			6.1 43.7	
Bhandari (7.1)	B (1976) R (1978)	-61.3 64.2				NR NR
Mehendale (7.6)	B (1980) R (1984)					6.0 59.7
	B (1981) R (1982)	74.2 85.6		57.3 20.0		61.9 6.9
				68.3 68.3		72.1 73.9

\* Numbers in parentheses are as per the List of Classified Research Studies.  
I = ICDS; NI = Non-ICDS; B = Baseline survey; R = Repeat survey.

but doctor's advice was taken only when the condition of the child became critical. Children were referred to hospitals only when doctors failed to cure them (Patel, 1980; Chhikara, 1982).

Utilization of services is another important impact indicator which may be responsible for better health status of ICDS beneficiaries. There was a significant difference between an ICDS and a non-ICDS block in the utilization of health services, immunization, antenatal services, deliveries by trained staff, and intake of vitamin A, iron and folic acid tablets (Gupta 1982). Table 7.10 gives the utilization of services by children in ICDS and non-ICDS areas as reported in the studies.

Information on utilization of health services by expectant and nursing mothers is available in very few studies. Tandon (1978), Gupta (1982) and Sunder Lal (1979) found that the percentage of expectant and nursing mothers receiving health and nutrition services improved considerably during the repeat surveys. Nearly 70.4 per cent women in an ICDS block and 34.9 per cent and 59.9 per cent in two non-ICDS areas were given antenatal care and were immunized against tetanus (Shah 1983). The utilization of health and nutrition services by expectant mothers was comparatively better in ICDS areas as may be seen in Table 7.11.

Table 7.11  
Utilization of services by expectant mothers

Author Year	Place of study/ Period of study	Services utilized	
		Antenatal care	Iron and folic acid
Expectant mothers (%)			
<i>Experimental-control design studies</i>			
Mehendale (7.2) 1981	I NI	56.3 33.3	49.1 28.3
Gupta (7.6) 1982	I NI	61.3 19.3	
Mehendale (7.2) 1982	I NI	58.6 36.4	42.8 30.4
<i>Before-after design studies</i>			
Mehendale (7.2)	B (1981) R (1982)	56.3 58.6	49.1 42.8
Kothari (7.2)	B (1984) R (1986)	25.0 90.0	13.0 95.0

\* Numbers in parentheses are as per the List of Classified Research Studies.  
I = ICDS; NI = Non-ICDS; B = Baseline survey; R = Repeat survey.

Non-formal education imparted to mothers in ICDS blocks raised their level of knowledge regarding supplementary feeding, growth monitoring, infant feeding, environmental hygiene, family planning and immunization (Subramaniam, 1987). This was further corroborated by Deb (1982) who found that knowledge of mothers regarding immunization increased considerably after the implementation of ICDS programme in a rural ICDS block.

Although family planning programme is not directly linked with ICDS, it was observed that the acceptance of family planning was comparatively high after the launching of ICDS: it was higher among the beneficiary couples (4.1%) than among non-beneficiary couples (21.1%) (Vasundhara).

In some of the areas, ICDS programme had negligible or no perceptible impact on the beneficiaries. Phogat (1982) found no significant differences in the health and nutritional status and pre-school abilities of children in an ICDS and a non-ICDS block. It was due to wrong distribution and sharing of supplements, poor diagnosis of ailing children and inability to provide cognitive experiences. There was no difference in the health and nutrition knowledge of women in both the areas. In another research study the nutritional and immunization status and mental development of non-ICDS children was found to be better than those in ICDS blocks (Adhish, 1985). Tandon (1980) also reported in a study that a proportion of children remained unimmunized and malnourished and did not benefit from ICDS schools because of non-acceptance of immunization by the parents, lack of safe drinking water, frequent intestinal infections and interruptions in feeding programme due to difficulties in transporting nutritious food to villages.

As is evident, the health status of ICDS beneficiaries has been assessed by researchers to some extent. There is a need to pay attention to other related areas like cause, incidence and prevalence of major diseases, maternal mortality rate, utilization of services, etc. Efforts should be made to evolve reliable and realistic child survival and developmental indicators to constantly monitor and evaluate the health services.

#### Impact of ICDS on Non-formal Pre-school Education and Child Development

The existing monitoring system of ICDS does not give sufficient information on the Pre-school Education component. It was only in 1985, that a few studies on the impact of pre-school education on children were conducted. However, the limited research conducted supports the fact that effective delivery of pre-school education promotes the development of children in the right direction. It was observed that the intellectual status of children in an ICDS area was better than that of children in a non-ICDS area; this was attributed to the better nutritional status of children and impact of pre-school education (Adhish, 1985; Chaturvedi, 1985).

Pre-school education influences the progression of higher-order cognitive facilities was reported by Khosla (1985). It was found that children attending anganwadis scored significantly on language tests like Object Vocabulary and Listening Comprehension and cognitive tests like Sequential Thinking and Time Perception. Paranjpe (1985) found that in the rural areas, children from an ICDS block were willing to attend school and performed better than their counterparts in a non-ICDS area. ICDS also had a positive impact on their enrolment, retention rate and dropout rate. Sunder Lal (1981) was also of the view that over 80 per cent children who had received pre-school education were well adjusted in school and their scholastic performance was better as compared to other children.

Some studies reported an interesting change in parent's attitude towards education of their children as a by product of ICDS. Parents of the children who attended anganwadis were willing to continue their education and send them to primary schools. Paranjpe (1985) found that 90 per cent children from ICDS blocks go

Table 7.12  
Impact of non-formal pre-school education on children

Intellectual status	Area		IQ	Area		Language and cognitive tests	Indicator	Area	
	ICDS	Non-ICDS		ICDS	Non-ICDS			ICDS (Rural)	Non-ICDS (Rural)
Above average	70.1	56.1	115-125	13	5	Children from ICDS area scored significantly more in language tests like Object Vocabulary and Listening Comprehension and cognitive tests like Sequential Thinking and Time Perception	Enrolment Retention rate Dropout rate	91.0	87.5
Below average	21.1	23.1	105-114	20	11			98.0	93.5
Intellectually retarded	8.8	20.4	95-104	33	31			2.0	6.5
			85-94	14	22				
			75-81	20	31				

1. Adhish et al  
1985  
2. Chaturvedi et al  
1985

3. Khosla et al  
1985  
4. Paranjpe  
1985



admitted to primary schools, faced no problems in getting admission and were well adjusted.

The findings of the research studies also revealed that IQ, enrolment and retention rates of ICDS children were better than those of non-ICDS children (Table 7.1).

Area-wise differences on a few education indicators were observed. In a rural ICDS area, enrolment and retention rates were better than in a non-ICDS area, but in a tribal area there was not much difference. In an urban ICDS block, enrolment and retention rates of children were lower and dropout rates were higher as compared to children in an urban non-ICDS area (Paranjpe, 1985).

Recent evidences suggest that early intervention programmes are effective and produce long lasting results. In the intervention studies conducted by Muralidharan in urban and tribal ICDS blocks, it was found that well-planned early childhood education fosters the development of children. It helped in arousing enthusiasm in AWWs and enhanced their capabilities in bringing about changes in the language and cognitive skills of children.

It has been observed that utilization of services in anganwadis is influenced by the location of an anganwadi. A majority of the beneficiaries and functionaries were satisfied with the pre-school education services provided by AWWs. However, it was observed that anganwadis were not organizing any creative activities. In most of the anganwadis, children did not appear to enjoy the activities as these were geared towards rote learning, were repetitive in nature and rendered in monotone. Although most of the parents felt that the anganwadi centres were places where children learn to read, write and develop good social habits, food appeared to be the major reason motivating parents to send the children to the anganwadis. This was evident by the significant increase in the attendance of children at meal time (Khosla, 1985).

The major problems faced by anganwadi workers in organizing pre-school education activities were inadequate space and equipment and lack of skill based training (Khosla, 1985). In an urban ICDS block, it was difficult for AWWs to conduct outdoor games and activities. Most of the anganwadis did not have drinking water facilities and, therefore it was not possible to feed the children at the centre (Muralidharan).

In the light of the above findings, it is evident that research on non-formal pre-school education in ICDS needs utmost priority as this is a crucial component of ICDS which is related to the total development of a child. There is a need to conduct studies on the status of pre-school education, techniques of delivery of services, available facilities, time management activities of AWWs, effectiveness of training of workers, etc. Longitudinal studies should also be undertaken to assess the impact of this component on enrolment, retention, achievement and dropout rates in primary schools. Efforts should be made by ICDS administrators to draw the attention of researchers and experts in the area of child development and early childhood education towards the research gaps in this area and motivate them to undertake more extensive and qualitative research related to this component.

Monitoring and Evaluation Division in NIPCCD is in the process of finalising the indicators to monitor the pre-school education component of ICDS. The data generated through constant monitoring will no doubt help in assessing the impact of this component both qualitatively and quantitatively.

To sum up, ICDS is an ambitious multidimensional programme geared towards human development and social change. The integrated services provided converge on the same set of children, expectant and nursing mothers with an aim to improve their quality of life. There is enough research evidence to support the fact that ICDS has a definite impact on its beneficiaries and has the potential of enhancing the child survival rate and bringing about a positive change in their all round development. Research findings indicate definite improvement in some of the crucial health and nutrition indicators like IMR, nutritional status, morbidity pattern, immunization coverage, utilization of services, etc. ICDS has also brought about changes in the cognitive development of pre-school children and IQ of ICDS beneficiaries is better than that of non-beneficiaries. However, there is a need to strengthen the delivery of services like HNE and referral. Though community participation is built into the programme, in many ICDS blocks either AWWs have failed to elicit community participation or the community is not aware of the services rendered under ICDS and their role in making the full use of these facilities.

On the whole, the research conducted to assess the impact of ICDS is not inadequate, but there is a need to have more qualitative and quantitative data to assess the total impact of the programme and introduce modifications at various levels of implementation from time to time.

## \*Monitoring and Evaluation of ICDS: An Overview of Research Findings

Monitoring and Evaluation are regarded as crucial processes and integral part of a planned developmental programme as they provide the needed feedback to assess the impact of the service provided and the efficiency with which they are implemented. Monitoring and evaluation though identical in many ways are two distinct processes.

Evaluation determines systematically and objectively the relevance, efficiency, effectiveness and impact of activities in the light of their objectives. It is an organisational process for improving activities still in progress and for aiding management in future planning, programming and decision making. On the other hand, monitoring is a management process for a continuous or periodic review and surveillance at every level of hierarchy of the implementation of an activity to ensure that input deliveries, work schedules, targeted outputs and the other required actions are proceeding according to the plan. The process helps the management in identifying lacunae and obstacles so that mid-course corrections can be introduced in implementation of the programmes.

### **Evaluation of ICDS**

ICDS scheme started in 1975 comprising only 33 projects, was first evaluated by the Planning Commission in 1976. The results of the evaluation led to the successful expansion of the programme. Since then ICDS has been subjected to evaluation from time to time. Most of the research studies have evaluated one aspect of ICDS or the other, but there are very few studies that give the total evaluation of the scheme at regular intervals. ICDS has been evaluated by a few researchers only. An effort has been made to collate the research findings and evaluate ICDS under various headings such as beneficiaries coverage, ICDS functionaries, physical setup of AWWs, services rendered, etc.

*Beneficiaries coverage:* The research findings available support the fact that ICDS programme has considerably improved its capacity to reach the children in the vulnerable age group. The highest percentage of children attending anganwadis was in tribal blocks (63.2%) followed by urban areas (49.7%). A substantial number of these children were from Scheduled Castes and Scheduled Tribes and the poorer sections of society. Similarly, a large number of expectant mothers also availed themselves of the services (Krishnamurthy, 1983). However, Kesar (1982) reported that the percentage of beneficiaries receiving services was small. This was attributed to the shortage of AWWs, low literacy rate and lack of interest among community people. It was also observed that though anganwadis were functioning satisfactorily, beneficiaries had a low awareness of the scheme (Sharma, 1981).

\* Under this, research findings of section 8 and 9 are summarised.

**ICDS Functionaries:** ICDS functionaries were not satisfied with the training imparted to them. A majority of ICDS functionaries felt that the job training received was too theoretical and did not equip them with enough skills to cope with the situation. As a result, ICDS was not being implemented effectively.

It was reported that though AWWs were aware of all the objectives of ICDS scheme, yet while implementing the programme their focus was on nutrition health component. About 50 per cent CDPOs visited anganwadis once a month and these visits were more of an inspection and the training inputs were rarely introduced. Supervisors visited AWWs once in 15 days and they were not taking action to implement the suggestions made in the visitor's book. To enable the Supervisors to provide back-up support and on-the-spot job training to AWWs there is a need to impart appropriate supervisory skills to them and to modify the syllabus of the job training to promote utilization of services and to enhance capabilities of project functionaries to elicit community participation (Sharma, 1986).

**Physical set up of Anganwadis:** It was observed that accommodation for PHC, CDPOs office and anganwadis were in accordance with ICDS specifications (Nair). Most of the anganwadis were located in areas easily accessible to the beneficiaries and the surroundings were unhygienic (Sharma, 1986). Some anganwadis did not have separate kitchen and the roofs of most of them leaked during rainy season (Nair). There was a perceptible problem in appointing the grass-roots level workers in rural and tribal areas due to inadequate transportation, long distances and social constraints. (Krishnamurthy, 1983).

**Supplementary Nutrition:** The coverage of children under supplementary nutrition programme had increased and the beneficiaries were satisfied with the variety and quantity of food. In 73 per cent anganwadis food was available for 250 days and only 24 per cent anganwadis used fresh vegetables in cooking which was provided by the community (Krishnamurthy, 1983). Though the percentage of malnourished children was not very high, no efforts were made by the doctors to develop special diets for malnourished children. Rice and ragi preparations were given as supplementary food to children and mothers (Nair).

The programme of supplementary feeding through take-home system was not able to demonstrate its effectiveness although it was less costly. The supplement distributed was sufficient to augment the energy intake of the beneficiaries, still there was no improvement in the nutritional status of the children because the food distributed failed to reach them as there was sharing of the supplement on a large scale (Mittal, 1976).

**Health Check-up and Immunization:** In ICDS blocks health services were not delivered effectively. It was observed that out of all the services available, immunization received adequate attention (Nair). Though the immunization coverage was 50 per cent, there was high dropout rate in vaccinations administered in a series (Krishnamurthy, 1983). This may be attributed to lack of training and orientation to ICDS. Moreover, the vital statistics collected by AWWs were inadequate. AWWs were maintaining health and antenatal cards only for the expectant mothers who were registered for supplementary nutrition. They were not maintaining cards for children below five years. There was also a lack of

coordination between the health staff and AWWs (Nair). It was also reported that the visits of the medical and paramedical staff were irregular as most of the time they were busy in family planning and other campaigns (Krishnamurthy, 1983).

Further, Sharma's (1986) study revealed that in rural areas the beneficiaries were not utilizing immunization and health check-up services though they had adequate knowledge and were aware of the services provided under ICDS. However, in urban and tribal ICDS blocks, there was optimum utilization of health services.

As a result, the childhood morbidity was high, specially in rural areas where fever and diarrhoeal episodes recurred most frequently (Krishnamurthy, 1983). The various diseases leading to morbidity in children were URI, diarrhoea, fever, kwashiorkor, marasmus and bronchopneumonia (Kubde, 1985).

The health status of expectant and nursing mothers was also not satisfactory. Most of them were anaemic. The diseases leading to morbidity were URI, UTI, etc. (Kubde, 1985).

**Non-formal Pre-school Education:** Most of the respondents were aware of the pre-school education programme. However, the concepts of mental growth and early stimulation were not fully understood (Krishnamurthy, 1983). The findings of the study conducted by Sharma (1986) corroborated the fact that the enrolment of 3-6 years old children had improved considerably due to implementation of ICDS. But it was observed that children were not staying in the anganwadis for the full duration; a majority of them were coming only to collect food. Moreover, AWWs by and large did not have the requisite skills needed for planning and conducting pre-school activities and most of them were not adequately equipped with teaching aids and play materials. While imparting education, there was more emphasis on formal teaching than play and other activities.

**Health and Nutrition Education:** HNE activities were rarely conducted in a group and only covered areas like immunization, child care, family planning and hygiene. Discussion was the major technique used for imparting education. Expectant and nursing mothers were reported to be attending the classes in higher number as compared to older women and girls in the age group 6-14 years (Sharma, 1986).

**Referral Services:** Referral services were not satisfactory (Sharma, 1986). AWWs had not referred expectant and nursing mothers with serious problems to any referral centre. Only 20 per cent AWWs were advising parents to take their children to PHC doctor when the illness was severe (Mandowara). In some of the blocks, beneficiaries were not aware of referral services (Krishnamurthy, 1983).

**Utilization of Services by Expectant and Nursing Mothers:** The utilization of services by expectant and nursing mothers had not been reported in most of the evaluation studies. In two ICDS blocks, supplementary nutrition was taken by 80 per cent and 5 per cent mothers respectively (Nair; Ketkar, 1982). Only 46.4 per cent mothers in this group were receiving HNE (Sharma, 1986). Iron and folic acid was taken by 11.0 per cent and 22.7 per cent expectant mothers in two ICDS blocks (Kubde, 1985; Ketkar, 1982). Only 27.2 per cent expectant mothers were immunized against tetanus (Kubde, 1985).

**Community Participation :** Community participation had not received the emphasis in ICDS programme (Nair). There was a tremendous scope for enhancing community participation to make the programme successful (Sharma, 1986). It was observed that participation and involvement of the beneficiaries and local organizations was minimal. Contribution by the Panchayats and families to the programme was in the form of land, building, firewood, equipment and local commodities. Urban poor were unwilling or were not able to contribute anything of kind to the centre. Even AWWs lacked skill in involving the community and utilizing the community resources (Sharma, 1986; Krishnamurthy, 1983).

The factors considered crucial for strengthening and promoting community participation were skills of the workers, existence of coordination committees, frequency of their meetings and the involvement of local organizations. It was also felt that a nominal contribution if taken from the community may ensure their interest and involvement (Sharma, 1986).

In sum, ICDS has been successful in reaching the poorer groups in isolated areas as well as urban areas. The effectiveness and efficiency of the programme has to be evaluated in terms of degree and cost-effectiveness in achieving the objectives. Krishnamurthy (1983) reported that despite a wider range of services and larger coverage, ICDS is less expensive compared to other child welfare programmes. Using 1982 estimates, the estimated operating cost for 1,000 ICDS projects was 0.66 per cent of GDP of India. Thus there is a scope both to extend the coverage of the scheme, as well as to allocate more resources to the existing projects.

### Monitoring of Social Components of ICDS

The mechanism for monitoring ICDS programme is built into the scheme to some extent. The Ministry of Human Resource Development is responsible for the overall monitoring of the programme through a central cell established in the Department of Women and Child Development. A Management Information System ensures a regular flow of information upwards from each anganwadi to the project, and from the project to the State Government and to the Government of India. This is done through a Monthly Progress Report and a Monthly Monitoring Report.

The Central Cell at AIIMS assists State Health Departments in monitoring health and nutrition components and continuing education activities of ICDS. It also evaluates the flow of services and their impact through annual surveys and periodic research studies.

Experts are of the view that social inputs of a welfare programme do not lend easily to quantification. In the existing system of monitoring of ICDS also, social components do not get due emphasis although community-based approach and social mobilization of resources is built into the programme. A need for monitoring social components of ICDS, i.e. Pre-school Education, Nutrition and Health Education and Community Participation was felt to further strengthen the scheme and enhance the process of social change being brought out by this programme.

In 1980, NIPCCD was entrusted with the responsibility of developing a comprehensive system of monitoring and evaluation of social components in collaboration with technical institutions. A research project was initiated in

A few crucial and relevant indicators related to social components were identified and a system was evolved to monitor social components of ICDS (Sharma, 1986). In the envisaged system, NIPCCD would be entrusted with the overall responsibility of monitoring the social inputs and analysing, interpreting and reporting the information. The other partners in this exercise would be collaborating institutions, project functionaries and community members who would record the needed information on a proforma known as Social Monitoring Report. In order to have reliable and objective data, the information would also be supplemented by observations made by research investigators and community representatives. These schedules would have two parts, one for forwarding the information upward and the other for recording the specific instructions for the follow-up action. The support of State Governments and Department of Social Welfare would also be sought as they look after administrative and maintenance activities.

Phase II of the research project was launched in 1987 to establish the feasibility of the system and to operationalize other processes of integrating it into ICDS scheme at a national level.

ICDS is the most important means to reach millions of children and mothers and has the potential of bringing about a change in their quality of life. A review of the research available indicates that there is a need to evaluate ICDS continuously. The present system of monitoring of ICDS is reporting the process of delivery of services and does not highlight the quality of services rendered. Information obtained is not disseminated effectively for introducing necessary modifications.

For effective implementation of the programme and utilization of services, it is imperative that a comprehensive system for monitoring and evaluation should be built into the programme. The data thus generated can determine systematically and objectively the effectiveness of services rendered and their impact on the beneficiaries.

## Monitoring Social Components of Integrated Child Development Services : A Pilot Project

• Adarsh Sharma

### KEY WORDS

Monitoring of ICDS, Social components, Indicators, Monitoring system, Evaluation of ICDS, Utilization of services, Rural, Urban and Tribal ICDS blocks

**Objectives :** The study was undertaken to (i) evolve a comprehensive system for monitoring the social components of ICDS; (ii) identify empirically relevant indicators pertaining to implementation of social components; and (iii) develop effective feedback system for introducing corrective measures at the various levels of ICDS project implementation.

**Duration :** January 1985-May 1986

**Methodology :** Monitoring of social components of ICDS, i.e., pre-school education, community participation and health and nutrition education was undertaken by NIPCCD along with 11 academic/technical institutions. On the recommendations of the Central Technical Committee, 13 centrally sponsored ICDS blocks located in the neighbourhood of the collaborating institutions were selected for the study of which seven were urban, three rural and three tribal.

Each institute selected a representative sample of 15 anganwadis from the block assigned to it. From each anganwadi 70 women beneficiaries were identified. First, from the beneficiaries registered at the anganwadi, 30 children were selected by drawing lots. Visits were made to their houses to include their mothers and other members of the family belonging to sample respondents. The remaining requisite number of respondents were selected by drawing lots from the list of the respective beneficiary category.

The sample of each anganwadi and the total sample of the pilot project was as shown in the following table.

Information on the delivery of services at anganwadi, physical set-up, profile of AWWs, administrative support and role played by various units involved in the implementation of ICDS programme was collected with the help of five specifically formulated schedules duly pretested. They were Household schedule, Social component schedule, Local support schedule, Investigator's Observation proforma and Administrative support schedule. Comparisons were made across rural, tribal and urban projects. Chi square analysis was done to establish relationship between variables. Bivariant tabulation was done for finding out the distribution trends.

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Sample of the study

Type of block	No. of beneficiaries contacted			No. of ICDS functionaries			Local organisations contacted						
	No. of HHS	Pregnant women	Nursing mothers of pre-school children	Mothers of pre-school children	CDPOs	Super-visors	Angan-wadi workers	Panchayat	Coopera-tive society	Mahila mandal	Yuvak mandal	Voluntary organisations	Primary school
Urban (N=105 AWs)	4,353	971	1,818	2,992	7	21	105	13	7	34	20	43	49
Rural (N=45 AWs)	1,854	322	790	1,494	3	11	45	32	7	8	13	10	28
Tribal (N=45 AWs)	1,869	377	448	1,435	3	11	45	31	14	19	5	6	35
All blocks (N=195 AWs)	8,076	1,670	3,056	5,921	13	43	195	76	28	61	38	59	112

In order to introduce timely corrective measures in ICDS scheme, the consultants were asked to identify weak links in the implementation of ICDS in their respective blocks based on their experience and review of data collected. Two day workshops for the project functionaries were organized by the collaborating institutions every six months to take remedial action regarding the lacunae identified and to improve the skills of the functionaries to implement the scheme effectively.

Based on the findings of the study, all the indicators considered relevant empirically for monitoring social components of ICDS were identified and a system was developed.

**Major findings and conclusions:** All the variables related to implementation of ICDS were studied and analysed. The following important findings emerged.

**Physical setup:**— The anganwadis were located in the areas easily accessible to the beneficiaries but the surroundings were unhygienic. In spite of adequate indoor and outdoor space, the space utilization was poor.

**Profile of AWWs:**— The married AWWs in the age group 25-44 years tended to work in a particular anganwadi for a longer duration. Their educational level and training were positively related to their performance and they had adequate time for various activities. Only a small proportion of workers were not trained. The frequency of contact with the community and regularity in conducting services was found to enhance the participation of beneficiaries in the programme.

**Administrative Support:**— Fifty per cent CDPOs visited anganwadis once a month. These visits were more of an inspection and the training inputs were rarely introduced. Supervisors visited AWCs once in 15 days and were not taking action to implement the suggestions made in the visitors' book. A majority of the functionaries felt that the job training received did not equip them with enough skills. The performance of the workers improved significantly with the support and guidance received from the Supervisor and CDPOs particularly with regard to inputs such as organization of meetings, demonstrations and efficiency of introducing corrective measures to solve day-to-day problems.

**Delivery of Services:** Overall assessment by the investigators revealed that a majority of anganwadis were functioning satisfactorily. There was a considerable rise in the pre-school enrolment figures for male and female children although a majority of them came only to collect food. A significant association was established between the quality of pre-school activities and the duration of stay of children. Formal teaching was emphasized and the existing pre-school programme lacked variety and stimulation. AWWs by and large did not have the requisite skills needed for planning and conducting the pre-school activities.

**HNE activities,** which were rarely conducted, covered areas like immunization, child care, family planning and hygiene. Discussion was the major technique used for imparting education and only a few AWWs possessed the necessary skills. Discontinuation of Functional Literacy for Adult Women (FLAW) has adversely affected the implementation of HNE component.

The coverage of children under supplementary nutrition programme had increased and the beneficiaries were satisfied with the variety and quantity of food. However, the referral services were not implemented satisfactorily.

Participation and involvement of beneficiaries and local organizations was minimal although their cooperation was considered crucial for strengthening and promoting community participation.

The woman beneficiaries had misconceptions regarding pre-school education and parental expectations did not match with the objectives of pre-school education envisaged in the scheme. There was optimum utilization of health services in the tribal and urban blocks only. Despite their knowledge and awareness of health services, the beneficiaries did not seem to make full use of health check-up and immunization services.

2. The workshops meant for introducing corrective measures proved useful in orienting the project functionaries to take appropriate and timely actions and in exposing the functionaries to new and innovative methods and techniques of conducting various activities. However, it was found that the functionaries did not implement the various suggestions probably due to lack of motivation and initiative on their part.

3. Based on the findings of the study and the feedback received from the consultants, a system of monitoring social components of ICDS had been developed. The indicators considered relevant were incorporated in this system. The various indicators identified were classified as input, output and outcome measures as given below.

#### List of indicators identified for monitoring and evaluation of social components of ICDS

##### Input measures

##### A. Physical set-up of AW

- AW situated in clean and hygienic surroundings
- Availability of safe drinking water source/stored at AW
- Availability of adequate indoor space (adequate=floor space for 30-40 children to sit comfortably, space for storing and cooking)
- Availability of adequate outdoor space (adequate=play area for 10-15 children to play at a time)
- Utilization of the available space
- Availability of place for storage of rations

##### B. Functionaries

- Age, marital status
- Educational background
- Experience
- Kind of training
- Adult/child ratio at AW
- Motivational level of the functionary (measured through perception indicators and observation)

##### C. Services

- Frequency of contacting beneficiaries
- Regularity and frequency of the services provided
  - i) Pre-school
    - Frequency of conducting stories, rhymes, outdoor games, creative activities
    - Variety in programme planning
    - Availability and utilization of teaching aids/play material
    - AWW's skill in planning and conducting PSE (evaluated through observations by trained enumerators)
  - ii) Health and nutrition education
    - Number of formal HNE sessions conducted
    - Specific messages covered
    - Methods and techniques used
    - AWW's skills in planning and conducting HNE

##### D. Community participation

- Existence of coordination committees at AW level
- Frequency of holding meetings of coordinating committee
- Active involvement of mahila mandal/any other organization in AW
- AWW's skill in eliciting community participation

##### E. Administrative support

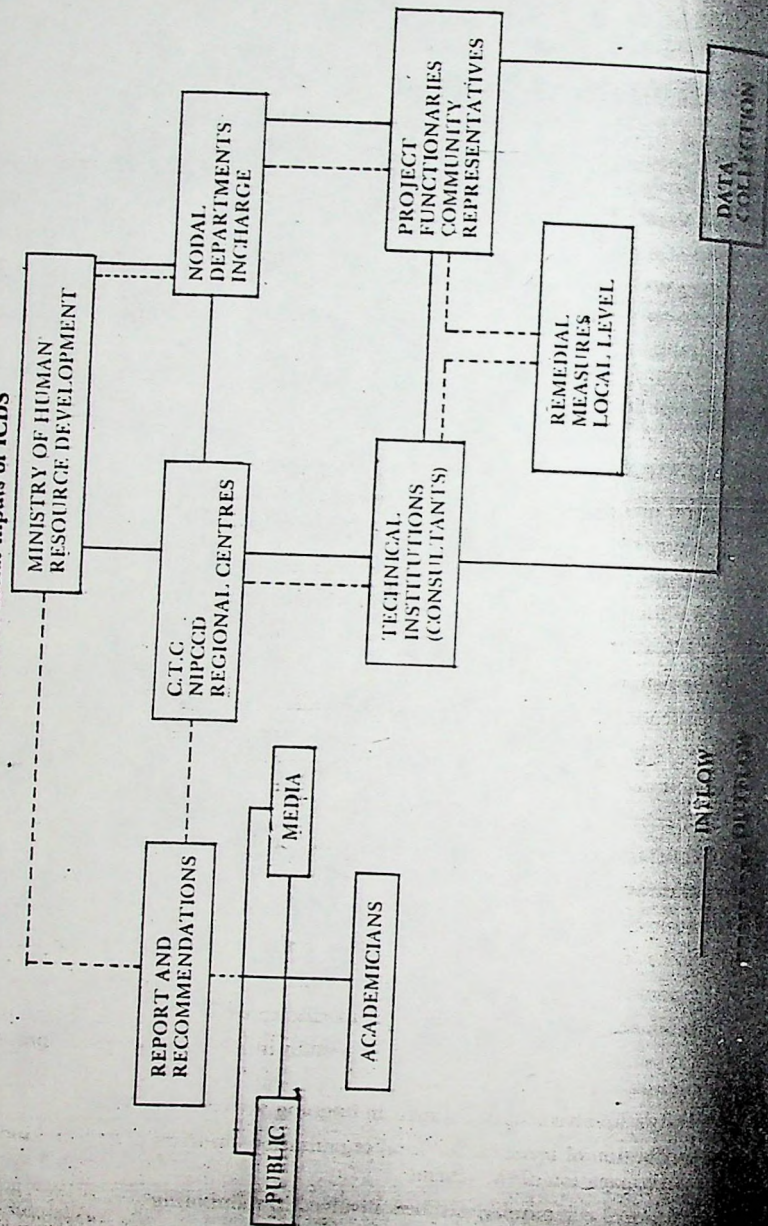
- Frequency of the visit of the supervisory staff
- Kind of help or assistance provided
- Functionaries' perception of the support received
- Efficiency of introducing corrective actions
- Frequency of holding training sessions and demonstrations

##### Output measures

##### Utilization of services

- Number of beneficiaries registered in the centre categorywise
- Proportion of total target population utilizing services regularly
- Attendance pattern categorywise for specific services
- Duration of time for which children remain in AW and engaged in pre-school activities
- Level of involvement of children in ongoing activities at AW
- Distribution of beneficiaries/local organizations in terms of help in kind, cash and propagation of the scheme
- Number of community members involved in monitoring
- Innovative ways tried out by functionaries to improve the functioning of AWWs

**Organizational set-up and feedback mechanism: Monitoring and evaluation system of social inputs of ICDS**



4. After identifying the relevant indicators, a comprehensive system for monitoring the social components was evolved. In the envisaged system, NIPCCD would be entrusted with the overall responsibility of monitoring of social inputs and analysing, interpreting and reporting the information. The other partners in this exercise would be collaborating institutions, project functionaries and community members who would record the needed information on various proforma known as Social Monitoring Report (SMR), either half yearly or quarterly depending upon the purpose for which it is required. In order to have reliable and objective data, the information would also be supplemented by observations made by Research Investigators and community representatives. These schedules would have two parts, one, for forwarding the information upward and the other, for recording the specific instructions for the follow-up action. The support of State Governments and Departments of Social Welfare would also be sought as they look after administrative and maintenance activities. The operationalization of the system is presented below.

5. Phase II of the project has been planned in order to establish the feasibility of the system and to operationalize other processes of integrating it into ICDS scheme at a national level.

**Recommendations :** Community representatives should be involved in monitoring certain aspects of the scheme. This would promote community participation and provide objective information.

2. The system should be tried out in selected blocks of various states to have a representative sample at the national level.

3. The collaborating institutions should evolve a process to cross-check the data to ensure authenticity of information and records.

4. To give stability to the functioning of anganwadis, AWWs in the age group 25-45 years should be recruited and they should not be allowed to rent a part of their house for running AWCs.

5. To strengthen ICDS scheme, functional literacy for women should be reintroduced; health referral services should be increased and network of mahila mandals should be set up for mobilising community participation.

6. While imparting training to ICDS functionaries, emphasis should be laid on practicals and field experiences, to improve their skills. Innovative training technology techniques should be adopted for preparing training material and it should be incorporated in job training.

7. The syllabi and curriculum of job training should be modified to strengthen utilization and management of space, adequate information on selection and preparation of appropriate play material, proper handling and management of communication aids and enhancement of capabilities of project functionaries to elicit community participation.

**Publication Details :** Published : Sharma, Adarsh, Monitoring social components of integrated child development services : A pilot project, New Delhi, NIPCCD, 1987.



## Utilization of Services: An Overview of Research Findings

Utilization of services is one of the important indicators to assess the impact of a developmental programme. ICDS provides a package of six services envisaging that the overall impact of the services will be much larger if they are utilized in an integrated manner. The services provided are interdependent and are based on the basic needs of the children and expectant and nursing mothers.

The various services provided under ICDS scheme are supplementary nutrition, immunization, health check-up, referral services, non-formal pre-school education and nutrition and health education. These services are rendered through anganwadi, the focal unit of ICDS, by an anganwadi worker. With the expansion of the programme since 1975, the percentage of beneficiaries utilizing the services has also increased considerably.

From the research available, it is observed that utilization of services by the beneficiaries has been reported in many studies compiled under various sections. Under this section, studies related to utilization of services only are grouped. An effort has been made to collate the research findings from the various studies to give an overview of the utilization of services by ICDS beneficiaries.

The research findings do not give the utilization of each service in detail with reference to the beneficiaries covered, the cost-effectiveness of the service, problems faced while delivering the service, time spent, knowledge of functionaries, etc. So it is not possible to come to any definite conclusion regarding the status of utilization of services. Out of all the services provided, supplementary nutrition was availed by the maximum number of children followed by immunization, health check-up and non-formal pre-school education. Utilization of HNE and referral services was reported in a very few research studies.

A few researchers have reported the impact of better utilization of supplementary nutrition on the nutritional status of beneficiaries. It was found that the nutritional status of children in an urban ICDS block was better than those in a rural ICDS block due to better utilization of this service (Bawaskar). In another urban ICDS block, the percentage of Grade IV malnourished children reduced from 2.2 to 1.1 after ICDS project was started (Gupta J.P., 1978). On the other hand it was reported that supplementary nutrition though provided in most of the blocks was not accepted fully. About 32 per cent AWWs were of the view that the food offered under supplementary nutrition was not liked by the mothers. Venugopal (1985) observed that uppamau, a snack offered in an anganwadi was not accepted by 75 per cent beneficiaries whereas varagula (ready-to-eat food) was accepted by 80 per cent children, expectant and nursing mothers.

The main problems faced by AWWs in giving supplementary nutrition were procurement of kerosene oil and food articles; distribution of food at the anganwadis; space for cooking and utensils for storage and cooking of food (Gupta, 1978).

ICDS functionaries are specially trained to identify malnourished children before giving supplementary nutrition. In a study it was reported that 77.3 per cent children

Table 10.1  
Utilization of services

Author Year	Supplementary nutrition	Therapeutic nutrition	Health check-up	Intake of iron and folic acid	Services utilized				
					Administration of vitamin A (Children %)	Pre-school education	Referral services	INE Immunization	
Chopdar (7.2) <sup>a</sup> 1977			70.0	40.0					
Gupta J.P. (10) 1978	77.3		26.4						
Sunder Lal (7.1) 1980		100.0	93.2	58.7	93.7			3.0	
Sunder Lal (7.3) 1981	60.0							9	
Deb (7.6) 1982			20.5 (once a month)	16.0	79.6				
Kraker (8) 1982	41.0				41.9				
Bawaskar (Rural) (10) 1983	66.7		33.2		3.1				
Bawaskar (Urban) (10) 1983	50.4		50.2						
Kubde (8) 1985	28.7	12.0	36.6	9.4	16.0	6.5			
Sharma (9) 1986			37.1 (0-3 years) 57.5 (3-6 years)						
Nair (8)			80.0						
Prabhakar (10)	80.5		50.9		85.1	99.6			
Rafiq (10)			78.0			83.9			
						74.0		72.0	83.0

<sup>a</sup> Numbers in parentheses are in per cent (List of Classified Research Studies)

May be seen in Table 21, Table 23, Table 7.1

were receiving supplementary nutrition though there were only 30.5 per cent malnourished children entitled for the same (Gupta, 1978).

AWWs found it difficult to get the health check-up of the children done because they had to carry the children to PHC at their own risk. Medical Officers/LHVs did not visit the anganwadis regularly. Medical care for diseases like respiratory infections, skin and eye infections, diarrhoea and fever was received by children from private practitioners, AWWs, PHC and sub-centres to some extent. The utilization of services from private practitioners by the villagers was by and large low because the doctors were practising about three km away from the village and only a small percentage of children availed medical aid from PHC/SC because of the absence of the doctor (Gupta, K.B., 1977).

The percentage of children utilizing ICDS services as reported in research studies may be seen in Table 10.1.

Only two studies have reported the utilization of services by expectant and nursing mothers. Gupta J.P. (1978) reported that 37.3 per cent expectant mothers were receiving supplementary nutrition. In another study, it was found that 10.3 per cent expectant mothers and 18.7 per cent nursing mothers in a rural ICDS block and 28.8 per cent expectant and 49.4 per cent nursing mothers in an urban ICDS block received supplementary nutrition. About 46 per cent expectant mothers in a rural area and 33 per cent in an urban area were immunized (Bawaskar).

The various factors influencing the utilization of services were awareness and attitude of beneficiaries, knowledge and skills of ICDS functionaries, effective delivery of services, etc.

Awareness of beneficiaries regarding the services available and their satisfaction has direct bearing on their utilization. It was found that the beneficiaries were not fully aware of the services provided under ICDS. Venugopal (1985) reported that only 25 per cent families were aware of ICDS and anganwadis. Further, though 75 per cent mothers were well aware of the immunization programme, only 10 per cent knew about non-formal pre-school education component. Raina found that 98 per cent respondents were not aware of tetanus vaccination. In some ICDS blocks, beneficiaries were satisfied with the services and in others they were not. According to Gupta J.P., (1978) about 97 per cent beneficiaries were satisfied with the services, 89 per cent found them very useful and 98.7 per cent were utilizing the services regularly.

The skill, knowledge and attitude of ICDS functionaries and the time spent by them in delivering the services also influences their utilization. But no conclusion could be drawn about the knowledge of ICDS functionaries as it was reported only in one study that 43 per cent AWWs in the urban area and 55.5 per cent in the rural area were having complete knowledge about their daily duties (Bawaskar).

In another study it was reported that AWWs spent nearly 21 per cent of their time on health services and 54.2 per cent on non-health activities including pre-school education. The remaining 24.9 per cent time was not utilized (Gupta J.P., 1978).

The coverage, delivery and utilization of services are important links in the chain of reactions leading to impact. The status reports brought out by the Department of Women and Child Development and the annual surveys conducted by CTC at AIIMS to monitor health and nutrition component of ICDS report an increase in the

number of beneficiaries covered under various services. There is a need to conduct national level longitudinal research studies related to utilization of ICDS services to assess the change in the status of beneficiaries. Conclusions should be drawn on the basis of both qualitative and quantitative analysis of the data.

## A Study of Some Aspects of Integrated Child Development Services Scheme in Projects Aurangabad (Urban) and Motala (Rural)

B S Bawaskar, • P V Sathe

### KEY WORDS

Services, Utilization, Nutritional status, Morbidity, Rural, Urban and ICDS block

**Objectives :** The study was undertaken to compare urban and rural ICDS blocks regarding (i) selected aspects of social and demographic data; (ii) health, nutritional and immunization status of children and expectant and nursing mothers; (iii) utilization of services by beneficiaries and (iv) profile of AWWs.

**Duration :** Not available

**Methodology :** The study was conducted in the rural ICDS block Motala, district Buldana and in the urban ICDS block Aurangabad, district Aurangabad, Maharashtra. The rural block was divided into three geographical sectors with equal population. For each sector two lists were prepared, one of the villages having PHCs nearby and the other at least five km away from PHCs. A total of six anganwadis were selected randomly, one from each list and each sector respectively. The urban block was also divided into three geographical sectors and two anganwadis were selected from each sector using random number table. Thus there were 24 anganwadis from the rural block and six from the urban. Door-to-door visits were made by the research team to collect information on the survey cards about socio-economic status of the households; health, nutritional and immunization status of children and expectant and nursing mothers and services received by them. The knowledge of AWWs regarding day-to-day discharge of services was assessed through a questionnaire in the local language (Marathi)

**Major findings and conclusions :** The social and demographic data of the rural and urban blocks was as given in the table below.

### Social and demographic data

Social profile	Rural block	Urban block
Total population	6,151	5,401
Hindus	4,987	5,342
Muslims	1,096	37
Scheduled Castes	3,768	1,122
Average family size	5.1	5.5
Literate population	2,350	1,640
Agricultural cultivators	—	998

\* Professor and Head, Department of Preventive and Social Medicine, Government Medical College, Aurangabad 431001, Maharashtra.

Recommendations: The supply of supplementary nutrition and other inputs should be regular.

2. Personnel of medical and social welfare departments should have proper coordination.
3. There should be adequate supervision of anganwadi centres and more community participation for effective functioning of the scheme.

Publication Details: Published: *Indian Pediatrics*, 18, March 1981: 187-188.

### Assessment of Impact of ICDS Scheme on Pre-school Children Udupi Project, Karnataka

• B K Chakladar, R S Phaneendra Rao, Krishna Rao, Jyoti Kumari

#### KEY WORDS

Impact of ICDS, Nutritional status, Immunization status, Rural ICDS block

**Objectives:** The study was undertaken to (i) assess the health status of children attending anganwadis; and (ii) find out the extent to which they had benefitted from ICDS programme.

**Duration:** September 1983-February 1984

**Methodology:** The study was conducted in 14 anganwadis, of which 12 were located in the rural ICDS block Udupi and two in the rural ICDS block Karkala, district Dakshina Kannada, Karnataka. Three hundred and seventy-eight children in the age group 1-6 years were examined from a total of 560 children registered in the anganwadis. Of these 186 were male and 192 female. A majority of children (72.6%) were in the age group 3-5 years.

The control group comprised 547 children below the age of five years selected from non-ICDS area, of which 260 were male and 287 female.

Anthropometric measurements of all the children such as height and weight were recorded and compared with national average. Their nutritional status was also assessed and the malnourished children were graded according to the recommendations of the Nutrition Sub-committee of the Indian Academy of Pediatrics. The immunization status was assessed from the records maintained by AWWs.

The services provided in the anganwadis were not utilized by expectant and nursing mothers as they were not registered.

• Professor and Head, Department of Community Medicine, Kasturba Medical College, Manipal 575  
Karnataka.

**Major findings and conclusions:** The mean height of ICDS and non-ICDS children in the age group two years and above was significantly higher when compared with the national average. Again the mean height of ICDS group was more as compared to non-ICDS group but the difference was not significant in the age groups 1½-2 years and 3-4 years.

2. There was no significant difference in weight of ICDS and non-ICDS children in all the age groups. However, there was a marginal difference in weight in the age group 3-4 years and 4-5 years when ICDS and non-ICDS children were compared with national average.

3. The nutritional status of ICDS and non-ICDS children was as given in the table below.

Nutritional status of children

Nutritional grades	Children	
	ICDS N=321	Non-ICDS N=547
	No. (%)	
Normal	102 (31.8)	128 (23.4)
PEM		
Grade I	91 (28.3)	203 (37.1)
Grade II	94 (29.3)	176 (32.2)
Grade III	34 (10.6)	40 (7.3)

4. The children from ICDS area were immunized with OPV (66.4%), DPT (68%) and BCG (41.6%) vaccines. The immunization coverage was good but considering that the registered anganwadi children constituted only 25 per cent of the child population, the benefits of immunization were derived by only 10-16 per cent children in the age group 0-6 years.

5. The findings indicated that most of the beneficiaries had not benefitted from ICDS scheme although the per capita expenditure was Rs. 110/- per year. This was due to (i) anganwadis being located at a distance leading to restricted attendance of children; (ii) lack of community participation; (iii) lack of coordination between health and social welfare departments; (iv) lack of proper supervision; and (v) good nutritional status of children.

**Recommendations:** ICDS programme should be based on the needs of the people and services provided should be changed accordingly.

2. The scheme should have an information system to provide direct means of surveillance and evaluation.

3. The planners should identify the cost benefit indicators for evaluating the programme periodically.

4. Supervisory system needs to be streamlined.

Publication Details: Unpublished.

NATIONAL INSTITUTE OF PUBLIC COOPERATION & CHILD DEVELOPMENT

REFRESHER TRAINING PROGRAMME FOR ANGAJEDI  
WORKERS OF ICDS PROGRAMME

①

Duration : 15 days

No. of working days : 12 days

No. of working Hours : 72

10.00a.m.-11.30a.m. 11.30a.m.-1.00p.m. 1.00p.m.-2.00p.m. 2.00p.m.-3.30p.m. 3.30-5.00p.m.  
2.00p.m.

1 2 3 4 5 6

Registration of  
trainees.  
Introduction and  
rapport building  
through games

Sharing of  
experiences  
-achievements in  
the AW  
-identification of  
field problems  
-expectations from  
the course

Critical areas in  
ICDS, infant mor-  
tality, maternal  
mortality morbi-  
dity  
School enrolment  
reduction in mal-  
nutrition etc.  
  
Role of AWWs in  
achieving ICDS  
objectives support  
from CDPO, super-  
visor, Helper and  
Medical functionaries

Unit visual on  
preschool education

17  
2 Morning  
Prayer  
(9.45-  
10.00a.m.)

Preschool Education

Activities for promoting physical, social  
(and emotional development of children

Activities for promoting  
a. language development in children  
b. reading & writing readiness

games  
creative activities  
& movement  
action songs

mud & water play  
fine muscular  
activities

Organising children for activities

stories  
songs  
language games

Listening skills  
free conversation  
pattern making

NT 27

2

9.30h

1.30p.m.

Day 10.-11.30a.m. 11.30a.m.-1.00p.m. 1.00p.m.-2.00p.m. 2.00-3.30p.m. 3.30-5.00p.m.

19

Day 3	Newspaper reading (9.00-10.00 a.m.)	Nature walk as an activity for learning from the environment. (10.00-11.00 a.m.)	Activities for promoting cognitive development of children using environmental resources colour, size, taste number shape weight smell etc.	L	Preparation of aids for organising preschool activities flash cards feely bag masks puzzles conver- story card dominoes sation flannel chart board
		<i>Roya</i>		U	<i>Later</i> Discussion on utilisation of kit given during the job training course

y 6

Day 4	Physical exercises (9.30-10.00 a.m.)	Preparing a weekly time table for pre-school activities using - mixed approach - theme approach		N	Practising activities using aids prepared in the classroom following the time table plans developed
		<i>Royana</i>		C	

y 7

20

Day 5	Morning Prayer (9.45-10.00a.m.)	<u>Nutrition and Health</u> Assessment of skills of AWs in Growth Monitoring Enhancing skills of AWs in weighing plotting and interpretation of growth curves		H	Use of growth charts for counselling mothers about nutrition and health aspects Role Play/Mock Sessions
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92

② Dept

(3)

10.00-11.30a.m. 11.30a.m.-1.00p.m. 1.00-2.00p.m. 2.00-3.30p.m. 3.30-5.00p.m.

6 Physical exercises (9.50-10.00 a.m.)

- Assessing skills or AWWs in
  - i. preparation of supplementary/therapeutic nutrition
  - ii. organisation and distribution of SN to children
  - iii. storage of SN

Preparation of six new/simple recipes for SN out of raw food items supplied to AW centres

Nutrition & Health Education  
Nutrition and Game Identification (3.30-3.45 p.m.) of areas and talking points for NHEB and importance

*Keelara Murthy*  
*Keelara Murthy*

*manthana*  
*Radha*

Enhancing Knowledge of AWWs on Nutrition & Health Aspects for discussion with Mothers & Community

i. Timely supplementation of breast milk

Song (11.30-11.45 a.m.)

ii) Dietary management in diarrhoea care after acute dehydration

Importance of timely immunisation of children

Game iv) Care of the pregnant mother before delivery, during delivery & after delivery

Preparation of Oral Rehydration Solution  
Use of Safe Drinking Water

*Pushpa mothe*

Importance of spacing births and the four toos

*Marayam & Lat K.N.G.*

*VISIT Dr. Radha*

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Day 10.00-11.30a.m. 11.30a.m.-1.00p.m. 1.00-2.00p.m. -2.00-3.30p.m.3.30-5.00p.m.

Day 8	Public speaking (3.30-10.00 a.m.)	Education of Mothers and Community on Nutrition Health and Pre-school Education Aspects	i. educating the individual mother through home visits Selection of Home, frequency of visit Mode of discussion Role Play Exercises	ii. Educating groups of mothers through mothers meeting Planning & Organising the mothers meeting Role Play Exercises	Session Contd.	Community Participation Difficulties in involving the community in activities of anganwadi; Role of AWW and support from CDPO/Supervisors
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CDPO/Super

Day 9

Super

Day 9	Public speaking (9.30-10.00 a.m.)	Strengthening community participation through the help of Sarpanch, EDO, Dai Utilising the Primary school teacher/ youth club/ adolescent girls for preschool and other AW activities	Formation and activating mahila mandals Planning and conducting mahila mandal meetings Recording minutes and planning follow up action	Session Contd.	Educating large community groups through campaign. Planning and organising campaign for i. Nutrition and Health Awareness ii. Awareness about PSE National iii. Awareness about ICDS
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G.V. Raju

8



9

5

- 5 -

Day 10.00a.m.-11.30a.m. 11.30a.m.-1.00p.m. 1.00p.m.-2.00p.m. 2.00-3.30p.m. 3.30p.m.-5.00p.m.

Participation  
involve  
in  
angli wadi  
support  
revisors

Day 10 Practising campaign, activities and preparation of aids for the campaign L How to organise a community meeting selection of topic, arrangements points for discussion

Day 11. Management Maintenance of records and registers U Problem areas in filling up MPR & HPR forms Identification of difficulties Exercises in filling up MPR & HPR forms Enhancing skills through exercises in filling up records and registers

10 Jaypadma

11

Akkayan

Day 12 Management of time in the AW Centre Discussion/skill Training in an area of special interest N New Circulars/ developments in ICDS Concluding session

- planning work/ service delivery C
- daily/weekly/monthly basis H
- activities to be undertaken over the next one year

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Relieved 25th Oct 2011

FORMAT FOR STATE TRAINING ACTION PLAN FOR THE YEAR \_\_\_\_\_

Name of the State/Union Territory.

Name, designation & address of the Nodal Officer for ICDS Training Programme:

**I Assessment of functionaries to be trained**

(a) Number of ICDS functionaries in the State/UT:

	CDPOs	ACDPOs	Supervisors	Anganwadi Workers	Helpers
(i) Sanctioned					
(ii) In position					
(iii) Vacancies (i - ii)					
(iv) Anticipated recruitment during the year					

(b) Details of functionaries requiring Job, Refresher or Orientation Training with reference to I(a)(ii)

	CDPOs	ACDPOs	Supervisors	Anganwadi Workers	Helpers
(i) Job					
(ii) Refresher					
(iii) Orientation					
(iv) TOTAL					

Note: Put a line wherever not applicable e.g. Orientation for CDPOs, etc.

Identification and mapping of training centres

(a) Details of existing AWTCs

Name of the District	Name and precise address of the AWTC	Name of the NGO/ Deptt. running the AWTC	Date on which AWTC started, & whether the State/UT Deptt. have inspected the AWTC in the last one year	Remarks
(1)	(2)	(3)	(4)	(5)
(i)		1. 2. 3.		
(ii)		1. 2. 3.		
TOTAL:				

Note: Under the Remarks column, States may like to comment on whether any AWTC is proposed to be relocated and if so, the proposed new address, whether it is proposed to transfer the running of an AWTC to another NGO or Government Institute and if so, which one.

Plans of New AWTCs proposed to be set up

Name of the District	Name and address of the proposed AWTC	Name of the NGO/ Deptt. who will run the AWTC	Is this NGO/ Deptt. running any other AWTC in the State/UT?	Reasons for selecting the NGO/Deptt. to run the AWTC
(1)	(2)	(3)	(4)	(5)
(i)	1. 2. 3. . .			
(ii)	1. 2. 3. . .			

(c) Details of existing MLTCs

Name and precise address of the MLTC(s) utilised by the State/UT	Name of the NGO/ Deptt. running the MLTC	Date on which MLTC started & whether the State/UT have inspected the MLTC in the last one year	Remarks
(1)	(2)	(3)	(4)
1.			
1.			

REQUEST FOR NEW AWTC(S)

The training capacities in all the \_\_\_\_\_ existing AWTCs are being fully utilised. The question of utilising existing Government training capacity in institutes such as DIETs, SIRDs, ATIs, Colleges, etc. has been examined before proposing the new AWTCs. The State Department is confident that the NGOs/Depts. who are being proposed to run the AWTCs will do so satisfactorily.

Name of the Director (ICDS) in capital letters:

Signature:

Date:

- Note (i) II(a) and II(b) are to be physically mapped on a map, with district boundaries. Existing AWTCs should be in red and proposed AWTCs in yellow. This map should be annexed.
- Note (ii) New AWTCs will be sanctioned only after receipt of the above signed statement.

III. Suggested Strategies for Training (with details)

A. Job Training

Functionary	Strategy	Remarks
Anganwadi Worker		

B. Refresher Training

Functionary	Strategy	Remarks
CDPO/ACDPO Supervisor Anganwadi Worker		



(d) Details of new MLTCs proposed

Name and address of the proposed MLTC(s) (including those in the neighbouring States, if they are proposed to be utilised)	Name of the NGO/ Dept. likely to run the MLTC	Is this NGO/ Dept. running any other MLTC in the State/UT?	Reasons for selecting this NGO/Dept. to run the MLTC
(1)	(2)	(3)	(4)
1.			
1.			

IV. Training Calendar:

Name of the Functionary	Number of Functionaries to be deputed for Training during				
	Apr-Jun 1999	Jul-Sep 1999	Oct-Dec 1999	Jan-Mar 2000	TOTAL
(1)	(2)	(3)	(4)	(5)	(6)
CDPO	Job:				
	Ref:				
	Total:				
ACDPO	Job:				
	Ref:				
	Total:				
Supervisor	Job:				
	Ref:				
	Total:				
AWW	Job:				
	Ref:				
	Total:				
Helper	Orientation:				
	Ref:				
	Total:				

NORMS FOR JOB TRAINING COURSE FOR ANGANWADI WORKERS  
(3 months duration: 3 courses per year with 35 trainees per course per AWTC)

Sl. No.	Item	Amount (Rs. per annum)
	<u>Recurring</u>	
A.	<u>Fixed</u>	
1.	Honoraria of Staff	329,800
2.	Rent (Average) [@ Rs. 6,000/- p.m. per AWTC in respect of Class A1 city; Rs. 5,000/- p.m. per AWTC in respect of Class A city; and Rs. 4,000/- p.m. per AWTC in respect of other cities/areas]:	60,000
3.	Electricity & Water Charges (Rs. 250/- per month)	3,000
4.	Contingencies	15,000
	Total (Fixed Cost)	407,800
B.	<u>Variable</u> (depending upon number of trainees)	
5.	Stipend to Trainees [Rs. 500/- p.m. to Matriculates & Rs. 438/- p.m. to Non-matriculates (assuming 90% matriculates and 10% non-matriculates)]	155,826
6.	Boarding to trainees (Rs. 30 per day per trainee)	283,500
7.	Conveyance & Field Trips (a) TA/DA to instructors for accompanying trainees & fellowship of trainees (b) Field Visits	12,000 20,000
8.	Training Material	3,000/-
9.	TA to trainees (Rs. 150/- per trainee)	15,750
	Total (Variable):	490,076
	Total (Recurring) per annum	897,876
	<u>Non-Recurring</u>	
1.	Equipment & Furniture	60,000
2.	Literature	15,000
3.	Miscellaneous	10,000
	Total (Non-recurring)	85,000
	<b>GRAND TOTAL:</b>	982,876

NORMS FOR REFRESHER TRAINING OF ANGANWADI WORKERS  
(duration 15 days; No. of participants 40 per course)

		Per Course
Sl. No.	Item	Amount (Rs.)
1.	Daily Allowance to AWWs to meet expenditure on boarding (Rs. 30 per day per trainee)	18,000
2.	TA to AWWs (Rs. 150/- per trainee)	6,000
3.	Field visits	1,000
4.	Honorarium/TA to Guest Speakers	1,000
5.	Training Material (Rs. 50 per trainee)	2,000
6.	Contingency	500
	<b>TOTAL:</b>	<b>28,500</b>

NORMS FOR JOB TRAINING COURSE FOR ICDS SUPERVISORS  
(Duration 80 days; No. of Participants 25 per course)

S. No.	Item	Per course
		Amount (Rs.)
1.	TA to trainees (Rs. 350 per trainee)	8,750
2.	Boarding and Lodging to trainees (Rs. 70 per trainee)	1,40,000
3.	Honorarium to Guest Speakers (Rs. 200 per session)	9,000
4.	TA to Guest Speakers (per course)	1,500
5.	Training Material (Rs. 150 per trainee)	3,750
6.	Field visit	15,000
7.	Contingencies	10,000
	<u>Total</u>	<u>1.88.000</u>

**ANNEXURE - V****NORMS FOR REFRESHER COURSE FOR SUPERVISORS**  
(Duration: 11 days; No. of participants: 25 trainees per course)

		Per course
Sl. No.	Item	Amount (Rs.)
1.	TA to trainees (Rs. 350 per trainee)	8,750/-
2.	Board and Lodging to trainees (Rs. 70 per day)	19,250/-
3.	Honorarium to Guest Speakers (Rs. 200 per session)	2,000/-
4.	Training Material (Rs. 150 per trainee)	3,750/-
5.	TA to Guest Speakers	1,500/-
6.	Conveyance including field visit	2,000/-
7.	Contingencies	2,000/-
	<b>TOTAL:</b>	<b>39,250</b>

## NORMS FOR PROGRAMMES CONDUCTED IN MLTCS

	Item	Amount (Rs.)
1.	Honoraria of Staff	415,100
2.	Visit to AWTCs and ICDS projects	10,000
3.	Newspaper, Magazine, etc. for MLTCs (@ Rs. 250/- p.m.)	3,000
4.	Electricity & Water, scavenging etc. (@ Rs. 250 p.m.)	3,000
	Total:	431,100

NORMS FOR JOB TRAINING COURSE FOR CDPOs/ACDPOs  
(Duration 60 days; No. of Participants 25 per course)

S. No.	Item	Per course
		Amount (Rs.)
1.	TA/DA to trainees (Rs. 3,000 per trainee)	75,000
2.	Boarding and Lodging to trainees (Rs. 75 per day per trainee for 46 days)	86,250
3.	Boarding and Lodging during field placement (Rs. 100 per day per trainee for 16 days)	40,000
4.	Honorarium to Guest Speakers	10,000
5.	TA/DA to Guest Speakers (per course)	1,000
6.	Field visit	15,000
7.	Training Material (Rs. 250 per trainee)	6,250
8.	Contingencies	10,000
	<b>Total</b>	<b>243,500</b>



**NORMS FOR REFRESHER COURSE FOR CDPOs/ACDPOs**  
(Duration: 12 days; No. of participants: 25 trainees per course)

Sl. No.	Item	Per course
		Amount (Rs.)
1.	TA/DA to trainees (Rs. 2,000 per trainee)	50,000
2.	Board and Lodging to trainees (Rs. 75 per day)	22,500
3.	Honorarium to Guest Speakers (Rs. 200 per session)	2,500
4.	TA/DA to Guest Speakers	500
5.	Field visits and local transport	2,000
6.	Training Material (Rs. 150 per trainee)	3,750
7.	Contingencies	5,000
<b>TOTAL:</b>		<b>86,250</b>

**NORMS FOR ORIENTATION COURSE FOR HELPERS**  
(duration 13 days; No. of participants 50 per course)

Per course

Sl. No.	Item	Amount (Rs.)
1.	Boarding to Helpers (Rs. 30 per day per trainee)	19,500
2.	TA to trainees	7,500
3.	Honorarium/TA to Guest Speakers	500
4.	Training Material	2,500
5.	Practicals/Field visits	500
6.	Contingency	500
	<b>TOTAL:</b>	<b>31,000</b>

**NORMS FOR REFRESHER COURSE FOR HELPERS**  
(duration 7 days; No. of participants 50 per course)

Per course

Sl. No.	Item	Amount (Rs.)
1.	Boarding to trainees (Rs. 30 per day per trainee)	10,500
2.	TA to trainees (Rs. 150 per trainee)	7,500
3.	Honorarium/TA to Guest Speakers	250
4.	Training Material (Rs. 50 per trainee)	2,500
5.	Practicals & Field visits	300
6.	Contingency	300
	<b>TOTAL:</b>	<b>21,350</b>

NORMS FOR ORIENTATION OF INSTRUCTORS OF AWTCs  
(Duration 22 days; No. of participants 15 per course)

		Per course
Sl. No.	Item	Amount (Rs.)
1.	TA to trainees (Rs. 350 per trainee)	5,250
2.	Boarding and lodging to trainees (Rs. 70 per trainee per day)	23,100
3.	Honorarium to Guest Speakers (Rs. 200 per session)	2,000
4.	TA to guest speakers	1,500
5.	Training Material (Rs. 150 per trainee)	2,250
6.	Field Visits	3,500
7.	Local conveyance	2,000
8.	Contingencies	2,000
	Total:	41,600

NORMS FOR REFRESHER COURSE FOR INSTRUCTORS OF AWTCs  
(Duration 8 days; No. of participants 15 per course)

Sl. No.	Item	Per course
		Amount (Rs.)
1.	TA to trainees (Rs. 350 per trainee)	5,250
2.	Boarding and lodging to trainees (Rs. 70 per trainee per day)	8,400
3.	Honorarium to Guest Speakers (Rs. 200 per session)	2,000
4.	TA to guest speakers	1,000
5.	Training Material (Rs. 100 per trainee)	1,500
6.	Field Visits & Conveyance	1,000
7.	Contingencies	1,500
	Total:	20,650

NORMS FOR ORIENTATION COURSE FOR INSTRUCTORS OF MLTCs  
(Duration 12 days; No. of participants 20 per course)

Sl. No.	Item	Per course
		Amount (Rs.)
1.	TA to trainees (including local conveyance charges to local participants)(Rs. 2,000 per trainee)	40,000
2.	TA to Guest Speakers	1,000
3.	Honorarium to Guest Speakers	2,000
4.	Boarding and lodging to trainees (Rs. 75 per trainee per day)	18,000
5.	Local Conveyance	1,000
6.	Field Visits	2,000
7.	Contingencies	3,000
	Total:	67,000

NORMS FOR REFRESHER COURSE FOR INSTRUCTORS OF MLTCs  
(Duration 8 days; No. of participants 20 per course)

Sl. No.	Item	Per course
		Amount (Rs.)
1.	TA to trainees (including local conveyance charges to local participants)(Rs. 2,000 per trainee)	40,000
2.	Boarding and lodging to trainees (Rs. 75 per trainee per day)	12,000
3.	Honorarium to Guest Speakers	1,500
4.	TA to guest speakers	1,000
5.	Local Conveyance	1,000
6.	Field Visits	2,000
7.	Contingencies	3,000
	<b>Total:</b>	<b>60,500</b>

## GUIDELINES FOR OPENING, CONTINUING AND CLOSING DOWN TRAINING CENTRES

- (i) With the sanction of the new AWTCs/MLTCs, the total number of AWTCs/MLTCs in your State will be \_\_\_\_\_ and \_\_\_\_\_ respectively. You are requested to intimate the location-wise details and complete addresses of these AWTCs/MLTCs along with a clear map indicating their locations.
- (ii) The existing locations of training centres in the State will be periodically reviewed, and wherever necessary, AWTCs will be relocated wherever they are heavily clustered.
- (iii) The AWTCs/MLTCs will organise the training courses strictly in accordance with the training curriculum/syllabus and financial norms approved by the Government of India from time to time. No deviation will be allowed without the prior approval of the Government of India.
- (iv) The State Government will be fully responsible for monitoring the training centres and for sending progress reports (physical and financial) as stipulated from time to time. The State Government will develop a system for regularly monitoring/ inspecting the training centres and will designate a nodal officer for this purpose. The nodal officer will also be responsible for ensuring the deputation/reporting of trainees at the training centres so that the training facilities are fully utilised.
- (v) The existing system of release of funds to State Governments and to ICCW for AWTCs run by it, and to NIPCCD for MLTCs, will continue at present.
- (vi) The MLTC(s) will approach NIPCCD for a formal agreement, release of grant-in-aid, supply of training material and training of trainers. NIPCCD may also be approached for training of instructors of AWTCs.
- (vii) The details of the training institutions may also be sent to UNICEF for supply of training equipment.
- (viii) All AWTCs/MLTCs are temporary in nature and will be continued on a year to year basis depending upon the training needs and requirements of the State Government.
- (ix) The approval of the Government of India will be required for opening every AWTC and MLTC.
  - (a) States can relocate (change the location) of an AWTC, if required, if -
    - (a) the organisation running it remains the same; or
    - (b) the AWTC is proposed to be shifted from an NGO to a Government institute/sector.
- (xi) However, approval of Government of India will be required in all cases where
  - (a) an AWTC run by a Government institute/sector is proposed to be shifted to an NGO, or
  - (b) is being shifted from one NGO to another.



No. 11-13/97-TR  
Government of India  
Ministry of Human Resource Development  
Department of Women & Child Development

Jeevan Deep Building, First Floor  
Sansad Marg, New Delhi-110001

8th August 1997

To

The Secretaries dealing with ICDS Programme  
All States/UTs

Sub: Constitution of National/State ICDS Training Task Forces.

The Training component of the ICDS Programme has now been recognised as the most important key to achieving the aims and objectives of the ICDS Programme. With the emphasis now being on quality improvements and enrichment of the human resources available with the ultimate aim of moulding the ICDS functionaries into agents of social and behavioural changes, convincing communicators who can effectively bring about the attitudinal changes required, Training, or human resource development or capacity building as it is otherwise known, assumes tremendous significance. An in-depth assessment of the Training programme, its contents and curriculum, the methodologies and the strategies has been carried out. One of the major points which has emerged is the lack of coordination amongst all the players. This has led to a fairly haphazard approach with lots of duplication and replication of efforts. I am directed to state that it has, therefore, been decided that each State and Union Territory will constitute a State/UT ICDS Training Task Force while a National ICDS Training Task Force will be set up at the Government of India level. The basic functions of these Task Forces will be to integrate and coordinate all aspects of ICDS Training at all levels and to recommend changes in the curriculum, strategies and methodologies. The ultimate goal is to re-orient and re-vitalise ICDS Training to turn it into a dynamic, responsive, human resource development programme, pulsating with innovations. All the recommendations of the State/UT Training Task Forces will be placed before the National Training Task Force and the Department of Women & Child Development, Government of India.

2. The composition of the National Training Task Force is as under:

(a)	Joint Secretary (DWCD), Government of India	...	Chairperson
(b)	Additional Director, NIPCCD	...	Member
(c)	Dr. B.N. Tandon, CTC	...	Member
(d)	HOD Preschool Education, NCERT	...	Member
(e)	Project Director, World Bank Unit, GOI	...	Member
(f)	Deputy Secretary (CD), Government of India	...	Member
(g)	Technical Advisor, FNB	...	Member
(h)	Joint Director (Trg.), NIPCCD	...	Member
(i)	Regional Director, NIPCCD, Lucknow	...	Member
(j)	Regional Director, NIPCCD, Guwahati	...	Member
(k)	Regional Director, NIPCCD, Bangalore	...	Member

- (xii) After analysing the requirements of AWTCs, States can continue AWTCs. Intimation in regard should be sent immediately to Government of India.
- (xiii) After analysing the requirements of AWTCs, States can close down AWTCs after giving a reasonable notice period. Intimation in this regard should be sent immediately to Government of India.
- (xiv) The commitment of Government of India will be restricted to the financial norms approved under the scheme or the actuals, whichever is less. The Government of India will have liability on the staff engaged by the training centres under the ICDS Training Program except the honoraria provided under the scheme. The Government of India will also have liability in respect of service matters of such staff. This should be clarified to the staff when making their appointment.
- (xv) The other terms and conditions prescribed by the Government of India for release of grants under Plan schemes will also apply.
- (xvi) The above conditions will also be made applicable to the existing AWTCs/MLTCs when communicating their continuation during the current year.

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- |     |  |     |          |
|-----|--|-----|----------|
| (l) | Secretary-General, ICCW  | ... | Member   |
| (m) | State Directors dealing with ICDS (by rotation)                              | ... | Member.  |
| (n) | Project Officer (CD), UNICEF, New Delhi                                      | ... | Member   |
| (o) | Representative from CARE, Delhi  | ... | Member   |
| (p) | Representative from WFP, Delhi   | ... | Member   |
| (q) | Representative from MLTC (by rotation)                                       | ... | Member   |
| (r) | Representative from AWTC (by rotation)                                       | ... | Member   |
| (s) | Deputy Secretary (Trg.), D/WCD, GOI  | ... | Convener |
| (t) | Any other member which the Chairperson may wish to co-opt from time to time. |     |          |

3. The composition of the State Training Task Force will be as under:

- |     |  |             |
|-----|--|-------------|
| (a) | Director ICDS  | Chairperson |
| (b) | NIPCCD Regional Centre<br>Director   | Member      |
| (c) | State Coordinator<br>CTC   | Member      |
| (d) | Director, SCERT  | Member      |
| (e) | Director Rural Development   | Member      |
| (f) | Director Health  | Member      |
| (g) | Director, Education  | Member      |
| (h) | Project Manager, World Bank Unit<br>Government of India (where applicable) | Member      |
| (i) | State FNB representative (where applicable)                                | Member      |
| (j) | State Council for Child Welfare representative                             | Member      |

Representatives from

- |     |  |          |
|-----|--|----------|
| (k) | MLTCs (by rotation)                                      | Member   |
| (l) | AWTCs (by rotation)                                      | Member   |
| (m) | UNICEF   | Member   |
| (n) | CARE (where applicable)                                  | Member   |
| (o) | WFP (where applicable)                                   | Member   |
| (p) | One good CDPO (by rotation)                              | Member   |
| (q) | One good Supervisor (by rotation)                        | Member   |
| (r) | One good AWW (by rotation)                               | Member   |
| (s) | State Nodal Officer ICDS Training                        | Convener |
| (t) | Any other member the Director (ICDS) may like to co-opt. |          |

4. All State Governments/UT Departments dealing with ICDS are requested to constitute the State/UT Training Task Force and to send a copy of the Order to this Department. Detailed information on the functions etc. of the State Training Task Force will follow.

Sd/-

(RINA RAY)

DEPUTY SECRETARY TO THE GOVERNMENT OF INDIA

Copy to:

1. All Members of the National ICDS Task Force.
2. All State Directors of ICDS Programme

3. Dr. BN Tandon, Chairman, CTC, New Delhi
4. Professor Verita Kaul, HOD, Pre-School Education, New Delhi.
5. Project Director, World Bank Unit, DWCD [Shri Gopal Krishna]
6. DS (CD) [Shri S.K. Bhargava]
7. TA, FNB, New Delhi [Smt. Shashi Prabha Gupta]
8. Director, NIPCCD [Shri D.P. Sethi]
9. Regional Directors of Regional Centres of NIPCCD at Lucknow, Guwahati and Bangalore.
10. President, ICCW, New Delhi [Smt. Habiba Habibulla]
11. Chief (CD & Nutrition Division), UNICEF, New Delhi.
12. CARE-India [Mr. Tom Alcedo, Country Director], E-28, Greater Kailash-I, New Delhi
13. WFP [Ms. Angela Van Rynbach, Country Director], 53, Jor Bagh, New Delhi
14. All MLTCs
15. All AWTCs

Sd/-

(R.S. Sharma)

UNDER SECRETARY TO THE GOVERNMENT OF INDIA

No. 11-15/98-TR.I  
Government of India  
Ministry of Human Resource Development  
Department of Women & Child Development

Jeevan Deep Building, First Floor  
Sansad Marg, New Delhi-110001  
19 May 1999

To

1. State Secretaries, All State Governments/UT Administrations
2. Director, NIPCCD, New Delhi
3. President, ICCW, New Delhi

Sub: World Bank Assisted ICDS Training Programme - Project UDISHA - administrative approval and guidelines for implementation - regarding

Sir/Madam,

The aim of ICDS Training is to develop all the functionaries of ICDS into *agents of social change*. In order to develop the ICDS Training Programme into a dynamic, responsive, comprehensive training-cum-human resource development programme which is flexible, innovative and capable of achieving the objectives of the ICDS Scheme, the Department of Women & Child Development undertook an in-depth analysis and evaluation of the ICDS Training Programme. As part of this evaluation, the Department organised a series of field visits, workshops & seminars, and discussions with the State Governments, Programme implementing agencies including NIPCCD and ICDS functionaries. Based on this evaluation, the Department formulated the ICDS Training Programme - Project UDISHA which inter-alia envisages the upward revision of financial norms, integration and coordination of training of ICDS functionaries and revision of training syllabus. Keeping in view the importance of the programme and its likely impact on the quality of ICDS Scheme, the World Bank has also agreed to provide financial assistance for implementation of a larger programme of ICDS Training during a period of five years. This national training component will be part of the overall World Bank Assisted Women & Child Development project which will be called: *ICDS Training Programme - Project UDISHA*. The existing UNICEF financial and technical collaboration for the Programme will also continue.

2. A series of meetings were organised with the State Governments, NIPCCD, other implementing agencies, the World Bank and the UNICEF for the finalisation of the Project Implementation Plan (PIP) of ICDS Training Programme - Project UDISHA. Based on the information and the proposals received from the State Governments/Union Territories and NIPCCD, the Department has come out with the final document of Project Implementation Plan (PIP) which will be the basis for implementation of Project UDISHA. The PIP has been formulated keeping in view the expansion of ICDS Scheme in the coming years. The PIP is a working document and will be subject to further review/changes based on the annual State Training Action Plans and physical and financial performance reported under the Project. A copy of the final PIP will be sent separately for implementation of the Project UDISHA.

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Guidelines  
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3. It may be clarified that finalisation of the PIP does not construe approval of the Government of India for implementation of Project UDISHA. The State Governments will have to formulate their Annual Plans in accordance with the instructions contained in this letter and submit the same to this Department for formal approval. The Department will fix a time schedule for submission of Annual Plans and approval of the same by the Government of India. However to begin with, the State Governments/Union Territories are requested to send their Annual Plan for 1999-2000 to this Department latest by 30 May 1999. This date may kindly be strictly adhered to so as to avoid any delay.

4. The ICDS Training Programme is a continuing Programme which is being implemented through the State Governments/Union Territories, NIPCCD and certain programme implementing agencies. Project UDISHA will cover all the existing and new Projects under General ICDS, ICDS-III, and Andhra Pradesh Economic Reconstruction (APER). Projects sanctioned under ICDS-II will not be covered for the duration of that Project but would be covered for the remaining period after closure of ICDS-II. Additional functionaries sanctioned by Government of Tamil Nadu under the erstwhile TINP will not be covered.

5. The existing strategies for training of ICDS functionaries have been reviewed in consultation with the State Governments/Union Territories and NIPCCD. Keeping in view the specific requirement of various States/UTs, an element of flexibility in the matter of training has been introduced which has been discussed in the following paragraphs.

6. The Government of India has approved the revision of financial norms under ICDS Training Programme - Project UDISHA. I am, therefore, directed to convey the administrative approval of the Government of India for implementation of the ICDS Training Programme - Project UDISHA with effect from 1.4.99 for a period of five years as per details given below.

#### A. TRAINING OF ICDS FUNCTIONARIES

7. Training of Anganwadi Workers: Provision has been made for training of Anganwadi Workers in Job Training and Refresher Training for which various options have been given to the State Governments/Union Territories as under.

(1) Job Training of Anganwadi Workers: Different options have been given for organising job training courses for AWWs. The State Governments/Union Territories will be free to adopt one or more options, depending upon their requirements and local conditions. Following options are available for conducting job training of AWWs:

(i) Institution based job training at the AWTCs for a period of three months in one phase.

(ii) Under the Sandwich pattern of job training, the State Governments/Union Territories will have three options, as under:

Option 1: Phase-I and Phase-III at the AWTCs  
Phase-II in the field

Option 2: Phase-I at the AWTC and Phase-III through training teams  
(mobile/district/block training teams)  
Phase-II in the field

Option 3: Phase-I and Phase-III through training teams (mobile/district/block training teams) and Phase-II in the field

Duration of various phases under Sandwich pattern will be as under:

Phase-I	Two months
Phase-II	Four months
Phase-III	One month

The existing duration of 3 months job training course for Anganwadi Workers will continue until the duration of training is reviewed and a revised syllabus/curriculum is devised under Project UDISHA.

- (2) Under Project UDISHA, additional AWTCs have been sanctioned to the State Governments/Union Territories depending upon their training needs during the next five years. Provision also exists for sanctioning additional AWTCs which will be considered on the basis of requests received from the State Governments/Union Territories in the prescribed proforma (enclosed at Annexure-I). Before that, the State Governments/Union Territories will be required to review the status of existing AWTCs including their re-location, mapping and utilisation of the training facilities already available. While doing so, it will also be specifically examined whether the surplus facilities, if any, available with the State-run institutions like ATIs, SIRDs, DIETs, etc. have been taken into account. The question of sanctioning of additional AWTCs will also be linked with the option(s) adopted by a State Government/Union Territory for conducting job training courses. This will have to be communicated to this Department while approaching for sanction of additional AWTCs.
- (3) The personnel component of the AWTCs and the qualifications prescribed for instructors will be the same as already provided under ICDS Training Programme. Under the revised financial norms for AWTCs, additional funds have been provided for honorarium of staff which includes provision for guest speakers/visiting faculty. This also includes provision for a visiting Doctor and engagement of Craft Teacher, Music Teacher, Cook, Sweeper, etc. on part-time basis. This is only a suggested list, the AWTCs will have to provide the staff according to their work requirements subject to financial limit. The rates of honorarium for staff of AWTCs have been revised as under:

S.No	Name of the post	No. of posts	Graded Honoraria (Rs. per month)		
			On initial appointment	On completion of 5 yrs of service	On completion of 10 yrs of service
	<u>For AWTCs</u>				
1.	Principal	1	4400	5970	7544
2.	Instructors	2	3600	4789	5980
3.	Accounts Clerk	1	2540	3301	4065
4.	Peon/Chowkidar	2	2050	2274	2500
5.	Warden	1	750	750	750

Note: The increase in honoraria on completion of five/ten year period will be on the basis of performance.

(4) As regards staff to be engaged on part-time basis by AWTCs, the rate of honorarium for a Craft Teacher, a Music Teacher and a Cook should not exceed Rs. 500 per month. For a Sweeper it will be not exceeding Rs. 300 per month. A provision has been made for a Visiting Doctor for which an amount of upto Rs. 500/- per month is provided.

(5) Training Teams: The suggested composition of the Training Teams in lieu of which will be as under:

- One AWTC trainer, who will be the link person between the Training Team and the trainee batch and will also ensure continuity of the training activity.
- One from DIET/Education Block Resource Group, Cluster Resource Centre (ECE);
- MO/DIO (Immunisation Officer)/One from Health;
- CDPO/ACDPO/Supervisor/Dy. CEO/DPO (District Programme Officer of ICDS);
- F&N Board/NGO/Mahila Samakhyas/WDP/DWCRA etc.
- DPEP Gender Trainers; and
- Any other as per requirement.

The overall responsibility for organisation, management, logistics, supervision and monitoring will be that of the District Programme Officer, ICDS.

The suggested venue for training through training teams will be at any of the following centres:

- The ANM Centre;
- The Rural Training Institute;
- The B.Ed Pre-Primary Training Institute;
- DIET;
- The DPEP-Block Resource Centre Building; and
- The Panchayat Building at District level
- Any other as per requirement.

(6) Refresher training of AWWs: Under the existing arrangement, the Anganwadi Worker is required to undergo refresher training after completion of two years of service. It has been noticed that refresher training has not been given to the AWWs in most of the States and there is no regular arrangement for this purpose. Refresher training is very important to keep the Anganwadi Workers update with the latest developments and instructions in the area of child and mother care, etc. It has, therefore, been decided that under Project UDISHA refresher training to AWWs will be given after every two years at AWTCs or through training teams (mobile/district/block training teams). All States/Union Territories will also have the option to organise refresher training to AWWs once every year by suitably reducing the existing period of training, and also reducing the cost of training proportionately so that the cost of refresher training course after a period of two years as per the existing provision is not exceeded.

(7) Financial norms: The financial norms for conducting job training courses and refresher training courses have been revised with effect from 1 April 1999. The details of



revised financial norms are given in Annexure II and III. As there are different options for conducting training courses for AWWs, the allocation of funds to the AWTCs and the State Governments where training teams are involved in conducting the training will be as under:

- (a) For conducting 3 months job training of AWWs at AWTCs under the traditional method and for conducting sandwich training under option 1 (i.e. Phase-I and III at the AWTCs and Phase-II in the field), each AWTC will be required to conduct 3 job training courses every year (in addition to refresher training of AWWs and Orientation and Refresher training of Helpers) for which an amount of Rs. 897,876/- per annum will be made available as per details given in Annexure-II.
- (b) Under option 2 of sandwich training programme for job training of AWWs (Phase-I at AWTC, Phase-II in the field and Phase-III by training teams), the AWTCs will be required to conduct 6 job training courses (Phase I and II) during a year and the distribution of grant per job training course between the AWTC and the State Government will be in the ratio of 60:40 as under:

For Phase I & II	:	Rs. 1.80 lakhs
For Phase-III	:	Rs. 1.19 lakhs

On the basis of distribution of grant, each AWTC conducting 6 job training courses (Phase I and II) during a year will, thus, be entitled to Rs. 10.80 lakhs. The AWTC will be required to incur the expenditure in accordance with the norms fixed for various items of expenditure including payment of honorarium. The State Governments/Union Territories will also ensure that the funds earmarked/allocated for conducting training courses by the AWTCs are released to them as per the approved financial norms and under no circumstances grant less than the approved norms will be released to the AWTCs. This will, of course, be subject to actuals, whichever is less.

- (c) Under option 3 which provides for job training of AWWs through training teams, the State Government/Union Territories will be entitled to claim an amount of Rs. 2.99 lakhs per course. The quantum of grant payable to the State Governments/Union Territories for conducting job training courses for AWWs will be worked out on the basis of Rs. 2.99 lakhs per course.
- (d) The salient features of the revised financial norms for conducting job training of AWWs are as under:
- The number of trainees will be 35 with respect of Anganwadi Workers Job Training for better interaction between trainee and trainer;
  - Enhanced rate of honorarium for full-time staff of AWTCs with provision of increase after completion of 5 and 10 years of service;
  - Provision of funds for engaging staff on part-time basis. They will be paid honorarium from within the overall financial ceiling approved for payment of "Honoraria of Staff"

- Enhanced rate of TA and boarding & lodging to AWWs (Annexure-II).
- Rate of stipend to AWWs during training period raised to the level of honorarium payable to AWWs under ICDS Scheme. The increase in rate of stipend will be automatic with the increase in the rate of honorarium under ICDS Scheme.
- Provision for Electricity & Water charges.
- Each AWW will be paid incentive equivalent to one month's honorarium on satisfactory completion of training.
- Provision of rent for hiring of buildings for AWTCs revised depending upon the classification of the city/area where the Centre is located as indicated below:
  - For Class A1 cities : Rs. 6,000/- per month
  - For Class A cities : Rs. 5,000/- per month
  - Other cities/areas : Rs. 4,000/- per month
 (This is subject to actual rent, whichever is less)

(8) Funds for conducting training courses for AWWs under Project UDISHA will henceforth be released only to the State Governments/Union Territories which, in turn, will release the grant to the AWTCs depending upon the training targets and financial norms. The State Governments/Union Territories will develop a mechanism for release of funds to the training centres for conducting training courses for AWWs. It will be ensured that adequate funds are made available to the AWTCs for conducting training programmes and under no circumstances training will be allowed to suffer for want of funds.

(9) The funds in respect of AWTCs run by ICCW through State Councils for Child Welfare will be released through State Governments/Union Territories where the AWTCs are located. If required, the State Governments/Union Territories will finalise the procedure for release of grant to AWTCs run by State Councils in consultation with the State Councils/ICCW, New Delhi. However, the ICCW, New Delhi will continue to get grant directly for the staff employed for monitoring and implementation of the Anganwadi training programme. The revised rates of honorarium approved for the staff sanctioned to ICCW, New Delhi under ICDS Training Programme will be as under:

such as Distance Education Programme. The States/Union Territories will also have the option to organise refresher training for Supervisors once every year by suitably reducing the existing period of training, and also by reducing the cost of training proportionately so that the cost of refresher training per course after a period of two years as per the existing provision is not exceeded.

- (4) The financial norms for conducting job training and refresher training of Supervisors have been revised with effect from 1 April 1999. The details of the revised financial norms for job training, refresher training and other components at MLTCs are given in Annexures-IV, V and VI. The details of the staff and their honorarium are given below:

S.No.	Name of the post	No. of posts	Graded Honoraria (Rs. per month)		
			On initial appointment	On completion of 5 yrs of service	On completion of 10 yrs of service
1.	Coordinator	1	1000	1000	1000
2.	Instructor*	3	4400	5970	7544
3.	Assistant Accountant	1	3120	4246	5365
4.	Typist-cum-Clerk	1	2540	3301	4065
5.	Peon/Chowkidar	2	2050	2274	2500

\* Special Pay of Rs. 500/- per month to one Instructor to act as Principal of the MLTC.

Note: The increase in honoraria on completion of five/ten year period will be on the basis of performance.

- (5) The staff component of the MLTCs and educational qualifications prescribed for Instructors will be the same as already provided under ICDS Training Programme. Under the revised financial norms for MLTCs, additional funds have been provided for honorarium of staff which includes provision for guest speakers/visiting faculty. This also includes provision for a Warden, a visiting Doctor and to engage a Craft Teacher, a Music Teacher, a Cook, a Sweeper, etc. on part-time basis. This is only a suggested list, the MLTCs will have to provide the staff according to their work requirements subject to financial limits. As regards staff to be engaged on part-time basis by MLTCs, the rate of honorarium for the Warden will be Rs. 750/- per month, for a Craft Teacher, a Music Teacher and a Cook it should not exceed Rs. 500 per month and for a Sweeper it will be not exceeding Rs. 300 per month. A provision has also been made for a Visiting Doctor for which an amount of upto Rs. 500/- per month can be paid.
- (6) Funds for conducting training courses for Supervisors under Project UDISHA will henceforth be released only to the State Governments/Union Territories which, in turn, will release the grant to the MLTCs depending upon the training targets and financial norms. The State Governments/Union Territories will develop a mechanism for release of funds to the training centres for conducting training courses for Supervisors. It will be ensured that adequate funds are made available to the MLTCs for conducting training programmes and under no circumstances training will be allowed to suffer for want of funds.

S.No.	Name of the post	No. of posts	Graded Honoraria (Rs. per month)		
			On initial appointment	On completion of 5 yrs of service	On completion of 10 yrs of service
	<u>Headquarter</u>				
1.	Sr. Programme Officer	1	7780	9750	11720
2.	Programme Officer	3	5250	7103	8960
3.	Senior Accountant	1	4400	5970	7544
4.	Typist	1	2540	3301	4065
5.	Steno-typist	1	3120	4246	5365
	<u>Field</u>				
6.	Field Officers	11	4400	5970	7544
7.	Typists	11	2540	3301	4065

Note: The increase in honoraria on completion of five/ten year period will be on the basis of performance.

8. Training of Supervisors: Under the existing system, 80 days job training course for Supervisors is conducted at Middle Level Training Centres (MLTCs) for which grant was released to the MLTCs through the National Institute of Public Cooperation & Child Development (NIPCCD). The Regional Centres of NIPCCD were also conducting job training of Supervisors. Under Project UDISHA, following modifications have been provided for conducting training of Supervisors:

- (1) The State Governments/Union Territories have the option to conduct training of Supervisors through MLTCs which can also be established at the State-run Institution such as ATIs, SIRDs, etc. This will be subject to the condition that the duration, syllabus of training and qualifications of staff as prescribed by the Government of India will be followed and State Governments/Union Territories will be required to follow this option in consultation with NIPCCD.
- (2) Additional MLTCs have already been sanctioned to the State Governments for conducting job training and refresher training of Supervisors. There is a provision to sanction more MLTCs depending upon the training needs of the State Governments/Union Territories. Under Project UDISHA, there is also a provision to utilise one of the MLTCs as State Resource Unit for which separate instructions have been provided in this letter.
- (3) Refresher training of Supervisors: Under the existing arrangement, refresher training of Supervisors is required to be conducted after completion of two year's of service. There is a need to organise regular refresher training of Supervisors to keep the abreast with the new developments in the area of child and mother care. It has, therefore, been decided that under Project UDISHA, refresher training of Supervisors will be conducted after every two years which will be institution based or through decentralised programme

9. Training of CDPOs/ACDPOs: (1) At present, the training of CDPOs and ACDPOs being conducted only by NIPCCD on the basis of officers deputed by the State Governments/Union Territories at NIPCCD Headquarters and Regional Centres. The present arrangement will continue under Project UDISHA. However, if the training requirement is not met by NIPCCD and its regional offices, then the State Governments/Union Territories can have the option to organise training at State Institutes like ATIs etc. A specific proposal need to be sent to Government of India for its approval for this purpose.

(2) Financial norms for conducting job and refresher training courses of CDPOs/ACDPOs have been revised with effect from 1 April 1999. Item-wise break up of the revised financial norms for Job and Refresher training courses are given in Annexures-VII and VIII respectively.

(3) Funds for organisation of training of CDPOs/ACDPOs will be available to NIPCCD. In case the Government of India approves organisation of this training in other institutes then the funds will be allocated to State Governments.

10. Training of Helpers: (1) At present, the orientation and refresher training of Helpers is being conducted through AWTCs. It is recommended that the State Governments should organise training of Helpers through Training Teams or at local/Government-run institutes. This will ensure training of Helpers in their local language and will also help to clear the backlog of training much faster. However, the State Governments will also have the option to conduct the training of Helpers at the AWTCs.

(2) The financial norms for Orientation and Refresher training of Helpers have been revised as per details given in Annexures-LX and X. The funds for conducting training of Helpers will be released to the State Governments/Union Territories who will incur the expenditure in accordance with the approved norms. In case training is organised at the AWTCs, the funds will be released to the AWTCs by the State Governments/UTs as per the approved norms and it will be ensured that adequate and timely funds are made available to the AWTCs.

11. Joint Training with health : A provision of Rs. 1.5 crore per annum for Joint training of ICDS functionaries with the medical and para medical staff such as Medical Officers, Local Health Workers, ANMs, Dais, has been provided. The Joint Training may be conducted by State Governments or CTC-IMCD. Detailed proposals will be sought on this.

## B. TRAINING OF TRAINERS

12. The training of trainers for instructors of AWTCs/MLTCs and other institutions to be involved by the State Governments for training of the ICDS functionaries, will be organised only by NIPCCD and its Regional Centres. The State Governments/Union Territories will have to ensure a proper liaison with NIPCCD in this regard. The Government of India will also have an option to involve other institutions like the Lal Bahadur Shastri National Academy of Administration, Mussoorie, for organising training courses for the training staff, NIPCCD faculty and other functionaries. Financial norms for training of trainers (instructors of AWTCs/MLTCs) through NIPCCD are given in Annexures-XI to XIV. As regards training of faculty of NIPCCD, etc. through other institutions, grant will be released on case to case basis depending upon the level of officers to be trained.

### C. OTHER TRAINING PROGRAMMES

13. The other training programmes will cover the areas/functionaries, such as Sarpanch, Panchayat Members, Pre-School Teachers, VLWs, etc., which are not covered by the training programmes mentioned above. This training component will cover an innovative training programme relevant to the objectives of ICDS Scheme and may cover other Government and Non-Government functionaries who contribute to the ICDS Scheme. No specific financial norms have been fixed for conducting innovative training programmes and all the State Governments/Union Territories will be required to formulate proposals with detailed financial requirements in their Annual Plans for approval of the Government of India.

### D. UPGRADATION OF TRAINING FACILITIES

14. The Project UDISHA has also a provision for upgradation of the training facilities at the existing AWTCs (except those sanctioned during 1998-99, for which a separate provision has been made under the revised financial norms). Provision has also been made for upgrading the facilities at MLTCs. It is also been decided to give additional MLTC to the States (except the States covered under ICDS-II, III and ICDS-APER) which will function as State Resource Units (SRUs) for monitoring of Project UDISHA. The financial norms for State Resource Units will be the same as that of a regular MLTC. The State Resource Unit will function within the Directorate of ICDS and the provision of staff under SRU will be proposed by the State Government keeping in view the staff already available in the State Directorate and the World Bank requirements on monitoring, reimbursement and other financial aspects under ICDS Training Programme. These staff will be purely temporary in nature to be engaged on short-term contract basis for the project duration on the lines of staff employed in MLTCs. Following provisions have been made for upgradation of training facilities:

- (a) An amount of Rs. 1,10,000/- will be given to each SRU as one time grant for creation of basic facilities like purchase of computer, etc. The State Government will furnish the details of the staff and the items to be purchased for each SRU in their Annual Plan for approval of the Government of India.
- (b) Each MLTC will get a lumpsum grant of Rs. 50,000/- for upgradation, replenishment and creation of basic facilities. Items to be procured will be decided in consultation with the State Government.
- (c) Each existing AWTC, i.e. those which have been set up prior to 1.4.1998, will get a lumpsum grant of Rs. 50,000/- for upgradation, replenishment and creation of basic facilities. Items to be procured will be decided in consultation with the State Government.
- (d) A total provision of Rs. 13.94 crores has been made under Project UDISHA for NIPCCD for upgradation/capacity building in training facilities/collaboration and creation of new facilities. NIPCCD will include specific proposals in their Annual Plan for this purpose.

#### E. DEVELOPMENT, PRINTING, DISTRIBUTION OF TRAINING MATERIALS AND SUPPLY OF KITS ETC. ON EARLY LEARNING AND IEC MATERIAL

15. Under Project UDISHA, provision has also been made for release of grant-in-aid to the State Government for development, printing, distribution of all training and IEC materials and provision of kits for Anganwadi Workers on Early Learning, in consultation with NIPCCD. The training materials etc. is required to be developed in regional languages/local dialects. The State Government will include specific proposals in this regard in their Annual Plan to be submitted to the Government of India for approval.

#### F. WORKSHOPS ETC. AND TRAINING IN INDIA & ABROAD

16. Under Project UDISHA, provision has also been included for organisation of workshops, interactive and convergent meets, seminars, training courses both in India and abroad. The expenditure on training abroad will be incurred by Government of India only. As regards Workshops, etc. State Governments and NIPCCD will also be eligible for grant for which specific proposals will be included in the Annual Plans.

#### G. CONTINGENCIES AND OTHER ACTIVITIES

17. Provision has also been made for Operations Research and Evaluation Studies, MIS on training for which funds will be available to NIPCCD as well as to State Governments.

#### H. PROCEDURE FOR RELEASE OF FUNDS AND SUBMISSION OF REIMBURSEMENT CLAIMS

18. (a) Funds under Project UDISHA will be released to the State Governments/Union Territories/NIPCCD/CTC-IMCD in three instalments based on the Annual Plan approved by the Government of India, physical and financial progress reported by the State Governments, etc. A lumpsum amount has been released to the State Governments, during 1998-99 which will be adjusted on the basis of actual claims received from the State Governments.

(b) The Project UDISHA is being taken up with World Bank assistance. The terms and conditions for World Bank assistance provide for certain procedures for submission of claims for seeking reimbursement from the World Bank. These procedures are required to be followed strictly to get timely and full reimbursement of the expenditure incurred under the Project from the World Bank. For the sake of uniformity, smooth functioning of the Project UDISHA and also for ensuring that World Bank reimbursement procedures are being followed, it has been decided that funds under ICDS Training Programme for running AWTCs/MLTCs and other training programmes will henceforth be released through State Governments/Union Territories. This will also be applicable in the case of training centres being run by the Indian Council for Child Welfare, New Delhi. Training funds for other components like training material and training kits, etc. will also be released to the State Governments. As regards, training courses for trainers and for CDPOs/ACDPOs, etc. to be organised by NIPCCD, funds will be released to NIPCCD directly. As regards joint training for medical and para medical staff to be organised by CTC-IMCD, the funds will be released to CTC-IMCD. Funds in respect of the posts

sanctioned to ICCW Headquarters and Field Offices for monitoring of training programmes will be given to ICCW directly.

- (c) The State Governments/Union Territories, NIPCCD, CTC-IMCD, etc. will be required to submit reimbursement claims in respect of the expenditure incurred under Project UDISHA in accordance with the approved norms/pattern in the prescribed proformae. Copies of these proformae applicable for seeking reimbursement will be sent to all concerned separately.
- (d) It may be emphasised that timely incurring of expenditure and submission of reimbursement claims in accordance with the prescribed norms will be very vital for successful implementation of the Project UDISHA and seeking required grant from the Government of India. In order to train the staff for monitoring, preparation of reimbursement claims and maintenance of accounts under Project UDISHA, the Government of India will organise training courses for various levels of officers and staff through NIPCCD. It is requested that the staff to be engaged for this purpose should be identified on priority basis.

#### I. PROCUREMENT PROCEDURE

- 19. (a) The Project UDISHA provides for purchase of equipment, materials, development and printing of training materials/kits, etc. The World Bank has prescribed certain procedures for making procurement under the World Bank assisted projects. These procedures are different from Government procedures and are required to be strictly followed. It has been decided that during the initial stages of procurement by State Governments/Union Territories will be limited to the upgrading/creating facilities in the State Resource Units, MLTCs and AWTCs. Since each procurement plan has to be approved by the World Bank, the 5 ICDS-III States (namely Uttar Pradesh, Rajasthan, Maharashtra, Kerala and Tamil Nadu) and ICDS-APER States and ICDS-II States of Andhra Pradesh, Bihar and Madhya Pradesh are requested to prepare their plan for procure. at in respect of training component and submit the same to Government of India for approval of the World Bank.
- (b) As regards other States/Union Territories, the Government will prepare a Central Procurement Plan for these States/UTs for the first year of the Project on the basis of proposals from State Governments/Union Territories.
- (c) In order to train the State Government/UT staff in the World Bank procurement procedure, the Government of India plans to organise training courses through NIPCCD. The State Governments/Union Territories are requested to please ensure that the staff to be engaged for procurement under Project UDISHA are identified on priority basis.
- (d) This will be done only after World Bank and Government of India finalise the Procurement Plan in consultation with States/UTs.



## J OTHER GUIDELINES FOR PROJECT UDISHA

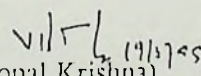
19. The State Governments/Union Territories are requested to kindly to review the existing status of ICDS Training Programme in their respective States/UTs and finalise their Action Plan for implementation of the ICDS Training Programme - Project UDISHA keeping in view the above mentioned financial norms and the information already submitted by them to this Department in connection with the finalisation of the Project Implementation Plan (PIP). While implementing the Project UDISHA, following instructions/guidelines may also be kept in mind:

- (a) The State Governments/Union Territories will also prepare Annual Training Calendar (training centre-wise) for achieving the targets. This will be included in the Annual Plan to be sent to this Department. The review of performance of each State/UT will be done with reference to the training calendar.
- (b) As Project UDISHA provides for release of grant to the State Governments/Union Territories for conducting various programmes and activities, it is requested that necessary formalities for receiving Central Grant under ICDS Training Programme - Project UDISHA and for disbursement of the same to the implementing agencies may kindly be finalised so that there is no problem to utilise the Government grant as and when released.
- (c) The Project UDISHA is being taken up with World Bank assistance. All procedures relating to disbursement, submission of financial claims, procurement of stores, etc. will be applicable and will have to be followed strictly.
- (d) The State Governments/Union Territories are requested to immediately send the Letter of Undertaking duly signed by the competent authority of the State/UT for which necessary instructions have already been given by this Department. This action is immediately requested so as to start implementation of Project UDISHA and release of grant.
- (e) The Government of India has already sanctioned additional AWTCs/MLTCs to the State Governments. A copy of the guidelines/instructions issued for review of the existing AWTCs/MLTCs and establishment of new AWTCs/MLTCs is at Annexure-XV. It is requested that action in this regard may be taken on priority basis. It may also be ensured that these AWTCs/MLTCs start functioning at the earliest.
- (f) State Governments/UTs will examine the possibility of starting a Anganwadi Centre at each AWTC/MLTC under ICDS Scheme. Alternatively, the AWTC/MLTC should adopt a neighbouring Anganwadi Centre for developing such Anganwadi Centres as model Anganwadis.
- (g) Each State Government/Union Territory will appoint a Nodal Officer who will be overall responsible for sending reports to this Department, deputation of trainees to the training centres and also ensuring that the trainees actually report at the training centres, release of timely and sufficient funds to the training centres, submission of reimbursement claims, etc. to this Department.

- (h) The State Governments/UTs will also be required to develop a system for physical inspection of training centres so that their performance is reviewed from time to time. Reports of these inspections should be sent to NIPCCD Regional Centres for sending a consolidated report for each region to this Department.
- (i) NIPCCD will designate a nodal officer for each State/UT for monitoring and inspection of their training activities. Similarly, ICCW which will continue to get grant for Headquarters and Field Staff will also be responsible for monitoring and inspection of AWTCs being run by State Child Welfare Councils and sending reports to the Government of India.
- (j) There are reports that Anganwadi Workers are sent for training in other areas very frequently due to which they remain away from their duties for long periods. It may please be ensured that the Anganwadi Workers are not sent for training programmes other than those prescribed under ICDS Training Programme - Project UDISHA. In any case and under no circumstance should the ICDS functionaries be sent for training to other programmes without prior approval of this Department. NIPCCD will develop and circulate a suitable proforma for monitoring the training activities.
- (k) The monitoring of Project UDISHA is a very important component for its success. The Government of India has already given instructions to the State Governments for constitution of State Training Task Forces for regular monitoring and evaluation of the ICDS Training Programme in each State/UT. A copy of the constitution of State Training Task Forces is at Annexure-XVI. It is requested that the meetings of the State Training Task Forces (STTF) should be organised on a regular basis and their reports should be sent to this Department. It is also requested that Annual Plans to be formulated by the State Governments/UTs should be got approved by the STTF before sending the same to this Department.

Kindly acknowledge receipt of this letter.

Yours faithfully,

  
(Gopal Krishna)  
Director

Tele: 011-3385192/FAX: 011-3381800

E-mail <pratnaparkhi@hotmail.com>

Copy for information to:

1. Director (ICDS) all States/UTs
2. Secretaries, Finance Departments, All States/UTs
3. Additional Director (TC), NIPCCD, New Delhi
4. PPS to Secretary (WCD)/PS to JS (CD)
5. Director (CD)/US (CD)/PM (World Bank)-2

? date - early  
Nov 6  
NT 28

**Suggested draft dated October 5, 2000**  
**NUTRITION WORKSHOP:**

PREPARATION FOR THE NEW HNP PROJECT OF THE GOVT. OF KARNATAKA

MORNING SESSION: CHAIR Dr. Devaki Jain

9.00

WELCOME

Mr. Abijit Sengupta, IAS; Principal Secretary, Health  
Objectives of the Workshop

9.10

INAUGURAL ADDRESS

Ms. Meera Saxena, IAS, Secretary, WCD  
The Karnataka Action Plan for the Child

9.25

KEY NOTE ADDRESS

Dr. Farah Saiyed, UNICEF Hydeabad  
The Functional Significance of Nutrition

9.40

WOMEN'S HEALTH

Dr. Thelma Narayan, Member Task Force on Health  
The situation of women and potential for change

9.55

PRE-SCHOOL CHILDREN

Dr. Sabu George, Community Health Cell  
Progress over 30 years and challenges ahead.

10.10

SCHOOL AGED 15

Mr. Vijay Bhaskar, IAS, Commissioner of Public Instruction  
New Initiatives in improving Health Status of school children

10.25

CARE

X:  
Care for Improved Nutrition

10.40

Tea

11.00-12.25

GROUP DISCUSSION

1. Strengthening ICDS Functioning: Chair Ms. Vidyawathi, IAS, Director, WCD.
2. Reaching out to school Dropouts: Chair Mr. Antony L, IAS, Director, DPEP.
3. Working with Panchayats, Chair, Dr. Sudarshan, Chairma<sup>n</sup> Task Force

*Subhas Vellothosel (to chh...)*

12.25-1.00

Presentation of Group Discussions

1.00-2.00

LUNCH

CHAIR:

Mr. Sanjay Kaul, IAS, Commisioner of H&FW

2.00-2.15

Health

Dr. Nagaraj, Director-In Charge, Dept. Of H&FW  
Role of the Health System in Improving Nutrition

2.15-2.30

Dr. Devaki Jain, S. S. Foundation

*would be happy to collaborate - c/wcd + DPEP on nutrition*

*Spoke to Dr. Ramesh Narayan + his Assistant. Dr. Mahesh Samak...  
Spoke to Mr. S. Kaul - small meeting - Director WCD + few experts around 15<sup>th</sup> Oct  
= longer workshop after WB Kaul visit - to work out details/ logistics.  
To Dr. SSK - a note... - HNP file.*

*JH  
10/10*

Panchayats	Sensitising Panchayat System and Improving	← Nutritional Outcomes
2.30-2.45 NGOs	Dr. Sudarshan, Chairman Task Force on Health The Importance of NGOs in improving survival and well-being of Children	
2.45-3.00 Collective Action	<i>Dr. Narayan</i> Ms. Revathi Head, Mahila Samakya Improving Women's Health Status thru Empowerment	
3.15-3.30 Micro-Credit	Ms. Vidyavathi, Director ICDS Harnessing Stree Shakti for Raising Community Awareness on Nutrition	
3.30-3.45	TEA	
3.45-4.15	GENERAL DISCUSSION	
4.15-5.00	FINALISING RECOMMENDATIONS Chairpersons: Mr. Sanjay Kaul Ms. Vidyavathi & Thelma Narayan	

*Mrs. Rema Radhakrishnan, Food + Nutrition Board!*

Suggested list of participants; Want as many women as possible  
Total Participants=not >40

CHC TN, SG, RN, SK, CMF=5 + (Prahalad or Chunder) & Joseph  
WCD Secretary, Director, JD (Kanti) + 3 more women from Blore=6  
ICDS 4 CDPOs (3 women + 1 men); 2 AWW, 2 Supervisors =8  
Health PS, Commissioner, Director + 2 other Directors=5

Others/ 5 - Gram Vikas, Gulbarga; KOREE - Sunnasepale;  
NGOs Rukhmani; Anita - NIAS;

Also want

FNB=1

NIPCCD=1

Health Inspector, Schools=1

Panchayats-EWG=3,

CEO= only 2 from either Gulbarga, Bellary, Raichur or Koppal

Dr. Aquinas & Mita Deshpande (Raichur),

Want TARA??

Mahila Samakhya - Amantla, + 2-3  
? Nehru Yuva Kendra Sanghatana

WT 29

GOVERNMENT OF KARNATAKA

No. HER/SHP/01/2000-2001

Directorate of Health & F. W.  
Services, Bangalore-9,  
26-02-2001.

To,

The Commissioner,  
Directorate of Health & F. W. Services,  
Bangalore-9.

**Sub: Submission of the Report & Review Report of School Health  
Programme for the month of January 2001.**

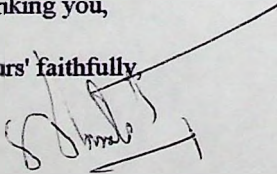
Sir,

Please find here with enclosed the report ( part-I ) of School Health Programme for the month of January 2001 reviewed in the month of February 2001 in book let form including the notes both in English & Kannada version on Page No.1 to 8 and district summary statement on Page No. 9 for your kind perusal.

The feed back report is being sent to each District Health & F. W. Officer to give the explanation for the poor performance in the implementation of School Health programme in their respective districts. They have been also requested gear up the programme so as to achieve the target by the end of the March 2001.

Thanking you,

Yours' faithfully,



( Dr. S. B. Kurtakoti ),  
Additional Director ( HET )

A copy is here with submitted for kind information to:

1. The Principal Secretary, Department of Health & F. W., M. S. Building, Bangalore-1.
2. The Commissioner for Public Instruction, Bangalore-1
3. The Director of Health & F. W. Services, Bangalore-9.

GOVERNMENT OF KARNATAKA

PART-I

PROGRESS REPORT OF SCHOOL HEALTH PROGRAMME  
FOR THE MONTH OF JANUARY 2001

(Documentation by Dr. S.B.Kurtakoti)

HEALTH EDUCATION & TRAINING  
DIRECTORATE OF HEALTH & F. W. SERVICES, BANGALORE-9

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**SCHOOL HEALTH PROGRAMME**  
( Under Health Education and Training )  
**JANUARY 2001**

**Introduction:**

The School Health Service is the Personal Health Service and is being implemented for the last 15 years, from narrower concept of medical examination of children to the present day concept of comprehensive care of Health and well being of children throughout the academic year .

**Objectives:**

The School Health Program has been implemented in all the Primary and Higher Primary schools in both Rural and Urban areas of the State . All the District Health and F.W Officers are implementing the Program effectively as per the instructions of this Directorate. The following are various activities:

- 1) Medical Examination of the students 1st, 4th and 7th Std.
- 2) Immunization of children with 1st booster dose of DT to 1st Std. Students & 1st booster dose of TT to 7th Std. Students and 2nd booster dose of TT to 10th Std. Students
- 3) Providing treatment for minor ailment
- 4) Students requiring specialist care are referred to nearest hospital regularly.
- 5) Health Education to teachers as well as students regarding personal hygiene. environmental sanitation, drinking water, use of latrines are being taught regularly.

This is the programme being implemented by two departments i.e., Dept. of public Instruction and Dept. of Health & FW Services.

**The progress report for the period from June 1996 to January 2001**

Sl.No.	Kind of activities	Annual target	Cumulative achievement	%
<b>I. 1996- 1997</b>				
a)	Medical Examination of students	83,09,678	56,01,613	65.40
b)	Medical defectives found among the students examined	56,01,613	24,61,136	43.40
c)	Immunization, D&T to the 1st Std. Students	-	15,36,966	-
d)	Immunization, TT to the 7th Std. Students	-	17,65,352	-
<b>II. 1997-1998</b>				
a)	Medical Examination of students	31,34,072	15,85,474	20.31
b)	Medical defectives found among the students examined	15,85,474	2,78,719	17.57
c)	Immunization, D&T to the 1st Std. Students	-	6,83,788	-
d)	Immunization, TT to the 7th Std. Students	-	7,01,2254	-

### III. 1998- 1999

Sl.No.	Kind of activities	Annual target	Cumulative achievement	%
a)	Medical Examination of students	71,54,788	17,83,382	25.3
b)	Medical defectives found among the students examined	17,83,382	2,76,428	26.30
c)	Immunization, D&T to the 1st Std. Students	-	7,12,603	-
d)	Immunization, TT to the 7th Std. Students	-	7,37,427	-
e)	Teachers' Training	14,469	6,423	44.39

### IV. 1999-2000

a)	Medical Examination of students	26,65,804	21,33,662	80.04
b)	Medical defectives found among the students examined	21,33,662	3,76,232	17.63
c)	Immunization, D&T to the 1st Std. Students	10,33,532	8,66,932	83.88
d)	Immunization, TT to the 7th Std. Students	7,21,683	7,28,503	100.95
e)	Immunization, TT to the 10th Std. Students	5,40,413	3,97,411	73.54
f)	Teachers' Training	14,469	10,063	69.55

### V. 2000-2001

From June 2000 to January 2001

a)	Medical Examination of students	30,82,166	29,35,243	95.23
b)	Immunization, D&T to the 1st Std. Students	11,82,418	8,83,985	74.76
c)	Immunization, TT to the 7th Std. Students ( 1 <sup>st</sup> Booster dose )	11,26,511	9,54,456	84.72
d)	Immunization, TT to the 10th Std. Students ( 2 <sup>nd</sup> Booster dose )	5,20,701	5,85,143	112.37
e)	Teachers' Training	1,91,677	62,447	32.57

**The statement showing the budget allocation and expenditure from the period from 1997 to January 2001 for various schemes under Health Education & Training.**

Sl. No.	The name of the programme	1997-1998		1998-1999		1999-2000	
		Allotment in lacs	Expenditure	Allotment in lacs	Expenditure	Allotment in lacs	Expenditure
01	School Health Programme U/A/C 2210-03--800-0-08	55.00	55.00	10.50	10.50	10.00	10.00
02	Incentive to SC/ST ANM Trainees u/a/c 2210-03--800-0-06	0.40	0.06	30.40	28.32	57.00	11.52

**Up to the end of January 2001**

Sl. No.	The name of the programme	2000-2001		2001-2002		2002-2003	
		Allotment in lacs	Expenditure	Allotment in lacs	Expenditure	Allotment in lacs	Expenditure
01	School Health Programme U/A/C 2210-03--800-0-08	50.00	43.20				
02	Incentive to SC/ST ANM Trainees u/a/c 2210-03--800-0-06	10.00	9.92				
03	Bureau of Health Education u/a/c. 2210-06-112-0-01	05.00	03.50				

( Dr.S.B.KURTAKOTI )

**Addl. Director (HET)**

ಕರ್ನಾಟಕ ಸರ್ಕಾರ

ಆರೋಗ್ಯ ಶಿಕ್ಷಣ ಮತ್ತು ತರಬೇತಿ ವಿಭಾಗದ ಶಾಲಾ ಆರೋಗ್ಯ ಕಾರ್ಯಕ್ರಮ  
(ಜನವರಿ ೨೦೦೧)

ವಿವರಣೆ:

ಶಾಲಾ ಆರೋಗ್ಯ ಸೇವೆಯು ವೈಯಕ್ತಿಕ ಆರೋಗ್ಯ ಸೇವೆಯಾಗಿದ್ದು ಕಳೆದ ೧೫ ವರ್ಷಗಳಿಂದ ಅನುಷ್ಠಾನದಲ್ಲಿರುತ್ತದೆ ಅಂದಿನಿಂದ ಇಂದಿನವರೆಗೆ ವೈದ್ಯಕೀಯ ಪರಿಣಿತರ ನಿರಂತರವಾಗಿ ವರ್ಷಪೂರ್ಣ ಮಕ್ಕಳನ್ನು ಆರೋಗ್ಯವಂತವಾಗಿ ಇಡುವುದೇ ಮುಖ್ಯ ಉದ್ದೇಶ.

ಉದ್ದೇಶಗಳು:

ಶಾಲಾ ಆರೋಗ್ಯ ಕಾರ್ಯಕ್ರಮವನ್ನು ರಾಜ್ಯದ ಎಲ್ಲಾ ಗ್ರಾಮೀಣ ಹಾಗೂ ನಗರ ಪ್ರದೇಶದ ಪ್ರಾಥಮಿಕ ಹಾಗೂ ಹಿರಿಯ ಪ್ರಾಥಮಿಕ ಶಾಲೆಗಳಲ್ಲಿ ಅನುಷ್ಠಾನಗೊಳಿಸಿದೆ. ಎಲ್ಲಾ ಜಿಲ್ಲಾ ಆರೋಗ್ಯ ಮತ್ತು ಕುಟುಂಬ ಕಲ್ಯಾಣ ಅಧಿಕಾರಿಗಳಿಂದ ಈ ಕಾರ್ಯಕ್ರಮವು ನಿರ್ದೇಶನಾಲಯದ ಮಾರ್ಗನುಚಿಯಂತೆ ಯಶಸ್ವಿಯಾಗಿ ಕಾರ್ಯಗತಗೊಳಿಸಲ್ಪಡುತ್ತಿದ್ದು ಶಾಲಾ ಆರೋಗ್ಯ ಕಾರ್ಯಕ್ರಮ ಚಟುವಟಿಕೆಗಳು ಈ ಕೆಳಕಂಡಂತಿರುತ್ತವೆ.

೧. ೧ನೇ ೪ನೇ ಮತ್ತು ೭ನೇ ತರಗತಿಗಳಲ್ಲಿಯೆ ಐದಕ್ಕೂ ಧೀನಗಳ ವೈದ್ಯಕೀಯ ತಪಾಸಣೆ.
೨. ೧ನೇ ತರಗತಿ ಐದಕ್ಕೂ ಧೀನಗಳಿಗೆ ಲಸಿಕೆ ಡಿ ಮತ್ತು ಟಿ ಚುಚ್ಚುಮದ್ದನ್ನು ಮತ್ತು ೭ನೇ ತರಗತಿ ಐದಕ್ಕೂ ಧೀನಗಳಿಗೆ ಮೊದಲನೇ ಬೂಸ್ಟರ್ ಟಿ.ಟಿ. ಚುಚ್ಚುಮದ್ದು ದೋಸನ್ನು ಹಾಗೂ ೧೦ನೇ ತರಗತಿ ಐದಕ್ಕೂ ಧೀನಗಳಿಗೆ ೨ನೇ ಟಿ.ಟಿ. ಬೂಸ್ಟರ್ ದೋಸು ಚುಚ್ಚು ಮದ್ದನ್ನು ನೀಡಲಾಗುವುದು.
೩. ನಣ್ಣಪುಟ್ಟ ಕಾಯಿಲೆಗಳಿಗೆ ವೈದ್ಯಕೀಯ ಚಿಕಿತ್ಸೆ ಸೌಲಭ್ಯ ಒದಗಿಸುವುದು.
೪. ಮಕ್ಕಳಿಗೆ ವಿಶೇಷ ರಕ್ಷಣೆ ಬೇಕಾದಲ್ಲಿ ಅವರನ್ನು ನಮೂನಾದ ಆಸ್ಪತ್ರೆಗೆ ನುರಿತ ತಜ್ಞರ ಚಿಕಿತ್ಸೆಗಾಗಿ ಕಳುಹಿಸಲಾಗುವುದು.
೫. ಶಿಕ್ಷಕರಿಗೆ ಹಾಗೂ ಐದಕ್ಕೂ ಧೀನಗಳಿಗೆ ವೈಯಕ್ತಿಕ ಆರೋಗ್ಯದ ಬಗ್ಗೆ ಪರಿಸರ ನೈರ್ಮಲ್ಯ ಸುರಕ್ಷಿತ ಕುಡಿಯುವ ನೀರು ಶೌಚಾಲಯಗಳನ್ನು ಉಪಯೋಗಿಸುವ ಬಗ್ಗೆ ನಿರಂತರವಾಗಿ ಆರೋಗ್ಯ ಶಿಕ್ಷಣದಡಿಯಲ್ಲಿ ತಿಳುವಳಿಕೆ ಕೊಡಲಾಗುವುದು.

ಆರೋಗ್ಯ ಮತ್ತು ಕುಟುಂಬ ಕಲ್ಯಾಣ ಇಲಾಖೆ ಹಾಗೂ ಶಿಕ್ಷಣ ಇಲಾಖೆಗಳ ಸಂಯುಕ್ತ ಆಶ್ರಯದಲ್ಲಿ ಈ ಶಾಲಾ ಆರೋಗ್ಯ ಕಾರ್ಯಕ್ರಮವನ್ನು ಅನುಷ್ಠಾನಗೊಳಿಸಲಾಗುತ್ತದೆ.

ಜೂನ್ 1996 ರಿಂದ ಜನವರಿ 2001 ರವರೆಗಿನ ಪ್ರಗತಿಯ ವರದಿ

1996-97

ಕ್ರಮ ಸಂಖ್ಯೆ	ವಿವಿಧ ಚಟುವಟಿಕೆಗಳು	ವಾರ್ಷಿಕ ಗುರಿ	ಒಟ್ಟು ಸಾಧನೆ	ಶೇಕಡ ವಾರು
ಎ.	ವಿದ್ಯಾರ್ಥಿಗಳಿಗೆ ವೈದ್ಯಕೀಯ ಪರೀಕ್ಷೆ	8309678	5601613	65.40
ಬಿ.	ವೈದ್ಯಕೀಯ ಪರೀಕ್ಷೆಯಲ್ಲಿ ಕಂಡು ಬಂದ ನೂನ್ಯತೆಗಳ ವಿದ್ಯಾರ್ಥಿಗಳ ಸಂಖ್ಯೆ	5601613	2461136	43.40
ಸಿ.	1ನೇ ತರಗತಿ ವಿದ್ಯಾರ್ಥಿಗಳಿಗೆ ಡಿ ಮತ್ತು ಟಿ ಚುಚ್ಚುಮದ್ದು	00	1536966	00
ಡಿ.	7ನೇ ತರಗತಿ ವಿದ್ಯಾರ್ಥಿಗಳಿಗೆ ಟಿ.ಟಿ.ಲಸಿಕೆ	00	1765352	00

1997-98

ಕ್ರಮ ಸಂಖ್ಯೆ	ವಿವಿಧ ಚಟುವಟಿಕೆಗಳು	ವಾರ್ಷಿಕ ಗುರಿ	ಒಟ್ಟು ಸಾಧನೆ	ಶೇಕಡ ವಾರು
ಎ.	ವಿದ್ಯಾರ್ಥಿಗಳಿಗೆ ವೈದ್ಯಕೀಯ ಪರೀಕ್ಷೆ	3134072	1585474	20.31
ಬಿ.	ವೈದ್ಯಕೀಯ ಪರೀಕ್ಷೆಯಲ್ಲಿ ಕಂಡು ಬಂದ ನೂನ್ಯತೆಗಳ ವಿದ್ಯಾರ್ಥಿಗಳ ಸಂಖ್ಯೆ	1585474	278719	17.57
ಸಿ.	1ನೇ ತರಗತಿ ವಿದ್ಯಾರ್ಥಿಗಳಿಗೆ ಡಿ ಮತ್ತು ಟಿ ಚುಚ್ಚುಮದ್ದು	00	683788	00
ಡಿ.	7ನೇ ತರಗತಿ ವಿದ್ಯಾರ್ಥಿಗಳಿಗೆ ಟಿ.ಟಿ.ಲಸಿಕೆ	00	7012254	00

1998-99

ಕ್ರಮ ಸಂಖ್ಯೆ	ವಿವಿಧ ಚಟುವಟಿಕೆಗಳು	ವಾರ್ಷಿಕ ಗುರಿ	ಒಟ್ಟು ಸಾಧನೆ	ಶೇಕಡ ವಾರು
ಎ.	ವಿದ್ಯಾರ್ಥಿಗಳಿಗೆ ವೈದ್ಯಕೀಯ ಪರೀಕ್ಷೆ	7154788	1783382	25.30
ಬಿ.	ವೈದ್ಯಕೀಯ ಪರೀಕ್ಷೆಯಲ್ಲಿ ಕಂಡು ಬಂದ ನೂನ್ಯತೆಗಳ ವಿದ್ಯಾರ್ಥಿಗಳ ಸಂಖ್ಯೆ	1783382	276428	26.30
ಸಿ.	1ನೇ ತರಗತಿ ವಿದ್ಯಾರ್ಥಿಗಳಿಗೆ ಡಿ ಮತ್ತು ಟಿ ಚುಚ್ಚುಮದ್ದು	00	712603	00
ಡಿ.	7ನೇ ತರಗತಿ ವಿದ್ಯಾರ್ಥಿಗಳಿಗೆ ಟಿ.ಟಿ.ಲಸಿಕೆ	00	737427	00
ಇ.	ಶಿಕ್ಷಕರ ತರಬೇತಿ	14469	6423	44.39

1999-2000

ಕ್ರಮ ಸಂಖ್ಯೆ	ವಿವಿಧ ಚಟುವಟಿಕೆಗಳು	ವಾರ್ಷಿಕ ಗುರಿ	ಒಟ್ಟು ಸಾಧನೆ	ಶೇಕಡೆ ವಾರು
ಎ.	ವಿದ್ಯಾರ್ಥಿಗಳಿಗೆ ವೈದ್ಯಕೀಯ ಪರೀಕ್ಷೆ	2665804	2133662	80.04
ಬಿ.	ವೈದ್ಯಕೀಯ ಪರೀಕ್ಷೆಯಲ್ಲಿ ಕಂಡು ಬಂದ ನೂನ್ಯತೆಗಳ ವಿದ್ಯಾರ್ಥಿಗಳ ಸಂಖ್ಯೆ	2133662	376232	17.63
ಸಿ.	1ನೇ ತರಗತಿ ವಿದ್ಯಾರ್ಥಿಗಳಿಗೆ ಡಿ ಮತ್ತು ಟಿ ಚುಚ್ಚು ಮದ್ದು	1033532	866932	83.88
ಡಿ.	7ನೇ ತರಗತಿ ವಿದ್ಯಾರ್ಥಿಗಳಿಗೆ ಟಿ.ಟಿ. ಚುಚ್ಚು ಮದ್ದು	721683	728503	100.95
ಇ.	10ನೇ ತರಗತಿ ವಿದ್ಯಾರ್ಥಿಗಳಿಗೆ ಟಿ.ಟಿ.ಚುಚ್ಚು ಮದ್ದು	540413	397411	73.54
ಎಫ್.	ಶಿಕ್ಷಕರ ತರಬೇತಿ	14469	10063	69.55

2000-2001

(ಜನವರಿ 2001 ರವರೆಗೆ)

ಕ್ರಮ ಸಂಖ್ಯೆ	ವಿವಿಧ ಚಟುವಟಿಕೆಗಳು	ವಾರ್ಷಿಕ ಗುರಿ	ಒಟ್ಟು ಸಾಧನೆ	ಶೇಕಡೆ ವಾರು
ಎ.	ವಿದ್ಯಾರ್ಥಿಗಳಿಗೆ ವೈದ್ಯಕೀಯ ಪರೀಕ್ಷೆ	3082166	2935243	95.23
ಬಿ.	1ನೇ ತರಗತಿ ವಿದ್ಯಾರ್ಥಿಗಳಿಗೆ ಡಿ ಮತ್ತು ಟಿ ಚುಚ್ಚು ಮದ್ದು	1182418	883985	74.76
ಸಿ.	7ನೇ ತರಗತಿ ವಿದ್ಯಾರ್ಥಿಗಳಿಗೆ ಟಿ.ಟಿ.ಲಸಿಕೆ	1126511	954456	84.72
ಡಿ.	10ನೇ ತರಗತಿ ವಿದ್ಯಾರ್ಥಿಗಳಿಗೆ ಟಿ.ಟಿ.ಚುಚ್ಚು ಮದ್ದು	520701	585143	112.37
ಇ.	ಶಿಕ್ಷಕರ ತರಬೇತಿ	191677	62447	32.57

ಆರೋಗ್ಯ ಮತ್ತು ಕುಟುಂಬ ಕಲ್ಯಾಣ ಇಲಾಖೆಯ ಅಡಿಯಲ್ಲಿ ಶಾಲಾ ಆರೋಗ್ಯ ಕಾರ್ಯಕ್ರಮಕ್ಕೆ ಮತ್ತು ಇನ್ನಿತರ ಯೋಜಿತ ಕಾರ್ಯಕ್ರಮಗಳಿಗೆ 1997ರಿಂದ ಜನವರಿ 2001ರವರೆಗೆ ಆಯವ್ಯಯ ಬಿಡುಗಡೆ ಮತ್ತು ವೆಚ್ಚಗಳ ವಿವರಗಳ ಪಟ್ಟಿ: (♦ರೂ. ಲಕ್ಷಗಳಲ್ಲಿ)

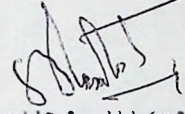
ಕ್ರಮ ಸಂಖ್ಯೆ	ಕಾರ್ಯಕ್ರಮಗಳ ಹೆಸರು	1997-98		1998-99		1999-2000	
		ನಿಗದಿ ಪಡಿಸಿದ ಹಣ ♦	ಖರ್ಚು ♦	ನಿಗದಿ ಪಡಿಸಿದ ಹಣ ♦	ಖರ್ಚು ♦	ನಿಗದಿ ಪಡಿಸಿದ ಹಣ ♦	ಖರ್ಚು ♦
01.	ಶಾಲಾ ಆರೋಗ್ಯ ಕಾರ್ಯಕ್ರಮ ಲೆಕ್ಕಶೀರ್ಷಿಕೆ (ಯೋಜನೆ) 2210-03-800-0-08 ದಡಿಯಲ್ಲಿ	55.00	55.00	10.50	10.50	10.00	10.00
02.	ಪ.ಜಾ: ಪ.ಪಂ: ಕಿರಿಯ ಮಹಿಳಾ ಆರೋಗ್ಯ ಸಹಾಯಕಿಯರಿಗೆ (ಸೇವಾವಧಿ ಮುನ್ನ) ಪ್ರೋತ್ಸಾಹ ರೂಪದಲ್ಲಿ ಹೆಚ್ಚುವರಿ ಶಿಷ್ಟವೇತನ ಲೆಕ್ಕಶೀರ್ಷಿಕೆ (ಯೋಜನೆ) 2210-03-800-0-06	0.40	0.06	30.40	28.32	57.00	11.52

ಜನವರಿ 2001 ರ ಅಂತ್ಯದವರೆಗೆ:

ಕ್ರಮ ಸಂಖ್ಯೆ	ಕಾರ್ಯಕ್ರಮಗಳ ಹೆಸರು	2000-2001		2001-2002		2002-2003	
		ನಿಗದಿ ಪಡಿಸಿದ ಹಣ ♦	ಖರ್ಚು ♦	ನಿಗದಿ ಪಡಿಸಿದ ಹಣ ♦	ಖರ್ಚು ♦	ನಿಗದಿ ಪಡಿಸಿದ ಹಣ ♦	ಖರ್ಚು ♦
01.	ಶಾಲಾ ಆರೋಗ್ಯ ಕಾರ್ಯಕ್ರಮ ಲೆಕ್ಕಶೀರ್ಷಿಕೆ (ಯೋಜನೆ) 2210-03-800-0-08 ದಡಿಯಲ್ಲಿ	50.00	43.20				
02.	ಪ.ಜಾ: ಪ.ಪಂ: ಕಿರಿಯ ಮಹಿಳಾ ಆರೋಗ್ಯ ಸಹಾಯಕಿಯರಿಗೆ (ಸೇವಾವಧಿ ಮುನ್ನ) ಪ್ರೋತ್ಸಾಹ ರೂಪದಲ್ಲಿ ಹೆಚ್ಚುವರಿ ಶಿಷ್ಟವೇತನ ಲೆಕ್ಕಶೀರ್ಷಿಕೆ (ಯೋಜನೆ) 2210-03-800-0-06	10.00	9.92				

ಜನವರಿ 2001 ರ ಅಂತ್ಯದವರೆಗೆ:

ಕ್ರಮ ಸಂಖ್ಯೆ	ಕಾರ್ಯಕ್ರಮಗಳ ಹೆಸರು	2000-2001		2001-2002		2002-2003	
		ನಿಗದಿ ಪಡಿಸಿದ ಹಣ ♦	ಖರ್ಚು ♦	ನಿಗದಿ ಪಡಿಸಿದ ಹಣ ♦	ಖರ್ಚು ♦	ನಿಗದಿ ಪಡಿಸಿದ ಹಣ ♦	ಖರ್ಚು ♦
01.	ಆರೋಗ್ಯ ಶಿಕ್ಷಣ ಕಾರ್ಯಕ್ರಮ (ಯೋಜನೆ) ಲೆಕ್ಕಪರಿಶೀಲನೆ : 2210-06-112-0-01	05.00	03.50				



ಅವರ ನಿರ್ದೇಶಕರು (ಆರೋಗ್ಯ)

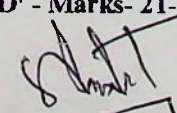
ಆರೋಗ್ಯ ಮತ್ತು ಕುಟುಂಬ ಕಲ್ಯಾಣ ಸೇವೆಗಳು  
ಬೆಂಗಳೂರು-9.



**STATEMENT SHOWING THE PERFORMANCE REPORT IN % OF SCHOOL HEALTH PROGRAMME FROM JULY 2000 TO JANUARY 2001 & REVIEWED IN FEBRUARY 2001.**

Sl. No.	Name of the District	Med. Exam. of Students	D & T	T. T.		Teacher' Training	Remarks "Marks / Grade"	
				1st dose	2nd dose		Marks	Grade
01	Bangalore(U)	95.83	91.92	95.50	100.78	11.13	84	A
02	Bangalore( R )	82.13	81.26	76.88	59.91	46.97	80	B
03	Kolar	97.74	99.02	63.75	106.26	10.72	80	B
04	Shimoga	93.60	64.83	97.56	150.50	60.07	92	A
05	Chitradurga	95.10	71.12	94.40	147.00	03.35	80	B
06	Davanagere	94.00	44.91	63.52	30.23	01.56	70	B
07	Tumkur	78.21	85.31	85.85	91.33	85.02	96	A
<b>BANGALORE DIVISION</b>		<b>89.82</b>	<b>80.85</b>	<b>80.30</b>	<b>87.80</b>	<b>31.41</b>	<b>88</b>	<b>A</b>
08	Mysore	90.05	85.72	101.18	67.00	00.93	80	B
09	Chamarajnaragar	75.26	85.58	73.68	107.15	62.83	88	A
10	Mangalore(DK)	93.74	104.74	80.55	68.55	84.35	96	A
11	Udupi	86.77	64.54	80.23	69.26	43.98	84	A
12	Mandya	93.80	78.64	93.21	88.06	00.00	76	B
13	Kodagu	429.64	120.58	384.28	223.69	97.28	100	A
14	Hassan	128.40	83.33	91.30	136.47	28.40	88	A
15	Chikkamagalur	88.53	68.47	82.38	112.42	64.27	92	A
<b>MYSORE DIVISION</b>		<b>110.96</b>	<b>84.90</b>	<b>101.80</b>	<b>91.95</b>	<b>38.01</b>	<b>88</b>	<b>A</b>
16	Belgaum	98.98	73.62	81.20	102.97	15.05	80	B
17	Karawar(UK)	61.48	41.20	65.00	99.54	33.84	82	A
18	Dharwar	86.60	66.08	74.59	126.87	35.65	80	B
19	Gadag	98.60	86.43	80.13	93.14	14.42	84	A
20	Haveri	125.55	73.65	91.62	263.55	67.70	92	A
21	Bijapur	89.00	61.10	60.09	113.62	03.95	76	B
22	Bagalakote	132.46	61.45	82.71	206.66	38.00	84	A
<b>BELGAUM DIVISION</b>		<b>98.94</b>	<b>66.25</b>	<b>76.42</b>	<b>128.80</b>	<b>26.52</b>	<b>80</b>	<b>B</b>
23	Gulbarga	116.82	76.20	98.22	240.98	05.71	80	B
24	Bidar	40.72	65.15	84.62	200.67	00.00	78	B
25	Bellary	78.93	77.92	93.70	134.84	216.58	92	A
26	Raichur	84.44	62.55	63.28	145.31	64.59	88	A
27	Koppal	89.55	73.80	74.70	159.78	24.27	80	B
<b>GULBURGA DIVISION</b>		<b>82.13</b>	<b>71.95</b>	<b>86.32</b>	<b>185.10</b>	<b>37.34</b>	<b>84</b>	<b>A</b>
<b>GRAND TOTAL</b>		<b>95.23</b>	<b>74.76</b>	<b>84.72</b>	<b>112.37</b>	<b>32.57</b>	<b>84</b>	<b>A</b>

- > Note : 'A' - Good , 'B' - Poor , 'C' - Very poor , 'D' - Extremely poor , 'E' - Bad performance,  
 > Note : 'A' - Marks- 81-100 , 'B' - Marks- 61-80 , 'C' - Marks- 41-60 , 'D' - Marks- 21- 40 ,  
 'E' - Marks- 10-20 & less

  
 (Dr S.B.Kurtakoti)  
 Addl. Director(HET)

NO:AD/HET/SHP/01/2000-2001

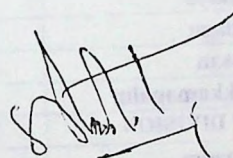
Directorate of Health & F. W.  
Services, Bangalore,  
Dated:27-02-2001.

TO:

The District Health & F. W. Officer,  
-----

**Sub:-** Feed-back report of School Health Programme for the month of  
January 2001, reviewed during February 2001.

Please find herewith feed-back report of School Health Programme of all the Districts in the State for your information and for taking necessary action to achieve 100 % progress of the School Health Programme by the end of March 2001. Action taken may please be intimated to this Directorate by return of post.



(Dr S.B.Kurtakoti)  
Addl.Director(HET)

Copy submitted for information to:

- 1) The Principal Secretary, Health & F.W.Department, M.S.Building, Bangalore-1.
- 2) The Commissioner, Health & F.W.Services, Anandarao Circle, Bangalore-9,
- 3) The Commissioner, Department of Public Instruction, Bangalore-1,
- 4) The Chief Executive Officer, Zilla Panchayat, -----.

Copy is marked for follow up action to:

The Divisional Joint Director, Health & F.W.Services, -----.

Statement showing the monitoring of receipt of the progress reports on the School Health Programme for the month of January 2001. Scheduled date: 10<sup>th</sup> of every month

Sl.No	Name of district	2 <sup>ND</sup> WEEK	3 <sup>RD</sup> WEEK	4 <sup>TH</sup> WEEK	REMARKS *
01	Bangalore(U)	09.02.2001			
02	Bangalore( R )	12.02.2001			
03	Kolar	09.02.2001			
04	Shimoga	08.02.2001			
05	Chitradurega	15.02.2001			
06	Davanagere	13.02.2001			
07	Tumakur	08.02.2001			
08	Mysore	14.02.2001			
09	Chamarajnaragar	09.02.2001			
10	Mangalore(DK)	14.02.2001			
11	Udapi	12.02.2001			
12	Mandya	08.02.2001			
13	Kodagu	08.02.2001			
14	Hassan	12.02.2001			
15	Chikkamagalur	14.02.2001			
16	Belgaum	--	17.02.2001		
17	Karawar(UK)	12.02.2001			
18	Dharawar	07.02.2001			
19	Gadag	12.02.2001			
20	Haveri	--	23.02.2001		
21	Bijapur	--	20.02.2001		
22	Bagalakote	08.02.2001			
23	Gulbarga	14.02.2001			
24	Bidar	--	17.02.2001		
25	Ballary	09.02.2001			
26	Raichur	09.02.2001			
27	Koppal	--	17.02.2001		

• Whether the explanation is called for or not ? Write Yes or No

**STATEMENT SHOWING THE PROGRESS REPORT OF MEDICAL EXAMINATION OF STUDENTS ON THE SCHOOL HEALTH PROGRAMME FOR THE MONTH OF JANUARY 2001 UNDER HET DIVISION OF DIRECTORATE OF HEALTH AND F. W. SERVICES, BANGALORE.**

Sl. No.	Name of district	Annual target	Monthly target	Achievement during the month of January 2001	Cumulative from June to January 2001	%
01	Bangalore(U)	71,392	11,899	4,502	68,419	95.83
02	Bangalore( R )	1,46,352	24,392	47,463	1,20,209	82.13
03	Kolar	1,65,950	27,658	920	1,62,208	97.74
04	Shimoga	99,544	16,591	19,618	93,165	93.60
05	Chitradurga	1,03,818	17,303	5,867	98,723	95.10
06	Davanagere	1,10,344	18,391	21,254	1,03,727	94.00
07	Tumkur	1,72,417	28,736	50,444	1,34,859	78.21
<b>Bangalore Division:</b>		<b>8,69,817</b>	<b>1,44,969</b>	<b>1,50,068</b>	<b>7,81,310</b>	<b>89.82</b>
08	Mysore	1,26,453	21,075	8,565	1,13,872	90.05
09	Chamarajnagar	57,066	9,511	4,795	42,952	75.26
10	Mangalore-DK	95,307	15,884	21,001	89,334	93.74
11	Udupi	67,771	11,295	4,233	58,805	86.77
12	Mandya	99,739	16,623	16,363	93,549	93.80
13	Kodagu	30,538	5,090	50,390	1,31,206	429.64
14	Hassan	80,293	13,382	9,674	1,03,098	128.40
15	Chikkamagalur	64,804	10,801	10,497	57,371	88.53
<b>Mysore Division:</b>		<b>6,21,971</b>	<b>1,03,661</b>	<b>1,25,518</b>	<b>6,90,187</b>	<b>110.96</b>
16	Belgaum	2,91,803	48,634	13,790	2,88,803	98.98
17	Karawar(UK)	94,573	15,762	4,968	58,142	61.48
18	Dharwar	1,17,540	19,590	16,875	1,01,790	86.60
19	Gadag	63,436	10,573	288	62,544	98.60
20	Haveri	94,422	15,737	37,703	1,18,538	125.55
21	Bijapur	1,54,828	25,805	31,164	1,37,783	89.00
22	Bagalakote	1,20,375	20,062	00	1,59,449	132.46
<b>Belgaum Division:</b>		<b>9,36,977</b>	<b>1,56,163</b>	<b>1,04,788</b>	<b>9,27,049</b>	<b>98.94</b>
23	Gulbarga	1,71,883	28,647	45,211	2,00,798	116.82
24	Bidar	1,53,002	25,500	2,922	62,305	40.72
25	Bellary	1,50,449	25,075	21,809	1,18,742	78.93
26	Raichur	90,093	15,015	9,779	76,075	84.44
27	Koppal	87,974	14,662	7,458	78,777	89.55
<b>Gulbarga Division:</b>		<b>6,53,401</b>	<b>1,08,900</b>	<b>87,179</b>	<b>5,36,697</b>	<b>82.13</b>
<b>GRAND TOTAL</b>		<b>30,82,166</b>	<b>5,13,693</b>	<b>4,67,553</b>	<b>29,35,243</b>	<b>95.23</b>

**STATEMENT SHOWING THE PROGRESS REPORT OF D & T IMMUNIZATION COVERAGE  
FOR THE MONTH OF JANUARY 2001 UNDER HET DIVISION OF DIRECTORATE OF  
HEALTH & FAMILY WELFARE SERVICES, BANGALORE.**

Sl. No.	Name of the district	Annual target	Achievement during the month of January 2001	Cummulative from June to January 2001	Percent age (%)
01	Bangalore(U)	27,152	3,974	24,958	91.92
02	Bangalore( R )	50,778	9,105	41,266	81.26
03	Kolar	59,270	284	58,693	99.02
04	Shimoga	34,369	2,600	29,157	64.83
05	Chitradurga	38,694	00	27,523	71.12
06	Davanagere	40,294	1,572	18,097	44.91
07	Tumkur	64,537	7,319	55,062	85.31
<b>Bangalore Division:</b>		<b>3,15,094</b>	<b>24,854</b>	<b>2,54,756</b>	<b>80.85</b>
08	Mysore	43,635	2,112	37,408	85.72
09	Chamarajnagar	20,578	1,872	17,609	85.58
10	Mangalore(DK)	29,726	3,749	31,136	104.74
11	Udapi	19,088	568	12,320	64.54
12	Mandya	32,523	2,107	25,579	78.64
13	Kodagu	9,664	399	11,653	120.58
14	Hassan	26,672	1,422	22,226	83.33
15	Chikkamagalur	21,320	1,001	14,598	68.47
<b>Mysore Division:</b>		<b>2,03,206</b>	<b>13,230</b>	<b>1,72,529</b>	<b>84.90</b>
16	Belgaum	1,16,636	8,078	85,868	73.62
17	Karawar(UK)	38,678	858	15,934	41.20
18	Dharawar	43,737	2,080	28,902	66.08
19	Gadag	22,724	959	19,641	86.43
20	Haveri	36,571	3,162	26,398	73.65
21	Bijapur	63,210	2,319	38,626	61.10
22	Bagalakote	48,788	2,507	29,977	61.45
<b>Belgaum Division:</b>		<b>3,70,344</b>	<b>19,963</b>	<b>2,45,346</b>	<b>66.25</b>
23	Gulbarga	92,133	4,697	70,212	76.20
24	Bidar	64,614	2,293	42,097	65.15
25	Bellary	59,518	2,167	46,373	77.92
26	Raichur	40,250	2,858	25,175	62.55
27	Koppal	37,259	3,281	27,497	73.80
<b>Gulbarga Division:</b>		<b>2,93,774</b>	<b>15,296</b>	<b>2,11,354</b>	<b>71.95</b>
<b>GRAND TOTAL</b>		<b>11,82,418</b>	<b>73,343</b>	<b>8,83,985</b>	<b>74.76</b>

**STATEMENT SHOWING THE PROGRESS REPORT OF 1<sup>st</sup> BOOSTER DOZE OF TT  
IMMUNIZATION COVERAGE FOR THE MONTH OF JANUARY 2001 UNDER HET DIVISION  
OF DIRECTORATE OF HEALTH & FAMILY WELFARE SERVICES, BANGALORE.**

Sl. No.	Name of the District	Annual target	Achievement during the month of January 2001	Cummulative from June to January 2001	Percentage (%)
01	Bangalore(U)	25,141	3,042	24,008	95.50
02	Bangalore( R )	50,943	5,445	39,166	76.88
03	Kolar	60,185	2,579	38,370	63.75
04	Shimoga	34,969	2,953	34,116	97.56
05	Chitradurga	36,790	00	34,729	94.40
06	Davanagere	39,585	2,236	25,145	63.52
07	Tumkur	59,518	8,142	51,102	85.85
<b>Bangalore Division:</b>		<b>3,07,131</b>	<b>24,397</b>	<b>2,46,636</b>	<b>80.30</b>
08	Mysore	44,656	1,958	45,184	101.18
09	Chamarajnagar	21,040	765	15,504	73.68
10	Mangalore(DK)	36,122	2,241	29,094	80.55
11	Udupi	25,637	535	20,569	80.23
12	Mandya	34,899	2,112	32,531	93.21
13	Kodagu	10,528	11,039	40,457	384.28
14	Hassan	27,204	1,350	24,838	91.30
15	Chikkamagalur	23,133	1,292	19,059	82.38
<b>Mysore Division:</b>		<b>2,23,219</b>	<b>21,292</b>	<b>2,27,236</b>	<b>101.80</b>
16	Belgaum	1,04,140	4,941	84,560	81.20
17	Karawar(UK)	32,973	806	21,432	65.00
18	Dharwar	43,657	2,633	3,262	74.59
19	Gadag	25,497	833	20,431	80.13
20	Haveri	35,744	2,611	32,751	91.62
21	Bijapur	58,321	2,946	35,046	60.09
22	Bagalakote	43,711	1,979	36,154	82.71
<b>Belgaum Division:</b>		<b>3,44,043</b>	<b>16,749</b>	<b>2,62,936</b>	<b>76.42</b>
23	Gulbarga	73,059	4,736	71,763	98.22
24	Bidar	55,259	2,012	46,762	84.62
25	Bellary	55,830	2,242	52,317	93.70
26	Raichur	34,751	1,399	21,992	63.28
27	Koppal	33,219	3,132	24,814	74.70
<b>Gulbarga Division:</b>		<b>2,52,118</b>	<b>13,521</b>	<b>2,17,648</b>	<b>86.32</b>
<b>GRAND TOTAL</b>		<b>11,26,511</b>	<b>75,959</b>	<b>9,54,456</b>	<b>84.72</b>

**STATEMENT SHOWING THE PROGRESS REPORT OF 2<sup>ND</sup> BOOSTER DOZE OF TT  
IMMUNIZATION COVERAGE FOR THE MONTH OF JANUARY 2001 HET DIVISION OF  
DIRECTORATE OF HEALTH & FAMILY WELFARE SERVICES, BANGALORE.**

Sl. No.	Name of the district	Annual target	Achievement during the month of January 2001	Cumulative from June to January 2001	Percentage (%)
01	Bangalore(U)	10,264	2,702	10,345	100.78
02	Bangalore( R )	33,231	8,318	19,912	59.91
03	Kolar	25,842	1,619	27,461	106.26
04	Shimoga	16,276	3,059	24,495	150.50
05	Chitradurga	14,888	00	21,886	147.00
06	Davanagere	29,384	1,061	8,884	30.23
07	Tumakur	30,083	12,047	27,477	91.33
<b>Bangalore Division:</b>		<b>1,59,968</b>	<b>28,806</b>	<b>1,40,460</b>	<b>87.80</b>
08	Mysore	45,050	2,574	30,181	67.00
09	Chamarajnar	9,590	683	10,276	107.15
10	Mangalore(DK)	22,501	3,129	15,425	68.55
11	Udupi	14,872	1,052	10,301	69.26
12	Mandya	28,025	4,932	24,679	88.06
13	Kodagu	7,549	8,969	16,887	223.69
14	Hassan	16,162	2,168	22,057	136.47
15	Chikkamagalur	11,568	1,414	13,005	112.42
<b>Mysore Division:</b>		<b>1,55,317</b>	<b>24,921</b>	<b>1,42,811</b>	<b>91.95</b>
16	Belgaum	43,012	4,081	44,292	102.97
17	Karawar(UK)	15,564	1,969	15,493	99.54
18	Dharwar	20,294	2,133	25,749	126.87
19	Gadag	16,246	1,660	15,133	93.14
20	Haveri	8,836	3,687	23,288	263.55
21	Bijapur	18,795	3,114	21,356	113.62
22	Bagalakote	16,410	3,745	33,913	206.66
<b>Belgaum Division:</b>		<b>1,39,157</b>	<b>20,389</b>	<b>1,79,224</b>	<b>128.80</b>
23	Gulburga	20,419	7,039	49,206	240.98
24	Bidar	12,797	2,595	25,680	200.67
25	Bellary	14,816	1,982	19,978	134.84
26	Raichur	9,260	1,834	13,456	145.31
27	Koppal	8,967	2,684	14,328	159.78
<b>Gulburga Division :</b>		<b>66,259</b>	<b>16,134</b>	<b>1,22,648</b>	<b>185.10</b>
<b>GRAND TOTAL</b>		<b>5,20,701</b>	<b>90,250</b>	<b>5,85,143</b>	<b>112.37</b>

**STATEMENT SHOWING THE PROGRESS REPORT OF TEACHERS' TRAINING COVERAGE  
FOR THE MONTH OF JANUARY 2001 OF HET DIVISION OF THIS DIRECTORATE OF  
HEALTH & FAMILY WELFARE SERVICES, BANGALORE.**

Sl. No.	Name of the District	Annual Target	Achievement during the month of January 2001	Cumulative from June to January 2001	Percentage (%)
01	Bangalore(U)	18,161	998	2,022	11.13
02	Bangalore( R )	9,800	290	4,604	46.97
03	Kolar	12,234	107	1,312	10.72
04	Shimoga	6,474	867	3,889	60.07
05	Chitradurga	5,678	120	190	03.35
06	Davanagere	7,668	00	120	01.56
07	Tumkur	12,535	00	10,658	85.02
<b>BANGALORE DIVISION</b>		<b>72,550</b>	<b>2,382</b>	<b>22,795</b>	<b>31.41</b>
08	Mysore	9,190	82	86	00.93
09	Chamarajnagar	3,495	1,056	2,196	62.83
10	Mangalore(DK)	6,014	193	5,073	84.35
11	Udupi	4,533	299	1,994	43.98
12	Mandya	6,737	00	00	00.00
13	Kodagu	2,028	00	1,973	97.28
14	Hassan	7,878	37	2,237	28.40
15	Chikkamagalur	6,099	1,868	3,920	64.27
<b>MYSORE DIVISION</b>		<b>45,974</b>	<b>3,535</b>	<b>17,479</b>	<b>38.01</b>
16	Belgaum	13,838	50	2,084	15.05
17	Karawar(UK)	6,981	950	2,363	33.84
18	Dharwar	4,341	00	1,548	35.65
19	Gadag	3,445	497	497	14.42
20	Haveri	5,634	782	3,814	67.70
21	Bijapur	8,083	320	320	03.95
22	Bagalakote	5,237	1,490	1,990	38.00
<b>BELGAUM DIVISION</b>		<b>47,559</b>	<b>4,089</b>	<b>12,616</b>	<b>26.52</b>
23	Gulburga	8,763	113	501	05.71
24	Bidar	6,546	00	00	00.00
25	Bellary	2,574	950	5,575	216.58
26	Raichur	3,993	794	2,579	64.59
27	Koppal	3,718	90	902	24.27
<b>GULBURGA DIVISION</b>		<b>25,594</b>	<b>1,947</b>	<b>9,557</b>	<b>37.34</b>
<b>GRAND TOTAL</b>		<b>1,91,677</b>	<b>11,953</b>	<b>62,447</b>	<b>32.57</b>



**Statement showing the defects / deficiencies found among the school children  
Medically examined from July 2000 to January 2001.**

Sl. No.	Defects/ Deficiencies	July 2000	Aug. 2000	Sept. 2000	Oct. 2000	Nov. 2000	Dec. 2000	Jan. 2001	TOTAL
01.	Dental	6855	35041	34085	15742	38049	33580	38049	2,01,401
02.	Eye	1741	3745	8682	3590	7032	7486	7032	39,308
03.	Ear	1881	5775	8086	3791	7864	7615	7864	42,876
04.	Skin	2701	6640	11840	5577	13138	13664	13138	66,698
05.	Nutritional Deficiency	4836	11218	20338	10463	26984	23490	26984	1,24,313
06.	Others	3831	8009	14648	5947	18016	7625	18016	76,091

**Statement showing the percentage of defects / deficiencies found among the school  
children Medically examined from July 2000 to January 2001.**

Sl. No.	Defects/Deficiencies	Total Children Medically examined	Total Defects found	Percent age
01.	Dental	24,67,580	2,01,401	08.16
02.	Eye		39,308	01.59
03.	Ear		42,876	01.74
04.	Skin		66,698	02.70
05.	Nutritional Deficiency		1,24,313	05.04
06.	Others		76,091	03.08
	<b>TOTAL:</b>		<b>24,67,580</b>	<b>5,50,687</b>

## FOOD FOR THOUGHT:

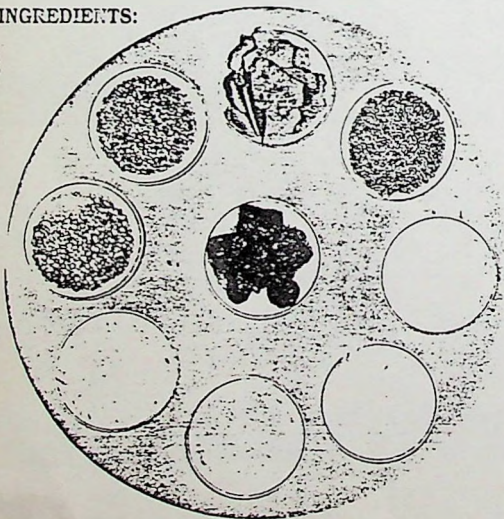
Protein-Calorie malnutrition is a predominant nutritional deficiency among the children of the vulnerable group in developing countries. Due to inadequate intake of basic supplements such as pulses, milk and vegetables, vitamin deficiency disorders also set in, thus impairing the physical and mental growth at such a crucial and sensitive stage of their lives.

The Indian Council of Medical Research has estimated the protein-calorie requirement of pre-school children (1-6 years) at 17-22 gms of proteins and 1200-1500 calories per day whereas the school going children need 33-41 gms of proteins and 1800-2100 calories per day.

Keeping in view the above factors, Central Food Technological Research Institute, (C.F.T.R.I.) Mysore, has designed and developed Energy Food so as to provide in a single ration atleast half the content of proteins and 1/3 of calories vital for a child's growth. Practically a ready-to-serve food, this diet enricher was extensively tried out in the nutrition programme of the Indian Population Project of Karnataka.

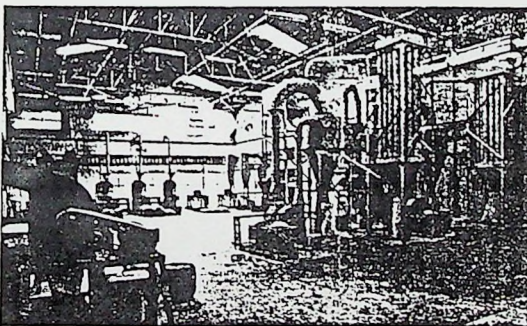
One of the various activities that the Karnataka State Agro Corn Products Limited is engaged in currently includes the manufacture of this ready-to-eat, processed weaning food named **Energy Food** for Nutritional Intervention Programme undertaken by the various Departments of the Government of Karnataka. The weaning food manufacturing Units have been set up at Mysore, Belgaum, Chitradurga, Raichur and Doddaballapur with the technical collaboration of C.F.T.R.I., a pioneer Food Research Institute of Government of India. These Five Units have an installed capacity of 90 metric tonnes of weaning food per day. The weaning food is being supplied currently to the Education Department for distribution to Pre-primary and Primary children under Mid-day Meals Scheme. It is also being supplied to the Social Welfare and Women & Children Welfare Departments for distribution to various beneficiaries namely pre-primary children, pregnant Mothers, lactating women, severely malnourished children and others. UNICEF has also assisted this project by way of supplying plant and machinery.

## INGREDIENTS:



in developing Energy Food as a diet supplement, considerable thought has been devoted to the selection of suitable raw materials conducive to growth in children. The major raw materials required for the manufacture of Energy Food are Wheat/Maize Grits, Bengal gram dhal, Jaggery and edible Groundnut cake/Soya Flour/Soya Dhal which are easy to procure and are cost-effective too.

## PROCESS OF PRODUCTION:



The process consists mainly of pre-cleaning all the raw materials, roasting them under optimal conditions, powdering them to the required mesh size and mixing them ultimately.

Energy Food is a sweet powder with a pleasant natural flavour. 100 gms of Energy Food provides 14 gms of protein and 380 calories of energy, which is about 40% of the protein requirement and 18% of the energy needs of a 6 year old child. This quantity of Energy Food provides upto 50% of the required essential Vitamins A, B<sub>1</sub>, B<sub>2</sub>, Nicotin, Folic Acid as well as minerals like Calcium and Iron. Thus Energy Food is a wholesome food supplying substantial part of the daily nutritional requirement of a growing child.

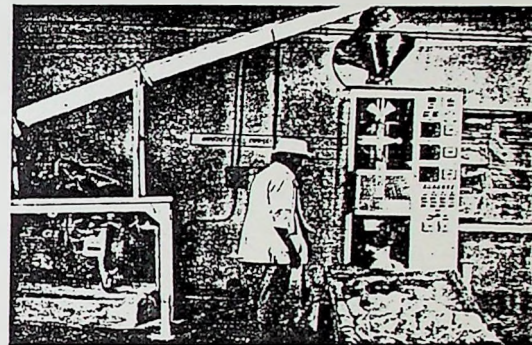
The mix has a good acceptability. It can be consumed as such and does not need any pre-cooking as in the case of other high protein supplements, if desired it can be mixed with water or milk to make a porridge or paste. It can also be used in preparing Halwa, Pancake (Sweet Dosa), Chappathi etc.

## QUALITY CONTROL:

Rigorous quality control is necessary in the manufacture of Energy Food at all stages of production. This is done by AGRO CORN with the consultancy back up arrangements with C.F.T.R.I., Mysore. Raw materials conform to the PFA standards wherever they are applicable or to other specifications laid down.

## PACKING:

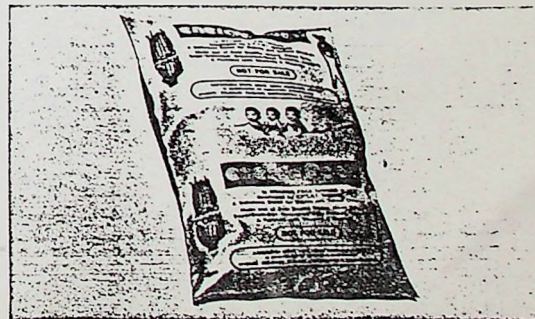
Energy Food manufactured under expert technical supervision is machine packed in flexible pouches of 1-5 Kgs capacity. Further protection is provided by the secondary pack used for every 25 units for convenient distribution.



## DISTRIBUTION STRATEGY:

To ensure that this health food reaches the under and malnourished segment of the target population, it is now utilised for the school feeding programmes of the Govt. of Karnataka and Nutrition Intervention Programmes of other states.

By adopting proper developmental market strategy, Agro Corn is also popularising Energy Food as a consumer item as to give an indication of the quantity of Weaning Food to be given to children. 55 gms of this Energy Food can substitute at a cheaper cost, 2 slices of Standard Bread loaf and 112 ML of Milk.

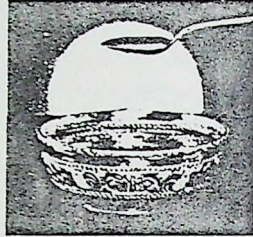
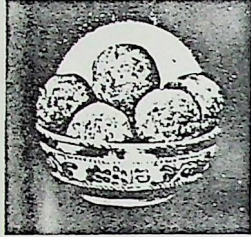


### HOW TO USE:

For children below 1 year: Add Energy Food to boiling water, stir well for a minute, cool and spoon feed the gruel.

For children above one year: Mix Energy Food with pre-boiled and cooled water or warm water, roll into balls and serve.

Energy Food can be consumed directly too.



### HOW TO STORE:

Store Energy Food only in clean, dry rooms free from insects and rats. Do not store in damp rooms, or with moist materials. Avoid keeping the material directly on the floor. (Use polythene sheet/Bamboo mat or wooden planks as dunnage). Energy Food should also be stored away from infested materials and non-food items. If stored under hygienic conditions, it can be preserved for 3 months from the date of manufacture. The room in which the material is stored should be maintained very clean. If possible, at intervals of 2 months, spray the walls of the room with 2% Malathion after emptying the room completely.

In the absence of suitable storage rooms, commercially available metallic bins may also be used.

Do not open the packets till the time of actual use. If the left over material is to be preserved for a short time, store in a clean tin container with a tight fitting lid. Do not use food from opened or damaged packets that are exposed to unhygienic conditions.

### PROXIMATE COMPOSITION AND NUTRITIONAL VALUE OF ENERGY FOOD

G/100 g

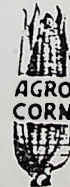
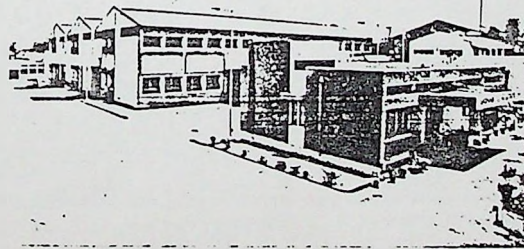
Moisture	5.7
Protein (Nx6.25)	14-15
Fat	2-4
Minerals	3-4
Fibre	1-2
Carbohydrate	68-72
Calories	370-380
Calcium	1 gm
Phosphorous	0.5-1.0 gm
Iron	40 mg - 60 mg
Vitamin A	1500 iu
Vitamin B <sub>1</sub>	0.6 mg
Vitamin B <sub>2</sub>	0.8 mg
Niacin	5 mg
Folic Acid	0.01 mg

### SPECIAL WEANING FOODS:

Besides Energy Food, with the technical collaboration of C.F.T.R.I., Mysore, KSACP Ltd. is also manufacturing Special Weaning foods having a high calorie density per unit volume. By feeding this food, an infant can consume a larger amount of true food in one sitting and will have adequate nutrition also. The special weaning food is recommended for infants at about 4-6 months of age. This food is also in powder form and will have to be reconstituted in pre-boiled warm water, see it thin and to spoon feed. Special weaning food formulations are being produced by the Company at present having certain percentages enzyme rich cereal flours with or without skimmed milk powder.



*Your Baby's growing good, Needs energy weaning food.*



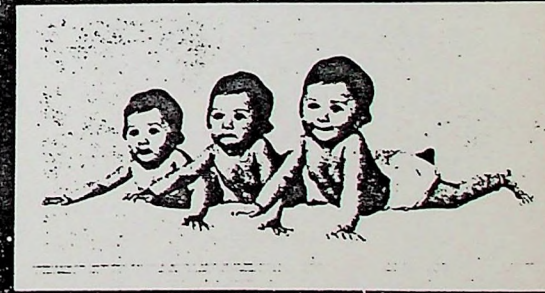
Educational Material presented with the Compliments of

**Karnataka State Agro Corn Products Ltd**

(A Govt. of Karnataka Undertaking)  
P.B. No. 2479, Bellary Road, Hebbal,  
Bangalore-560 024.

# Energy Food

(A C.F.T.R.I. WEANING FOOD FORMULA)



1) why corn - advanced / advanced paper

2) Energy Food - Agro Corn

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## ರಾಜ್ಯದ ಜಿಲ್ಲಾವಾರು ದಾಖಲಾತಿ ಅಂಕಿ ಅಂಶಗಳು - 1999-2000

ಹಿರಿಯ ಪ್ರಾಥಮಿಕ ಶಾಲೆಗಳು					ಹಿರಿಯ ಪ್ರಾಥಮಿಕ ಶಾಲೆಗಳು				ಪ್ರೌಢ ಶಾಲೆಗಳು				ಒಟ್ಟು			
ಜಿಲ್ಲೆ	ಸರ್ಕಾರಿ	ಅನುದಾನ ಸಹಿತ	ಅನುದಾನ ರಹಿತ	ಒಟ್ಟು	ಸರ್ಕಾರಿ	ಅನುದಾನ ಸಹಿತ	ಅನುದಾನ ರಹಿತ	ಒಟ್ಟು	ಸರ್ಕಾರಿ	ಅನುದಾನ ಸಹಿತ	ಅನುದಾನ ರಹಿತ	ಒಟ್ಟು	ಸರ್ಕಾರಿ	ಅನುದಾನ ಸಹಿತ	ಅನುದಾನ ರಹಿತ	ಒಟ್ಟು
ಉತ್ತರ ಕನ್ನಡ	111171	4321	10606	126098	62865	3863	5555	72283	9594	26943	5645	42182	183630	35127	21806	240563
ಬಳ್ಳಾರಿ	198481	19614	24535	242630	88057	12121	11051	111229	22651	19333	9236	51220	309189	51068	44822	405079
ಬೀದರ	160854	40009	15321	216184	65941	26830	8024	100795	17051	13319	11605	41975	243846	80158	34950	358954
ಗುಲ್ಬರ್ಗ	339000	42474	36999	418473	105998	26233	20448	152679	37615	16952	20170	74737	482613	85659	77617	645889
ಕೊಪ್ಪಳ	128787	2207	10821	141815	45601	1851	4847	52299	15268	6566	3562	25396	189656	10624	19230	219510
ರಾಯಚೂರು	169159	7119	19509	195787	52015	5490	10539	68044	19897	6347	7781	34025	241071	18956	37829	297856
ಬಾಮರಾಜನಗರ	70415	7734	6453	84602	39512	5348	4204	49064	12954	7572	5853	26379	122881	20654	16510	160045
ಬಿಕ್ಕನೂರು	85111	4055	6930	96096	55972	4073	5102	65147	16560	15242	4720	36522	157643	23370	16752	197765
ದಕ್ಷಿಣ ಕನ್ನಡ	97493	49979	19537	167009	67472	44948	12233	124653	21946	40552	9197	71695	186911	135479	40967	363357
ಹಾಸನ	125931	7232	18789	151952	88763	6263	11542	106568	31545	24241	10825	66611	246239	37736	41156	325131
ಕೊಡಗು	28045	2076	6993	37114	21951	2009	3929	27889	4865	11278	2660	18803	54861	15363	13582	83806
ಮಂಡ್ಯ	119576	7992	20200	147768	86524	6136	12524	105184	37194	20883	13056	71133	243294	35011	45780	324085
ಮೈಸೂರು	170966	27468	43085	241519	105394	19163	31396	155953	37951	31063	22455	91469	314311	77694	96936	488941
ಉಡುಪಿ	57043	38410	7910	103363	44687	36649	4798	86134	17306	20909	5296	43511	119036	95968	18004	233008
ರಾಜ್ಯದ ಒಟ್ಟು:	4050100	485062	739221	5274383	2116301	384607	447780	2948688	560035	755342	374255	1689632	6726436	1625011	1561256	9912703

## MAKKALA SAMEEKSHA STATISTICS

(PROVISIONAL)

CATEGORY: ALL

DISTRICT NAME	6 - 14 AGE GROUP POPULATION			OUT OF SCHOOL CHILDREN			% OF OUT OF SCHOOL			% OF OUT OF SCHOOL		
				IN 6-14 AGE GROUP			CHILDREN WITHIN DISTRICT			CHILDREN TO THE STATE		
	BOYS	GIRLS	TOTAL	BOYS	GIRLS	TOTAL	BOYS	GIRLS	TOTAL	BOYS	GIRLS	TOTAL
1 KARNATAKA	4811853	4667318	9479171	506481	547263	1053744	10.53	11.73	11.12	100.00	100.00	100.00
2 RAICHUR	219458	217917	437375	53637	63255	116892	24.44	29.03	26.73	10.59	11.56	11.09
3 GULBARGA	367314	354822	722136	88706	97291	185997	24.15	27.42	25.76	17.51	17.78	17.65
4 KOPPAL	131840	130253	262093	27017	31119	58136	20.49	23.89	22.18	5.33	5.69	5.52
5 BIJAPUR	225203	213713	438916	40891	40442	81333	18.16	18.92	18.53	8.07	7.39	7.72
6 BELLARY	207531	203585	411116	34512	39063	73575	16.63	19.19	17.90	6.81	7.14	6.98
7 BAGALKOT	167304	164956	332260	22978	27285	50263	13.73	16.54	15.13	4.54	4.99	4.77
8 BIDAR	176240	168306	344546	19819	22980	42799	11.25	13.65	12.42	3.91	4.20	4.06
9 CHAMARAJANAGAR	71676	69880	141556	8548	8553	17101	11.93	12.24	12.08	1.69	1.56	1.62
10 GADAG	91957	89469	181426	10085	11227	21312	10.97	12.55	11.75	1.99	2.05	2.02
11 HAVERI	133844	126746	260590	13339	13124	26463	9.97	10.35	10.16	2.63	2.40	2.51
12 KODAGU	42705	42401	85106	4198	4082	8280	9.83	9.63	9.73	0.83	0.75	0.79
13 DAVANAGERE	163191	156495	319686	14272	14724	28996	8.75	9.41	9.07	2.82	2.69	2.75
14 CHITRADURGA	135992	130547	266539	11144	12349	23493	8.19	9.46	8.81	2.20	2.26	2.23
15 BELGAUM	388843	374842	763685	30190	34336	64526	7.76	9.16	8.45	5.96	6.27	6.12
16 MYSORE	227023	220210	447233	18539	19232	37771	8.17	8.73	8.45	3.66	3.51	3.58
17 DHARWAD	109734	104903	214637	8977	8862	17839	8.18	8.45	8.31	1.77	1.62	1.69
18 UTTARA KANNADA	117167	111420	228587	9335	9523	18858	7.97	8.55	8.25	1.84	1.74	1.79
19 KOLAR	228852	224957	453809	15641	17977	33618	6.83	7.99	7.41	3.09	3.28	3.19

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<b>MAKKALA SAMEEKSHE STATISTICS</b>
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(PROVISIONAL)

CATEGORY : ALL

DISTRICT NAME	6 - 14 AGE GROUP POPULATION			OUT OF SCHOOL CHILDREN			% OF OUT OF SCHOOL			% OF OUT OF SCHOOL		
				IN 6-14 AGE GROUP			CHILDREN WITHIN DISTRICT			CHILDREN TO THE STATE		
	BOYS	GIRLS	TOTAL	BOYS	GIRLS	TOTAL	BOYS	GIRLS	TOTAL	BOYS	GIRLS	TOTAL
20 CHICKMAGALUR	95780	93860	189640	6354	6537	12891	6.63	6.96	6.80	1.25	1.19	1.22
21 SHIMOGA	142380	138958	281338	9996	8822	18818	7.02	6.35	6.69	1.97	1.61	1.79
22 HASSAN	143777	143054	286831	8972	9155	18127	6.24	6.40	6.32	1.77	1.67	1.72
23 TUMKUR	222216	215545	437761	11814	12437	24251	5.32	5.77	5.54	2.33	2.27	2.30
24 BANGALORE RURAL	161084	155279	316363	8534	7902	16436	5.30	5.09	5.20	1.68	1.44	1.56
25 MANDYA	144929	141735	286664	7773	7082	14855	5.36	5.00	5.18	1.53	1.29	1.41
26 BANGALORE URBAN	462328	431347	893675	17552	15750	33302	3.80	3.65	3.73	3.47	2.88	3.16
27 DAKSHINA KANNADA	146707	148315	295022	2639	3113	5752	1.80	2.10	1.95	0.52	0.57	0.55
28 UDUPI	86778	93803	180581	1019	1041	2060	1.17	1.11	1.14	0.20	0.19	0.20

## MAKKALA SAMEEKSHI STATISTICS

CATEGORY: ST

(PROVISIONAL)

DISTRICT NAME	6 - 14 AGE GROUP POPULATION			OUT OF SCHOOL CHILDREN IN 6-14 AGE GROUP			% OF OUT OF SCHOOL CHILDREN WITHIN DISTRICT			% OF OUT OF SCHOOL CHILDREN TO THE STATE		
	BOYS	GIRLS	TOTAL	BOYS	GIRLS	TOTAL	BOYS	GIRLS	TOTAL	BOYS	GIRLS	TOTAL
1 KARNATAKA	381000	370685	751685	67384	76758	144142	17.69	20.71	19.18	100.00	100.00	100.00
2 GULBARGA	19184	18524	37708	7386	8191	15577	38.50	44.22	41.31	10.96	10.67	10.81
3 RAICHUR	43334	43026	86360	15739	18251	33990	36.32	42.42	39.36	23.36	23.78	23.58
4 KOPPAL	17091	16880	33971	4765	5578	10343	27.88	33.05	30.45	7.07	7.27	7.18
5 KODAGU	3237	3212	6449	841	762	1603	25.98	23.72	24.86	1.25	0.99	1.11
6 BELLARY	41585	40791	82376	9362	10629	19991	22.51	26.06	24.27	13.89	13.85	13.87
7 BAGALKOT	9606	9468	19074	1881	2148	4029	19.58	22.69	21.12	2.79	2.80	2.80
8 BIJAPUR	5325	5049	10374	1079	965	2044	20.26	19.11	19.70	1.60	1.26	1.42
9 BIDAR	20062	19152	39214	3311	4066	7377	16.50	21.23	18.81	4.91	5.30	5.12
10 BELGAUM	25133	24224	49357	3570	5073	8643	14.20	20.94	17.51	5.30	6.61	6.00
11 CHAMARAJANAGAR	9263	9027	18290	1462	1624	3086	15.78	17.99	16.87	2.17	2.12	2.14
12 MYSORE	25410	24643	50053	3328	3426	6754	13.10	13.90	13.49	4.94	4.46	4.69
13 GADAG	5601	5446	11047	654	788	1442	11.68	14.47	13.05	0.97	1.03	1.00
14 CHITRADURGA	26563	25496	52059	3025	3404	6429	11.39	13.35	12.35	4.49	4.43	4.46
15 DHARWAD	5297	5061	10358	651	623	1274	12.29	12.31	12.30	0.97	0.81	0.88
16 HASSAN	2996	2977	5973	369	360	729	12.32	12.09	12.20	0.55	0.47	0.51
17 UTTARA KANNADA	2256	2138	4394	248	256	504	10.99	11.97	11.47	0.37	0.33	0.35
18 DAVANAGERE	20772	19916	40688	2224	2342	4566	10.71	11.76	11.22	3.30	3.05	3.17
19 HAVERI	13233	12527	25760	1416	1442	2858	10.70	11.51	11.09	2.10	1.88	1.98

MAKKALA SAMEEKSHI STATISTICS
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CATEGORY : ST

(PROVISIONAL)

DISTRICT NAME	6 - 14 AGE GROUP POPULATION			OUT OF SCHOOL CHILDREN IN 6-14 AGE GROUP			% OF OUT OF SCHOOL CHILDREN WITHIN DISTRICT			% OF OUT OF SCHOOL CHILDREN TO THE STATE		
	BOYS	GIRLS	TOTAL	BOYS	GIRLS	TOTAL	BOYS	GIRLS	TOTAL	BOYS	GIRLS	TOTAL
20 MANDYA	8703	8506	17209	882	926	1808	10.13	10.89	10.51	1.31	1.21	1.25
21 SHIMOGA	5880	5734	11614	612	566	1178	10.41	9.87	10.14	0.91	0.74	0.82
22 KOLAR	20756	20398	41154	1797	2338	4135	8.66	11.46	10.05	2.67	3.05	2.87
23 CHICKMAGALUR	4415	4319	8734	394	405	799	8.92	9.38	9.15	0.58	0.53	0.55
24 BANGALORE RURAL	6259	6029	12288	412	519	931	6.58	8.61	7.58	0.61	0.68	0.65
25 TUMKUR	17374	16850	34224	1079	1178	2257	6.21	6.99	6.59	1.60	1.53	1.57
26 BANGALORE URBAN	11523	10745	22268	665	691	1356	5.77	6.43	6.09	0.99	0.90	0.94
27 DAKSHINA KANNADA	5859	5920	11779	135	125	260	2.30	2.11	2.21	0.20	0.16	0.18
28 UDUPI	4283	4627	8910	97	82	179	2.26	1.77	2.01	0.14	0.11	0.12



<b>MAKALA SAMEEKSHI STATISTICS</b>
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(PROVISIONAL)

CATEGORY: SC

DISTRICT NAME	6 - 14 AGE GROUP POPULATION			OUT OF SCHOOL CHILDREN IN 6-14 AGE GROUP			% OF OUT OF SCHOOL CHILDREN WITHIN DISTRICT			% OF OUT OF SCHOOL CHILDREN TO THE STATE		
	BOYS	GIRLS	TOTAL	BOYS	GIRLS	TOTAL	BOYS	GIRLS	TOTAL	BOYS	GIRLS	TOTAL
1 KARNATAKA	1013134	978534	1991668	145503	164260	309763	14.36	16.79	15.55	100.00	100.00	100.00
2 KODAGU	5916	5868	11784	2374	2184	4558	40.13	37.22	38.68	1.63	1.33	1.47
3 RAICHUR	47645	47306	94951	13916	17035	30951	29.21	36.01	32.60	9.56	10.37	9.99
4 GULBARGA	102175	98696	200871	29284	31189	60473	28.66	31.60	30.11	20.13	18.99	19.52
5 KOPPAL	23093	22810	45903	6316	6975	13291	27.35	30.58	28.95	4.34	4.25	4.29
6 BELLARY	43680	42846	86526	9683	11460	21143	22.17	26.75	24.44	6.65	6.98	6.83
7 BILAPUR	50223	47657	97880	11251	12499	23750	22.40	26.23	24.26	7.73	7.61	7.67
8 BAGALKOT	31820	31370	63190	6455	7904	14359	20.29	25.20	22.72	4.44	4.81	4.64
9 GADAG	16255	15812	32067	3189	3843	7032	19.62	24.30	21.93	2.19	2.34	2.27
10 HAVERI	19011	17997	37008	3260	3660	6920	17.15	20.34	18.70	2.24	2.23	2.23
11 BIDAR	42735	40807	83542	6783	7340	14123	15.87	17.99	16.91	4.66	4.47	4.56
12 DAVANAGERE	35866	34390	70256	4830	5690	10520	13.47	16.55	14.97	3.32	3.46	3.40
13 SHIMOGA	26768	26121	52889	3521	3896	7417	13.15	14.92	14.02	2.42	2.37	2.39
14 CHICKMAGALUR	21988	21543	43531	2891	2954	5845	13.15	13.71	13.43	1.99	1.80	1.89
15 DHARWAD	11271	10772	22043	1369	1506	2875	12.15	13.98	13.04	0.94	0.92	0.93
16 UTTARA KANNADA	10013	9518	19531	1154	1282	2436	11.53	13.47	12.47	0.79	0.78	0.79
17 HASSAN	31307	31147	62454	3671	4041	7712	11.73	12.97	12.35	2.52	2.46	2.49
18 CHITRADURGA	33563	32217	65780	3425	4197	7622	10.20	13.03	11.59	2.35	2.56	2.46
19 MYSORE	45742	44365	90107	4910	4889	9799	10.73	11.02	10.87	3.37	2.98	3.16

## MAKKALA SAMEEKSHI STATISTICS

CATEGORY: SC

(PROVISIONAL)

DISTRICT NAME	6 - 14 AGE GROUP POPULATION			OUT OF SCHOOL CHILDREN IN 6-14 AGE GROUP			% OF OUT OF SCHOOL CHILDREN WITHIN DISTRICT			% OF OUT OF SCHOOL CHILDREN TO THE STATE		
	BOYS	GIRLS	TOTAL	BOYS	GIRLS	TOTAL	BOYS	GIRLS	TOTAL	BOYS	GIRLS	TOTAL
20 BELGAUM	46355	44683	91038	4233	5130	9363	9.13	11.48	10.28	2.91	3.12	3.02
21 KOLAR	65532	64413	129945	5227	7183	12410	7.98	11.15	9.55	3.59	4.37	4.01
22 CHAMARAJANAGAR	21661	21115	42776	1778	1746	3524	8.21	8.27	8.24	1.22	1.06	1.14
23 TUMKUR	46266	44873	91139	3385	4118	7503	7.32	9.18	8.23	2.33	2.51	2.42
24 MANDYA	21506	21029	42535	1493	1407	2900	6.94	6.69	6.82	1.03	0.86	0.94
25 BANGALORE RURAL	35684	34392	70076	2194	2297	4491	6.15	6.68	6.41	1.51	1.40	1.45
26 BANGALORE URBAN	78932	73638	152570	4072	4507	8579	5.16	6.12	5.62	2.80	2.74	2.77
27 DAKSHINA KANNADA	10631	10741	21372	539	505	1044	5.07	4.70	4.88	0.37	0.31	0.34
28 UDUPI	5643	6098	11741	116	126	242	2.06	2.07	2.06	0.08	0.08	0.08

## ಅನುಬಂಧ-೨

ರಾಜ್ಯದ ಜಿಲ್ಲಾವಾರು ಮಂಜೂರಾದ ಶಿಕ್ಷಕರ ಅಂಕಿ ಅಂಶಗಳು - 1999-2000

District wise sanctioned Teachers

ವಿಲ್ಲೆ	ಕಿರಿಯ ಪ್ರಾಥಮಿಕ ಶಾಲೆಗಳು LPS (1-4)				ಹಿರಿಯ ಪ್ರಾಥಮಿಕ ಶಾಲೆಗಳು HPS (5-7)				ಪ್ರೌಢ ಶಾಲೆಗಳು High School (8-10)				ಒಟ್ಟು Total			
	ಸರ್ಕಾರಿ	ಅನುದಾನ ಸಹಿತ	ಅನುದಾನ ರಹಿತ	ಒಟ್ಟು	ಸರ್ಕಾರಿ	ಅನುದಾನ ಸಹಿತ	ಅನುದಾನ ರಹಿತ	ಒಟ್ಟು	ಸರ್ಕಾರಿ	ಅನುದಾನ ಸಹಿತ	ಅನುದಾನ ರಹಿತ	ಒಟ್ಟು	ಸರ್ಕಾರಿ	ಅನುದಾನ ಸಹಿತ	ಅನುದಾನ ರಹಿತ	ಒಟ್ಟು
ಬೆಂಗಳೂರು ಉತ್ತರ	520	104	122	746	2137	2016	3481	7634	559	1205	3971	5735	3216	3325	7574	14115
ಬೆಂಗಳೂರು ಗ್ರಾಮಾಂತರ	2783	11	101	2895	6277	228	987	7492	1236	867	678	2781	10296	1106	1766	13168
ಬೆಂಗಳೂರು ಜಿಲ್ಲಾ	1079	187	228	1489	3027	1869	4799	9695	766	1386	2718	4870	4872	3437	7745	16054
ಬಳ್ಳಾರಿ	1729	13	131	1873	4878	261	477	5616	821	1168	614	2603	7428	1442	1222	10092
ಬಾಗಲಕೋಟೆ	1279	20	116	1415	5372	556	870	6798	1232	758	262	2252	7883	1334	1248	10465
ಬೀದರ	3831	62	240	4133	7308	539	2192	10039	1728	618	1027	3373	12867	1219	3459	17545
ಹಿವಮೊಗ್ಗ	1913	33	195	2141	5081	337	1147	6565	1288	709	797	2794	8282	1079	2139	11500
ತುಮಕೂರು	3673	5	152	3830	8354	363	1357	10074	1684	2220	1036	4940	13711	2588	2545	18844
ಬಾಗಲಕೋಟೆ	1058	11	220	1289	4829	287	697	5813	712	821	536	2069	6599	1119	1453	9171
ಬೆಳಗಾವಿ	2579	37	433	3049	12434	146	1503	14083	1307	3028	1324	5659	16320	3211	3260	22791
ಬಿಜಾಪುರ	1310	25	445	1780	5868	800	431	7099	635	1411	729	2775	7813	2236	1605	11654
ಧಾರವಾಡ	485	28	138	651	4143	247	342	4732	395	518	441	1354	5023	793	921	6737
ಗದಗ	516	4	73	593	3216	71	295	3582	487	730	345	1562	4219	805	713	5737
ಗಾವಾಳಿ	799	7	28	834	5082	130	452	5664	660	864	534	2058	6541	1001	1014	8556

## ರಾಜ್ಯದ ಜಿಲ್ಲಾವಾರು ಮಂಜೂರಾದ ಶಿಕ್ಷಕರ ಅಂಕಿ ಅಂಶಗಳು - 1999-2000

ಜಿಲ್ಲೆ	ಕಿರಿಯ ಪ್ರಾಥಮಿಕ ಶಾಲೆಗಳು				ಹಿರಿಯ ಪ್ರಾಥಮಿಕ ಶಾಲೆಗಳು				ಪ್ರೌಢ ಶಾಲೆಗಳು				ಒಟ್ಟು			
	ಸರ್ಕಾರಿ	ಅನುದಾನ ಸಹಿತ	ಅನುದಾನ ರಹಿತ	ಒಟ್ಟು	ಸರ್ಕಾರಿ	ಅನುದಾನ ಸಹಿತ	ಅನುದಾನ ರಹಿತ	ಒಟ್ಟು	ಸರ್ಕಾರಿ	ಅನುದಾನ ಸಹಿತ	ಅನುದಾನ ರಹಿತ	ಒಟ್ಟು	ಸರ್ಕಾರಿ	ಅನುದಾನ ಸಹಿತ	ಅನುದಾನ ರಹಿತ	ಒಟ್ಟು
ವಾಕ್ಯರ ಕನ್ನಡ	2068	18	49	2135	5315	105	413	5833	711	1031	473	2215	8094	1154	935	10183
ಬಾಲ್ಯ	786	0	331	1117	5965	558	839	7362	915	609	432	1956	7666	1167	1602	10435
ನೀಲೆರ	508	40	111	659	4797	887	261	5945	1145	676	732	2553	6450	1603	1104	9157
ಗುಲ್ಬರ್ಗ	2226	112	214	2552	7873	1205	1277	10355	2188	590	976	3754	12287	1907	2467	16661
ಕೊಪ್ಪಳ	804	15	118	937	2970	42	287	3299	725	221	199	1145	4499	278	604	5381
ರಾಯಚೂರು	1358	31	190	1579	3666	153	637	4456	831	203	411	1445	5855	387	1238	7480
ಬಾಮರಾಜನಗರ	822	10	104	936	2457	206	224	2887	436	251	300	987	3715	467	628	4810
ಬೆಳ್ತಂಗಲೂರು	1657	12	123	1792	4306	89	266	4661	899	687	358	1944	6862	788	747	8397
ಬೆಳ್ತಂಗಲೂರು	626	23	82	731	4397	1780	743	6920	1181	1223	502	2906	6204	3026	1327	10557
ಹಾವನ	3049	4	105	3158	5699	208	1096	7003	1787	873	765	3425	10535	1085	1966	13586
ಕೊಡಗು	353	0	40	393	1716	131	336	2183	363	389	207	959	2432	520	583	3535
ಮಂಡ್ಯ	1770	16	89	1875	5724	236	612	6572	1388	664	595	2647	8882	916	1296	11094
ಮೈಸೂರು	2081	91	157	2329	6370	744	1747	8861	1459	918	1165	3542	9910	1753	3069	14732
ಉಡುಪಿ	533	4	56	593	2697	2336	340	5373	748	719	191	1658	3978	3059	587	7624
ರಾಜ್ಯದ ಒಟ್ಟು:	42195	918	4391	47504	141958	16530	28108	186596	28286	25357	22318	75961	212439	42805	54817	310061

## ರಾಜ್ಯದ ಜಿಲ್ಲಾವಾರು ದಾಖಲಾತಿ ಅಂಕಿ ಅಂಶಗಳು - 1999-2000

Districtwise Enrolment

ಜಿಲ್ಲೆ	ಹಿರಿಯ ಪ್ರಾಥಮಿಕ ಶಾಲೆಗಳು				ಹಿರಿಯ ಪ್ರಾಥಮಿಕ ಶಾಲೆಗಳು				ಪ್ರೌಢ ಶಾಲೆಗಳು				ಒಟ್ಟು			
	ಸರ್ಕಾರಿ	ಅನುದಾನ ಸಹಿತ	ಅನುದಾನ ರಹಿತ	ಒಟ್ಟು	ಸರ್ಕಾರಿ	ಅನುದಾನ ಸಹಿತ	ಅನುದಾನ ರಹಿತ	ಒಟ್ಟು	ಸರ್ಕಾರಿ	ಅನುದಾನ ಸಹಿತ	ಅನುದಾನ ರಹಿತ	ಒಟ್ಟು	ಸರ್ಕಾರಿ	ಅನುದಾನ ಸಹಿತ	ಅನುದಾನ ರಹಿತ	ಒಟ್ಟು
ಬೆಂಗಳೂರು ಉತ್ತರ	59946	56161	99026	215133	31564	40129	70532	142225	11450	36657	51427	99534	102960	132947	220985	456892
ಬೆಂಗಳೂರು ಗ್ರಾಮಾಂತ	135832	6531	19768	162131	94046	5839	11572	111457	27375	29350	12616	69341	257253	41720	43956	342929
ಬೆಂಗಳೂರು ದಕ್ಷಿಣ	90489	47327	103874	241690	48135	33983	70835	152953	15471	47868	55763	119102	154095	129178	230472	513745
ಚಿತ್ರದುರ್ಗ	134067	10620	15627	160314	76064	8867	9286	94217	14951	31863	9643	56457	225082	51350	34556	310988
ದಾವಣಗೆರೆ	143551	20347	21873	185771	79429	15259	13758	108446	24786	18550	3634	46970	247766	54156	39265	341187
ಹೊಸಾಪುರ	191296	12201	44333	247830	112395	10156	26690	149241	43108	19135	14684	76927	346799	41492	85707	473998
ಶಿವಮೊಗ್ಗ	115119	9128	24389	148636	72721	7900	15124	95745	25241	21113	11887	58241	213081	38141	51400	302622
ತುಮಕೂರು	200475	6168	18795	225438	134144	8821	13059	156024	34179	59598	14325	108102	368798	74587	46179	489564
ಬಾಗಲಕೋಟೆ	169757	9401	23960	203118	73190	6560	10568	90318	12183	26324	9440	47947	255130	42285	43968	341383
ಬೆಳಗಾವಿ	383019	6713	50823	440555	192636	13875	25917	232428	18157	91861	21162	131180	593812	112449	97902	804163
ಬಿಜಾಪುರ	207193	21559	22612	251364	84851	12066	8168	105085	7758	35450	10792	54000	299802	69075	41572	410449
ಧಾರವಾಡ	121257	12309	25843	159409	62144	12970	14295	89409	6727	30904	11992	49623	190128	56183	52130	298441
ಗದಗ	94542	2816	10701	108059	48403	4007	5099	57509	7045	21598	5180	33823	149990	28421	20980	199391
ಹಾವೇರಿ	141525	3091	9909	154525	75827	3198	6685	85710	9207	23871	9649	42727	226559	30160	26243	282962

ಕರ್ನಾಟಕ ಸರ್ಕಾರ

ಆಯುಕ್ತ ಕಛೇರಿ, ಸಾರ್ವಜನಿಕ ಶಿಕ್ಷಣ ಇಲಾಖೆ, ನೃಪತುಂಗ ರಸ್ತೆ, ಬೆಂಗಳೂರು

ಜನವರಿ ೨೦೦೧ ರಲ್ಲಿ ನಡೆಸಿದ ೦-೧೪ ವಯೋಮಾನದ ಮಕ್ಕಳ

ಸಮೀಕ್ಷೆಯಿಂದ ಶಾಲೆಯಿಂದ ಹೊರಗುಳಿದ

( out of school ) ಮಕ್ಕಳ ಕುರಿತಾಗಿ ಹೊರಬಂದ ಅಂಶಗಳು.

ದಿನಾಂಕ: 18-01-2001 ರಿಂದ 20-02-2001 ರ ವರೆಗೆ 0-14 ವಯೋಮಾನದ ಮಕ್ಕಳ ಸಮೀಕ್ಷೆಯನ್ನು ನಡೆಸಲಾಯಿತು. ಈ ಸಮೀಕ್ಷೆಯ ಮುಖ್ಯ ಉದ್ದೇಶ ಕುಟುಂಬವಾರು ಮಕ್ಕಳ ಮಾಹಿತಿಯನ್ನು ಅಂದರೆ ಶಾಲೆಗೆ ಹಾಜರಾಗುತ್ತಿರುವ ಮಕ್ಕಳು, ಶಾಲೆಗೆ ಸೇರಿಲ್ಲದ ಮಕ್ಕಳು ಹಾಗೂ ಶಾಲೆಯನ್ನು ಬಿಟ್ಟಿರುವ ಮಕ್ಕಳ ಮಾಹಿತಿಯನ್ನು ಪಡೆಯುವುದಾಗಿತ್ತು. ಶಾಲೆಯಿಂದ ಹೊರಗುಳಿದ ಮಕ್ಕಳ ಪಟ್ಟಿಯನ್ನು ಜನಪಸತಿ ಪ್ರದೇಶದ ಹಂತದಿಂದ ತಾಲ್ಲೂಕು ಹಂತದ ವರೆಗೆ ಪಡೆಯುವುದು ಮತ್ತು ವಿವಿಧ ಹಂತಗಳಲ್ಲಿ ಈ ಮಕ್ಕಳ ದಾಖಲಾತಿಗೆ ಕ್ರಮ ಕೈಗೊಳ್ಳುವ ಉದ್ದೇಶ ಹೊಂದಲಾಗಿತ್ತು.

ಎಲ್ಲಾ ಜನಪಸತಿ ಪ್ರದೇಶದ ಮಾಹಿತಿಯನ್ನು ಗಣಕೀಕರಣ ಮಾಡಲು ಕ್ರಮ ಕೈಗೊಂಡಿದೆ. ಸದ್ಯದಲ್ಲಿ ಕ್ರೋಢೀಕರಣ ನಮೂನೆಗಳ ಮಾಹಿತಿ ಆಧಾರದ ಮೇಲೆ ತಾತ್ಕಾಲಿಕ ಅಂಕಿಅಂಶಗಳನ್ನು ಪಡೆದಿದ್ದು ಈ ಅಂಕಿಅಂಶಗಳಿಂದ ಕೆಳಕಂಡಂತೆ ಮುಖ್ಯಾಂಶಗಳನ್ನು ಗಮನಿಸಲಾಗಿದೆ.

ರಾಜ್ಯದ ಅಂಕಿಅಂಶಗಳ 6 ರಿಂದ 14 ವಯೋಮಾನದ ಶಾಲೆಯಿಂದ ಹೊರಗುಳಿದ

ರಾಜ್ಯದ ಅಂಕಿಅಂಶಗಳ ವಿವರ :- ಎಲ್ಲಾ ವರ್ಗಗಳ 6 ರಿಂದ 14 ವಯೋಮಾನದ ಶಾಲೆಯಿಂದ ಹೊರಗುಳಿದ ಮಕ್ಕಳ ಅಂಕಿಅಂಶಗಳನ್ನು ಗಮನಿಸಿದಾಗ ರಾಜ್ಯದಲ್ಲಿ ಒಟ್ಟು 10,53,744, ಮಕ್ಕಳು ಶಾಲೆಯಿಂದ ಹೊರಗುಳಿದಿದ್ದು ಶೇಕಡ. 11.72 ರಷ್ಟಿದೆ. ಶಾಲೆಯಿಂದ ಹೊರಗುಳಿದ 6 ರಿಂದ 14 ವಯೋಮಾನದ ಹೆಣ್ಣು ಮಕ್ಕಳ ಪ್ರಮಾಣವು ಶೇಕಡ. 11.12 ಆಗಿದ್ದು ಗಂಡು ಮಕ್ಕಳ ಪ್ರಮಾಣವು ಶೇಕಡ. 11.53 ಇದೆ.

ಪರಿಶಿಷ್ಟ ಜಾತಿಯ 6 ರಿಂದ 14 ವಯೋಮಾನದ ಶಾಲೆಯಿಂದ ಹೊರಗುಳಿದ ಮಕ್ಕಳ  
ಶೇಕಡಾ ಪ್ರಮಾಣವು 15.55 ಆಗಿದೆ. ಪರಿಶಿಷ್ಟ ಜಾತಿಯ ಮಕ್ಕಳಲ್ಲಿ ಶೇಕಡಾ 16.79 ಹೆಣ್ಣು ಮಕ್ಕಳು  
ಶೇಕಡಾ 14.36 ಗಂಡು ಮಕ್ಕಳೂ ಅಂದರೆ ಒಟ್ಟು 3097763 ರಷ್ಟು ಮಕ್ಕಳು ಶಾಲೆಯಿಂದ  
ಹೊರಗುಳಿದಿದ್ದಾರೆ.

ಪರಿಶಿಷ್ಟ ವರ್ಗದ 6 ರಿಂದ 14 ವಯೋಮಾನದ ಶಾಲೆಯಿಂದ ಹೊರಗುಳಿದ ಮಕ್ಕಳ  
ಅಂಕಿಅಂಶಗಳನ್ನು ಗಮನಿಸಿದಾಗ ಒಟ್ಟು 144142 ಮಕ್ಕಳು ಶಾಲೆಯಿಂದ ಹೊರಗಿದ್ದು ಶೇಕಡಾ 19.18  
ರಷ್ಟಿದ್ದಾರೆ. ಇವರಲ್ಲಿ ಶೇಕಡಾ 20.71 ರಷ್ಟು ಹೆಣ್ಣು ಮಕ್ಕಳು ಮತ್ತು ಶೇಕಡಾ 17.69 ರಷ್ಟು ಗಂಡು  
ಮಕ್ಕಳು ಶಾಲೆಯಿಂದ ಹೊರಗುಳಿದಿದ್ದಾರೆ.

ಹೆಣ್ಣು ಮತ್ತು ಗಂಡು ಮಕ್ಕಳ ಅಂಶರವನ್ನು ಗಮನಿಸಿದಾಗ ಈ ಅಂಶರವು ಶೇಕಡಾ 3 ರಷ್ಟಿದ್ದು  
ಹೆಣ್ಣು ಮಕ್ಕಳು ಹೆಚ್ಚು ಶಾಲೆಯಿಂದ ಹೊರಗುಳಿದಿರುವುದು ಕಂಡು ಬರುತ್ತದೆ.

ಎಲ್ಲಾವರ್ಗಗಳ ಜಿಲ್ಲಾವಾರು ಅಂಕಿಅಂಶಗಳ ವಿವರ:- ಎಲ್ಲಾ ವರ್ಗಗಳ ಜಿಲ್ಲಾವಾರು  
ಶಾಲೆಯಿಂದ ಹೊರಗುಳಿದ 6 ರಿಂದ 14 ವರ್ಷದ ಮಕ್ಕಳ ಮಾಹಿತಿಯನ್ನು ಗಮನಿಸಿದಾಗ  
ರಾಯಚೂರು ಜಿಲ್ಲೆಯು ಅತೀ ಹೆಚ್ಚು ಶಾಲೆಯಿಂದ ಹೊರಗುಳಿದ ಮಕ್ಕಳನ್ನು ಹೊಂದಿರುವ

ಜಿಲ್ಲೆಯಾಗಿದ್ದು ಶೇಕಡಾ 26.73ರಷ್ಟು (ಮಕ್ಕಳ ಸಂಖ್ಯೆ 1,16,8 )

ಗುಲ್ಬರ್ಗ ಜಿಲ್ಲೆಯು ಶೇಕಡಾ 25.76 ( 185997 ) , ಕೊಪ್ಪಳ ಜಿಲ್ಲೆಯು ಶೇಕಡಾ 22.18 ರಷ್ಟು ( 58136 ),  
ಬಿಜಾಪುರ ಜಿಲ್ಲೆಯು ಶೇಕಡಾ 18.53 ರಷ್ಟು ( 813330 ), ಬಳ್ಳಾರಿ ಜಿಲ್ಲೆಯು ಶೇಕಡಾ 17.90  
ರಷ್ಟು(73575 ) , ಬಾಗಲಕೋಟೆ ಜಿಲ್ಲೆಯು ಶೇಕಡಾ 15.13 ರಷ್ಟು ( 50263 ), ಬಿರಹ ಜಿಲ್ಲೆಯು  
ಶೇಕಡಾ 12.45 ರಷ್ಟು ( 42799 ), ಶಾಲೆಯಿಂದ ಹೊರಗುಳಿದ ಮಕ್ಕಳನ್ನು ಹೊಂದಿರುವ  
ಜಿಲ್ಲೆಗಳಾಗಿವೆ. ಈ 7 ಜಿಲ್ಲೆಗಳಲ್ಲಿ ಒಟ್ಟು 608995 ರಷ್ಟು 6 ರಿಂದ 14 ವಯೋಮಾನದ ಮಕ್ಕಳು  
ಶಾಲೆಯಿಂದ ಹೊರಗುಳಿದಿದ್ದು ರಾಜ್ಯದ ಶೇಕಡಾ 57.79 ರಷ್ಟು ಈ 7 ಜಿಲ್ಲೆಗಳಲ್ಲಿ ಇರುವುದು ಕಂಡು  
ಬರುತ್ತಿದೆ.

ಮೈಸೂರು ಮತ್ತು ಬೆಂಗಳೂರು ವಿಭಾಗಗಳಲ್ಲಿನ ಜಿಲ್ಲೆಗಳನ್ನು ಗಮನಿಸಿದಾಗ ಚಾಮರಾಜನಗರ  
ಜಿಲ್ಲೆಯಲ್ಲಿ ಅತೀ ಹೆಚ್ಚು 6 ರಿಂದ 14 ವಯೋಮಾನದ ಮಕ್ಕಳು ಶಾಲೆಯಿಂದ ಹೊರಗುಳಿದಿದ್ದಾರೆ.  
ಅಂದರೆ ಶೇಕಡಾ 12.08 ( 17101 ), ರಷ್ಟಿದೆ.

ರಾಜ್ಯದ ಅಂಕಿಅಂಶಕ್ಕೆ ಜಿಲ್ಲಾವಾರು ಪಾಲುನ್ನು ಗಮನಿಸಿದಾಗ ಗುಲ್ಬರ್ಗ ಜಿಲ್ಲೆಯು ಶೇಕಡಾ  
17.65 ರಷ್ಟು ಇರುವುದು ಕಂಡು ಬಂದಿದೆ.

ಉಮವಿ ಜಿಲ್ಲೆಯಲ್ಲಿ 6 ರಿಂದ 14 ವಯೋಮಾನದ ಮಕ್ಕಳಲ್ಲಿ ಶೇಕಡಾ 1.14 ರಷ್ಟು ( 2060 )  
ಮಕ್ಕಳು ಶಾಲೆಯಿಂದ ಹೊರಗುಳಿದಿದ್ದು ರಾಜ್ಯದಲ್ಲಿ ಅತಿ ಕಡಿಮೆ ಪ್ರಮಾಣದಲ್ಲಿದೆ.

ಪರಿಶಿಷ್ಟ ಜಾತಿ - ಜಿಲ್ಲಾವಾರು ಅಂಕಿಅಂಶ:- 6 ರಿಂದ 14 ವಯೋಮಾನದ ಶಾಲೆಯಿಂದ ಹೊರಗುಳಿದ ಪರಿಶಿಷ್ಟ ಜಾತಿಯ ಮಕ್ಕಳ ಅಂಕಿಅಂಶಗಳನ್ನು ಗಮನಿಸಿದಾಗ ಕೊಡಗು ಜಿಲ್ಲೆಯಲ್ಲಿ 38.68 ರಷ್ಟು ( 4558 ), ಕಾಯಚೂರು ಜಿಲ್ಲೆಯಲ್ಲಿ ಶೇಕಡ 32.60 ರಷ್ಟು (30961), ಗುಲ್ಬರ್ಗ ಜಿಲ್ಲೆಯಲ್ಲಿ 30.11 ರಷ್ಟು (60473 ), ಕೊಪ್ಪಳ ಜಿಲ್ಲೆಯಲ್ಲಿ ಶೇಕಡ 28.95 ರಷ್ಟು (13291), ಬಳ್ಳಾರಿ ಜಿಲ್ಲೆಯಲ್ಲಿ ಶೇಕಡ 24.44 ರಷ್ಟು ( 21143 ), ಎಚ್ಚರ ಜಿಲ್ಲೆಯಲ್ಲಿ ಶೇಕಡ 24.26 ರಷ್ಟು ( 23750 ). ಬಾಗಲಕೋಟೆ ಜಿಲ್ಲೆಯಲ್ಲಿ ಶೇಕಡ 22.72 ರಷ್ಟು ( 14359 ), ಗದಗ ಜಿಲ್ಲೆಯಲ್ಲಿ ಶೇಕಡ 21.93 ರಷ್ಟು ( 7032 ) ಮಕ್ಕಳು ಶಾಲೆಯಿಂದ ಹೊರಗುಳಿದಿರುವುದು ಕಂಡು ಬಂದಿದೆ. ಈ 8 ಜಿಲ್ಲೆಗಳಲ್ಲಿ ಒಟ್ಟು 175567 ಪರಿಶಿಷ್ಟ ಜಾತಿಯ 6 ರಿಂದ 14 ವಯೋಮಾನದ ಮಕ್ಕಳು ಶಾಲೆಯಿಂದ ಹೊರಗುಳಿದಿದ್ದು ರಾಜ್ಯದ ಶೇಕಡ 56.67 ರಷ್ಟು ಈ ಜಿಲ್ಲೆಗಳಲ್ಲಿ ಇರುವುದು ಕಂಡು ಬರುತ್ತಿದೆ.

ಉಡುಪಿ ಜಿಲ್ಲೆಯು ಅತೀ ಕಡಿಮೆ ಪರಿಶಿಷ್ಟ ವರ್ಗದ ಶಾಲೆಯಿಂದ ಹೊರಗುಳಿದಿರುವ ಮಕ್ಕಳ ಪ್ರಮಾಣವನ್ನು ಹೊಂದಿರುವ ಜಿಲ್ಲೆಯಾಗಿದ್ದು ಶೇಕಡ 2.06 ರಷ್ಟು ( 242 ) ಮಕ್ಕಳು ಶಾಲೆಯಿಂದ ಹೊರಗಿದ್ದಾರೆ.

6 ರಿಂದ 14 ವಯೋಮಾನದ ಶಾಲೆಯಿಂದ ಹೊರಗುಳಿದ ಪರಿಶಿಷ್ಟ ಜಾತಿಯ ಹೆಣ್ಣು ಮಕ್ಕಳ ಜಿಲ್ಲಾವಾರು ಅಂಶವನ್ನು ಗಮನಿಸಿದಾಗ ಶೇಕಡ 37.22 ರಷ್ಟು ಹೆಣ್ಣು ಮಕ್ಕಳು ಕೊಡಗು ಜಿಲ್ಲೆಯಲ್ಲಿದ್ದರೆ, ಶೇಕಡ 2.07 ರಷ್ಟು ಹೆಣ್ಣು ಮಕ್ಕಳು ಉಡುಪಿ ಜಿಲ್ಲೆಯಲ್ಲಿ ಶಾಲೆಯಿಂದ ಹೊರಗಿದ್ದಾರೆ.

ಪರಿಶಿಷ್ಟ ವರ್ಗ - ಜಿಲ್ಲಾವಾರು ಅಂಕಿಅಂಶ:- 6 ರಿಂದ 14 ವಯೋಮಾನದ ಪರಿಶಿಷ್ಟ ವರ್ಗದ ಶಾಲೆಯಿಂದ ಹೊರಗುಳಿದ ಮಕ್ಕಳ ಅಂಕಿಅಂಶಗಳನ್ನು ಗಮನಿಸಿದಾಗ ಗುಲ್ಬರ್ಗ ಜಿಲ್ಲೆಯಲ್ಲಿ ಶೇಕಡ 41.31 ರಷ್ಟು ( 15577 ), ಕಾಯಚೂರು ಜಿಲ್ಲೆಯಲ್ಲಿ ಶೇಕಡ 39.36 ರಷ್ಟು ( 33990 ), ಕೊಪ್ಪಳ ಜಿಲ್ಲೆಯಲ್ಲಿ ಶೇಕಡ 30.45 ರಷ್ಟು ( 10343 ), ಕೊಡಗು ಜಿಲ್ಲೆಯಲ್ಲಿ ಶೇಕಡ 24.26 ರಷ್ಟು ( 1603 ), ಬಳ್ಳಾರಿ ಜಿಲ್ಲೆಯಲ್ಲಿ ಶೇಕಡ 24.27 ರಷ್ಟು ( 19991 ), ಬಾಗಲಕೋಟೆ ಜಿಲ್ಲೆಯಲ್ಲಿ ಶೇಕಡ 21.12 ರಷ್ಟು (4029), ಎಚ್ಚರ ಜಿಲ್ಲೆಯಲ್ಲಿ ಶೇಕಡ 19.70 ರಷ್ಟು ( 2044 ), ಬದರ್ ಜಿಲ್ಲೆಯಲ್ಲಿ ಶೇಕಡ 18.81 ರಷ್ಟು ( 7375 ), ಮಕ್ಕಳು ಶಾಲೆಯಿಂದ ಹೊರಗಿದ್ದಾರೆ.

ಉಡುಪಿ ಜಿಲ್ಲೆಯು ಅತೀ ಕಡಿಮೆ ಪರಿಶಿಷ್ಟ ವರ್ಗದ ಶಾಲೆಯಿಂದ ಹೊರಗುಳಿದಿರುವ ಮಕ್ಕಳನ್ನು ಹೊಂದಿರುವ ಜಿಲ್ಲೆಯಾಗಿದೆ. ಅಂದರೆ ಶೇಕಡ 2.01 ರಷ್ಟು ( 179 ), ಮಕ್ಕಳು ಈ ಜಿಲ್ಲೆಯಲ್ಲಿ ಶಾಲೆಯಿಂದ ಹೊರಗಿದ್ದಾರೆ.

ಪರಿಶಿಷ್ಟ ವರ್ಗದ 6 ರಿಂದ 14 ವಯೋಮಾನದ ಶಾಲೆಯಿಂದ ಹೊರಗುಳಿದಿರುವ ಹೆಣ್ಣು ಮಕ್ಕಳ ಜಿಲ್ಲಾವಾರು ಅಂಶವನ್ನು ಗಮನಿಸಿದಾಗ ಗುಲ್ಬರ್ಗ ಜಿಲ್ಲೆಯಲ್ಲಿ ಶೇಕಡ 44.31 ರಷ್ಟು ಹೆಣ್ಣು ಮಕ್ಕಳು ಶಾಲೆಯಿಂದ ಹೊರಗುಳಿದಿದ್ದರೆ, ಉಡುಪಿ ಜಿಲ್ಲೆಯಲ್ಲಿ ಶೇಕಡ 1.77 ರಷ್ಟು ಶಾಲೆಯಿಂದ ಹೊರಗುಳಿದಿರುತ್ತಾರೆ.





mitigating  
**fluorosis**  
through safe  
drinking water



# Contents

I	introduction
II	options for safe water supply
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V	initiatives and challenges
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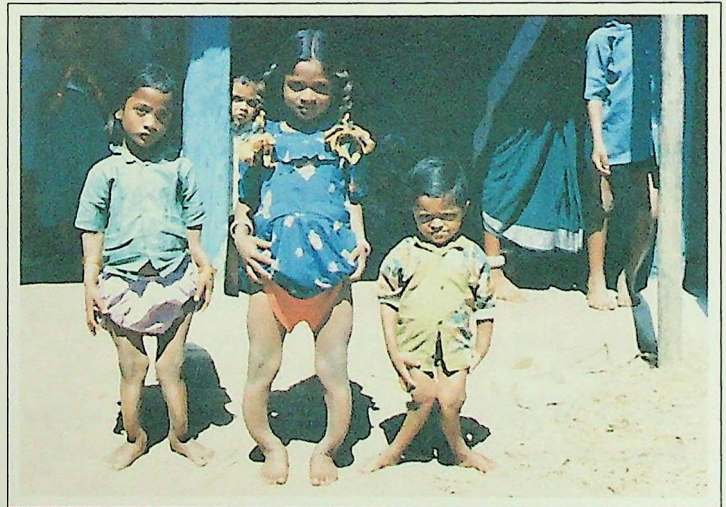


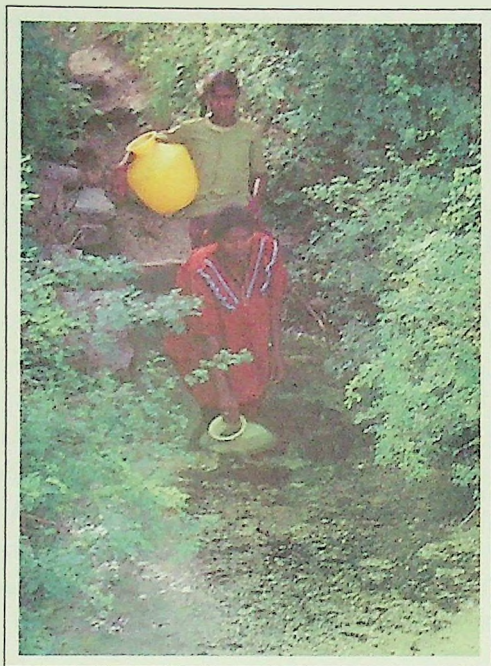
## introduction

Fluorosis is caused by ingestion of excess fluoride over a long period. It affects multiple tissues, organs and systems of the body, and results in a variety of clinical manifestations, culminating in a crippling condition and/or damaged and discoloured teeth. Fluoride can enter the body through drinking water, food, drugs, dental products and industrial emissions.

Fluorosis appears in three forms—dental fluorosis, which affects children, sets in if the foetus, infant or child is exposed to fluoride during the period when its teeth are developing. Persons with fully developed teeth will not be affected by dental fluorosis, even if they are exposed to fluoride. Skeletal fluorosis and non-skeletal (soft tissue) fluorosis, affect people of all ages. Fluoride can damage a foetus if the mother consumes water/food with high fluoride concentration during pregnancy.

The damage caused due to dental and skeletal fluorosis is irreversible. Only non-skeletal fluorosis can be reversed. Dental and skeletal fluorosis have no treatment or cure. Prevention is the only solution, provided the disease is detected in the early stages. Non-skeletal symptoms appear in a shorter span of time, and are





helpful in early detection of the poisonous effects.

## Occurrence of fluoride

Fluorine gas is a highly reactive element, and is, therefore, not found in nature in its free form. The main occurrence of fluorine in rocks is in the form of fluoride-bearing minerals like fluorite and fluoroapatite. India has among the largest resources of these minerals. In such areas, ground water drawn through wells, handpumps and especially tube wells, is likely to contain excess fluoride due to the dissolution of fluoride from fluoride-bearing minerals. Therefore, these areas are generally endemic.

Apart from India, high concentration of fluoride has been detected in the underground

water in several countries, including Algeria, Argentina, Australia, several African nations, Bangladesh, China, Egypt, Iran, Iraq, Japan, Jordan, Libya, Mexico, Morocco, New Zealand, Pakistan, Palestine, Sri Lanka, Syria, Thailand, Turkey and UAE.

## Extent of the problem in India

The problem of excess fluoride in ground water was detected in many states of India as early as the 1930s. Till 1999, as many as 17 states have been identified with the problem of excess fluoride in ground water sources.

Rajasthan and Andhra Pradesh are the most severely affected states. Rural populations, which depend mainly on groundwater for their drinking water supply are the worst affected. Vulnerability to fluorosis is higher if the nutritional status is poor—malnourished children and pregnant or lactating mothers are especially vulnerable. Social and economic implications of fluorosis endemicity are enormous, especially for the rural population living below poverty line.

## Prevention is the only solution as there is no cure...

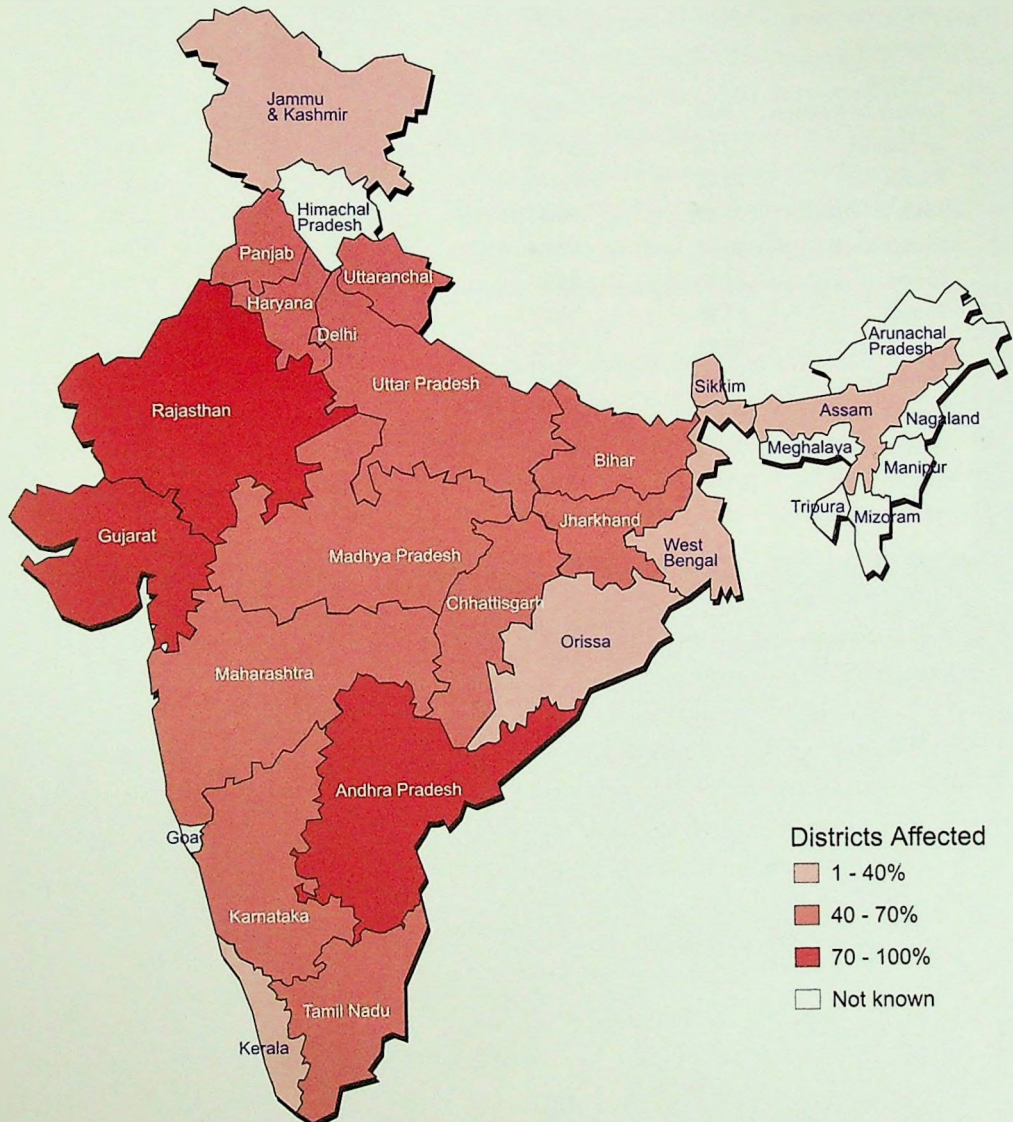
Early detection of fluoride toxicity manifestations is crucial for introducing preventive measures. Possible interventions for prevention:

- Use of safe water for drinking and cooking with fluoride concentration as low as possible, but not more than 1 mg/litre.
- Intake of diet rich in calcium, vitamin C, E and anti-oxidants.

## Situation in Indian states

The problem of excess fluoride in ground water is endemic in 17 states of India. The level of endemicity, however, varies in different states—from one affected district in Jammu & Kashmir and three in Kerala to all 32 districts affected in Rajasthan. An estimated 66 million people are at risk.

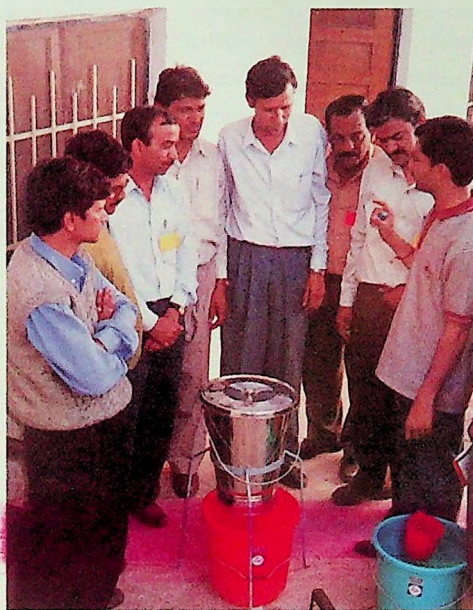
### Fluoride Contamination in Drinking Water



## Rural population consuming fluoride-contaminated water (1999) in the 17 endemic states

State	Total Population (million)	Rural Population (million)	Rural pop. at risk (million)	Percentage of total pop. at risk
Andhra Pradesh	74.62	52.31	13.50	18.1%
Bihar	98.12	83.67	na	na
Delhi	13.42	1.23	0.16**	1-1.4%
Gujarat	47.56	29.45	4.78	10.1%
Haryana	19.83	14.57	2.17	10.9%
Jammu & Kashmir	9.71	7.22	na	na
Karnataka	51.65	34.42	6.90	13.4%
Kerala	32.08	22.43	na	na
Madhya Pradesh	78.81	58.36	1.68	2.1%
Maharashtra	90.45	52.84	0.14	0.2%
Orissa	35.53	29.80	3.26	9.2%
Punjab	23.28	16.05	2.07	8.9%
Rajasthan	52.94	39.82	10.90	20.6%
Tamil Nadu	61.43	39.19	7.64	12.4%
Uttar Pradesh	167.66	130.83	11.77	7.0%
West Bengal	78.32	56.21	1.65	2.1%
Assam	25.88	22.62	na	na
All India*	961.29	691.02	66.62	6.9%

\* Total population of 17 endemic states  
 \*\* Estimates for Delhi include average of both rural and urban populations.  
 "na" indicates not assessed



## options for safe water supply

Nearly 90 per cent of the rural population in India use ground water from open dug wells and handpumps for domestic purposes. Many of these sources are liable to contain fluoride in excess of the permissible limit of 1 mg/litre.



### Water supply options

If the fluoride level in a water source is higher than the permissible limits, the following alternative measures should be considered:

- A village usually has more than one source of water and it is rare for all of them to be contaminated by fluoride.

The spread of fluoride is not homogeneous. In many cases, it is found that a safe water source is not very far-off from a contaminated source. Therefore, the first thing to do is to test all water sources (both private and public), mark the sources with excess fluoride and create awareness about sources which are safe for drawing drinking water. Water vending could be considered if sources are far off.

- Low-fluoride water may be obtained from an aquifer strata in a location other than the existing one. It may also be possible to pump low-fluoride water from a distant source. For example, many villages in Ananthapur district in Andhra Pradesh, are getting low-fluoride water from a distant source. Availability of a sustainable low-fluoride water source nearby, ease of access to villages/hamlets, affordable capital costs, potential for recovery of operation and maintenance costs from users and power availability are the major factors to be considered in this option.
- In areas where deep tube wells with low fluoride levels are not feasible, it is possible to treat surface water and make it safe for drinking and cooking, using a sophisticated treatment plant (which requires regular maintenance) or a simple horizontal

roughing-cum-slow sand filter to remove turbidity and bacteria from surface water. Such simple filters have been introduced in arsenic-affected areas in Bangladesh.

- The concentration of fluoride can be reduced by mixing low-fluoride water with high-fluoride water in appropriate proportion, if a suitable water source of acceptable quality with regard to fluoride and other constituents is available within reasonable distance. Such an approach is being tried in a few villages of Kolar district, Karnataka.
- Rainwater harvesting has been practised in many parts of India for centuries. Rainwater can be collected from rooftops at the household level during monsoon in sufficient quantity for drinking and cooking purposes. Studies have shown that properly stored rainwater can remain free from harmful bacteria for several months. The artificial recharge technique can be used to restore groundwater levels and decrease fluoride concentration in wells. The harvested rainwater is transferred to aquifers either through percolation tanks or through dug or bore wells. Decrease in groundwater fluoride level after artificial recharge of the surface water from a pond has been reported in two villages, in Andhra Pradesh and Karnataka.





## Defluoridation

Defluoridation is the removal of excess fluoride from water. It should be considered only if none of the other solutions can be used. Defluoridation methods can be broadly classified into two categories—precipitation and adsorption/ion exchange.

### Precipitation methods

These methods involve the addition of a soluble chemical to the water, which leads to fluoride precipitation and/or adsorption of fluoride on the precipitate formed.

1. Lime treatment: Excess fluoride can be removed from water, which also contains high magnesium hardness, by adding lime. This method is economical only when removal of both fluoride and hardness are required. Even then, this is effective only for waters with a fluoride concentration in the range of 3-4mg/litre.
2. Alum coagulation: The addition of high doses of alum results in the removal of fluoride from water. Large alum doses, however, can lead to the presence of high residual aluminium in the treated water, if proper precautions are not taken. Though one of the earliest methods of fluoride removal, alum coagulation is not very popular for drinking water treatment in developed countries, mainly due to the large volume of sludge and decrease in pH in the absence of adequate alkalinity.
3. Nalgonda technique: This method was developed in India in 1975 by the National Environment Engineering Research Institute (NEERI). It involves the addition, in sequence, of lime, bleaching powder (optional) and filter alum in the fluoride-rich water and rapid mixing, which results in the formation of alum flocs (coagulation). These flocs are allowed to settle (sedimentation) and the supernatant water, which is free of excess fluoride, is filtered. Fluoride removal is probably due to the formation of polyhydroxy aluminium complexes with fluoride and their adsorption onto polymeric aluminium hydroxides.

This technology is simple and economical (cost of filter is Rs 700 only), and is very popular in India. However, it requires periodic monitoring of water quality to ensure that the fluoride is removed and no residual aluminium ions are present in treated water. In the absence of effective hydrolysis of aluminium salts, residual aluminium will remain in treated water. The alum and lime dosage varies from source to source depending on the alkalinity and fluoride level in the raw water.

### Adsorption/ Ion exchange methods

In these methods, the fluoride-rich water is passed through a bed containing defluoridating material. Fluoride is retained by the material due to physical, chemical or ion exchange interactions.

1. Ion exchange resins: Generally, anionic exchange resins have not been found effective for fluoride removal due to the competition from other anionic constituents present in natural water. Ion exchange systems have not gained popularity because of cost considerations and the lack of specificity of anion exchange resins.
2. Activated carbon: Although activated carbon has a high fluoride uptake capacity, its major limitation is the acidic pH optimum of 3 for maximum removal. This method is costly, as the pH of water has to be brought down to 3 initially for defluoridation and raised to neutrality again to make the treated water suitable for drinking.
3. Bone char: Bone char is ground animal bone that can be charred to remove all organic matter, and is essentially tricalcium phosphate and carbon. It has been used successfully to remove excessive fluoride from drinking water. The principle of this method is the exchange of carbonate ion of the bone char with fluoride ion present in water. This method is constrained by the culture among Indians who would not like to consume water treated with bone.
4. Brick: A low-cost domestic defluoridation unit has been developed in Sri Lanka, using freshly burned brick pieces as the defluoridation medium. Details on this material are still to be studied but it is probable that the defluoridation capacity

depends on the iron and aluminium content of the clay used.

5. Activated alumina: Defluoridation of drinking water by activated alumina is the method of choice in developed countries. Activated alumina's affinity for fluoride is very high, and its fluoride uptake capacity is higher at higher concentrations of fluoride in water. In the USA and many European countries, apart from full-scale plants, home units have also been developed, which can be attached to taps. The Indian Institute of Technology (IIT) Kanpur has developed defluoridation systems based on activated alumina technology, including a domestic defluoridation filter and a handpump-attachable defluoridation plant. Domestic filters using activated alumina have been well received by users. The drawback of this technology is that the fluoride uptake capacity of activated alumina gets exhausted after it has absorbed a certain quantity of fluoride from the water. Exhausted activated alumina can be regenerated, but this must be done in specialised centres by trained personnel, as it requires the use of aggressive chemicals. Therefore, in the promotion of this technology at household level, the challenge is to establish efficient regeneration centres and mobilizing users to bear full O&M costs which in most cases could be Rs. 25 every 4-5 months. Use of proper grade of AA is a must to obtain satisfactory results.

In India, Nalgonda technique has been extensively used in large-scale water treatment plants. At the household level, both Nalgonda as well as AA-based domestic defluoridation units are in use.

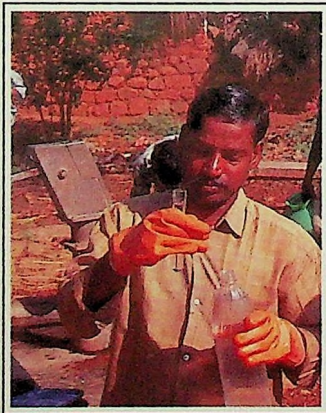
## testing for fluoride



Considering the toxic effects of fluoride, each water source used for human consumption should be tested for microbiological, physical and chemical parameters, including fluoride. As per the Bureau of Indian Standards (BIS) the current permissible limit for fluoride is “1mg/litre, but lesser the better, as fluoride is injurious to health”. Malnourished children can be affected even at fluoride levels below 1 mg/litre.

### WHO’s guideline value for fluoride

The World Health Organisation has set 1.5 mg/litre as the guideline value for fluoride content in drinking water. This value is intended to be used as a basis for the development of a national standard. In setting a national standard for fluoride, however, it is particularly important to consider climatic conditions, volumes of water intake, and intake of fluoride from other sources (e.g., food, air) and other factors.



The guideline value of 1.5 mg/litre, which was set in 1984 by the WHO, is under review, as part of an overall review of the WHO guidelines for drinking water quality parameters. The recent International Workshop on Fluoride and Defluoridation, held in Chiang Mai, Thailand, 20-24 November 2000, has recommended a reduction in WHO guideline value from 1.5 mg/litre to 0.5 mg/litre.

#### Fluoride-testing Ion meters

The most accurate and reliable method of testing for fluoride is the Ion selective electrode method, using the Ion meter. In

1989, the Rajiv Gandhi National Drinking Water Mission took a decision to acquire fluoride-testing Ion meters to equip the water-quality testing laboratories in the endemic states.

One hundred and thirty-nine Ion meters have so far been imported and personnel trained on the use, operation and maintenance of the equipment. The Ion meters were handed over only after training of water analysts from the district laboratories. This programme was sponsored by WHO and UNICEF.

### Water-quality monitoring

Water quality monitoring (WQM) is a weak link and this programme component needs to be strengthened as soon as possible. The challenges and possible approaches to address these challenges are discussed below.

- It is absolutely necessary to test and periodically retest all water sources (private as well as public). This, however, does not take place as states do not accord the degree of priority that WQM deserves. The biggest challenge is to raise the profile of

WQM. It needs to be accorded a high national priority, and suitable institutional mechanisms at national, state, district and block levels need to be developed.

- To facilitate informed decision-making, there is need to strengthen district water-testing laboratories for the refinement of water-quality data. Water maps must be prepared for all villages using geographical information system (GIS) applications.
- Improved coordination between state water supply agency and state health department is a must to take informed decision and target investment in rural water supply more efficiently. In fact, the health department should play an active role to prevent recurrence of water-borne diseases.
- Considering the widespread sources of water, it is not possible for district laboratories to test and retest water periodically. The panchayats and members of the community, including teachers and educated youth, need to be involved in water-quality monitoring of water sources in their village, with the help of reliable and user-friendly field kits.

## Methods of testing fluoride levels

Methods used for testing fluoride in drinking water are:

- SPAND's method using spectrophotometer, measuring the colour developed at 540nm
- Alizarin red method, using photometer
- Titrimetric method
- Ion selective electrode method
- Portable kits of a wide range have been developed by research institutions in India. An evaluation of field test kits carried out by Sriram Institute for Industrial Research, New Delhi, indicates that

the test kits developed by the Central Pollution Control Board and Development Alternatives, New Delhi, are considered user-friendly and reliable.

As even marginally high fluoride levels can induce the disease, a sensitive method of estimation is extremely important. If the fluoride content in water is high, the margin of error that is likely to occur due to the choice of method would be greater if a sensitive method is not used.

## health care



The prolonged intake of water containing excess fluoride causes the crippling disease called fluorosis. The first case of endemic fluorosis in India was reported from Andhra Pradesh in 1937. By 1999, the disease was known to be endemic in 17 states in 1999, and an estimated 66 million people were assessed to be at risk.

Nutritional deficiencies, combined with excess fluoride intake through water, appears to aggravate the manifestations due to fluoride poisoning.

### Clinical manifestations

Prolonged ingestion of high fluoride by humans manifests itself as dental, skeletal and non-skeletal fluorosis.

#### *Dental fluorosis*

Mottling of teeth in children is one of the earliest and most easily recognisable features of fluorosis. In mottled teeth, the enamel loses its lustre and becomes rough, opaque and chalky



white. A yellow-white discolouration appears, which turns brown and presents itself in horizontal streaks. In late stages, the teeth become black. They will be pitted or perforated, and may even get chipped off. There is also premature loss of teeth. Dental fluorosis is irreversible and incurable. However, it does not occur if there has been no exposure to fluoride in the first decade of one's life.

### *Skeletal Fluorosis*

Early symptoms of skeletal fluorosis include pain and stiffness in the neck, back and major joints. Restriction of movements commences. The stiffness steadily increases until the entire spine becomes one continuous column of bone, manifesting a condition referred to as "poker back". Finally, various ligaments of the spine become ossified. The stiffness that first appears in the spine spreads to various joints in the limbs. The involvement of the ribs gradually reduces the movement of the chest during breathing. The increasing immobilisation of

joints leads to deformities of hip, knee and other joints, causing severe disability. Skeletal fluorosis usually becomes crippling in people in the endemic regions.

Newcomers to an area with high levels of fluoride in drinking water may develop skeletal symptoms within a few years of their arrival. Hard manual labour that necessitates higher intake of drinking water and poor nutrition are factors which aggravate the development of skeletal fluorosis.

### *Non-skeletal fluorosis*

Non-skeletal fluorosis affects the body's soft tissues: ligaments, muscles, red blood cells, blood vessels, sperms and gastro-intestinal system. Symptoms include:

- Gastro-intestinal problems: Acute stomach pain, diarrhoea, constipation, bloated feeling (gas), nausea (flu-like symptoms), mouth sores and loss of appetite. These complaints are considered early warning

## Nutritional prophylaxis

A properly designed nutritional regimen can beneficially interfere with the toxic effects of fluoride. Diets rich in calcium, vitamin C, E and anti-oxidants are beneficial. These can be obtained from various sources, which are not very expensive. They can be produced in the rural areas without much investment.

Calcium: Milk and milk products, green leafy vegetables, jaggery

Vitamin C: Amla, lemon, oranges and tomatoes

Vitamin E: Vegetable oil, nuts, wholegrain cereals, green vegetables, and dried beans

Anti-oxidants: Garlic, ginger, carrot, white onion, green leafy vegetables, papaya, pumpkin

signs of fluorosis.

- Neurological manifestations: Nervousness, depression, tingling sensation in fingertips and toes, excessive thirst and tendency to urinate frequently.
- Muscular manifestations: Muscle weakness, stiffness and pain.
- Allergic manifestations: Painful rashes on the skin, prevalent in women and children, which clear up in 7-10 days.
- Urinary tract manifestations: Urine may be much less in volume; yellow-red in colour, and itching in the urinary region.
- Headache
- Ligaments and blood vessels calcify and may show up in radiographs.
- Sperm abnormality results in infertility.
- Fluoride can damage a foetus if the mother consumes water/food with high fluoride concentration during pregnancy. It can adversely affect the IQ of children.

The above-mentioned symptoms can also be due to other reasons. Therefore, the challenge before the medical officers is to differentiate and distinguish the symptoms due to fluorosis from other reasons. Non-skeletal fluorosis can be reversed within a short span of time if a person starts taking low-fluoride water.

## High-risk groups

Existing data indicate that some sections of the population are more susceptible to the toxic effects of fluoride. These include people with deficient intake of calcium, vitamin C, E and anti-oxidants, the elderly, and people with cardiovascular and kidney problems. Poor nutrition increases the incidence and severity



of fluorosis. People in hot climates and outdoor labourers generally have a higher intake of fluoride because of a larger intake of water. Malnourished children, pregnant women and lactating mothers are also especially vulnerable to fluorosis.

## Management of fluorosis

In people with exposure and those with clinical and subclinical symptoms, the only available measure as of today is eliminating the intake of fluorides. No chemical till date is capable of extracting fluoride absorbed in the body. In patients with disease symptoms, the following interventions should be practised:

- Reduce as much as possible the fluoride intake through water and food
- Practice consumption of diet rich in calcium, vitamins C, E and anti-oxidants



## Public awareness and health education

A massive campaign is required to spread information about the importance of using safe water, better nutrition for proper health. Even doctors are not always able to identify fluorosis symptoms correctly. There is a need for training of medical and paramedical staff. The media, especially television, should be utilised to reach people who are at risk. Experts should educate the people in their own language and dialect about the following aspects:

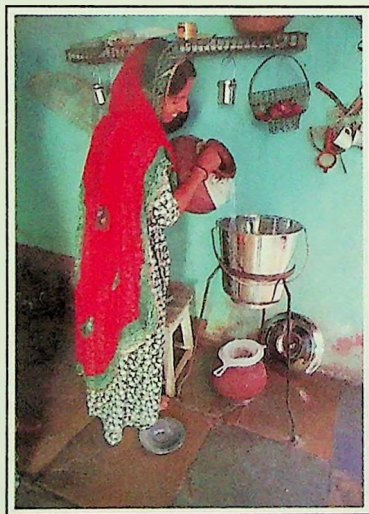
- Fluoride in drinking water and its relationship with fluorosis
- Symptoms of fluorosis

- Sources of fluoride
- Preventive measures such as use of safe water, defluoridation of water and improved diet
- Who are at risk and when to seek medical advice
- Impact of nutrition on severity of fluorosis

A successful awareness and health education programme should lead people in endemic areas to demand fluoride-free water from the district/local and state government, use safe water and take nutritious food. This will also ensure active community participation in intervention programmes.



## initiatives and challenges



Government and various official agencies, organisations of the U.N, international donor agencies and NGOs have taken the following significant initiatives.

### Government of India Initiatives

1. In 1987, the Government of India (GOI), established the National Fluorosis Control Cell at the All India Institute of Medical Sciences, New Delhi to implement human resource development involving training of medical, para-medical staff and engineers, and awareness generation among grassroots levels functionaries. The cell also carried out extensive R&D programme wherever necessary.
2. Around the same time, several R&D projects were initiated by GOI to develop defluoridation and water-testing technologies.
3. The Rajiv Gandhi National Drinking Water Mission (RGNDWM), decided to support the



establishment of water testing laboratory in each district and implementation of water supply projects in all water quality affected states, by contributing 75% of the cost, leaving 25% to be borne by the state governments. Seventy major water supply schemes with a total outlay of Rs. 7173 million have been implemented, to cover a population of 8 million, spread over 4,625 habitations in 10 states under the Submission on Control of Fluorosis.

4. RGNDWM is also in the process of establishing a Centre of Excellence for Fluorosis to provide support to all states in their fluorosis mitigation efforts.

## UNICEF's Initiatives

UNICEF has been working closely with the Government of India and other sector partners to assess safety conditions and implement specific fluorosis mitigation programmes. This is part of a comprehensive effort to ensure safe water environments.

Some of the key areas of intervention have been in the strengthening of water-quality monitoring systems, facilitating research and development of household water treatment systems and advocating alternative water supplies when necessary. Education is key to UNICEF's strategy, with emphasis on grass-root implementation of water safety procedures. A number of demonstration projects have been initiated in fluorosis-affected areas. UNICEF accords high priority to water quality related issues. Some of the initiatives are listed below.

- Strengthening district water-quality laboratories by supplying Ion meters and training of water analysts.

### Rajiv Gandhi National Drinking Water Mission: Guidelines for fluoride control

- To identify and label any potable source ("SAFE") and educate the population to conserve/ use the source for drinking and cooking only.
- To tap safe – low fluoride - aquifers
- To arrange for blending of water from different sources to obtain adequate quantities of safe water, and to supply this potable "mixture" through designated "safe" stand posts.
- To provide piped water supply schemes through distant sources; and
- To provide community treatment plants to remove excess fluoride.

- Development of activated alumina-based domestic defluoridation by the Indian Institute of Technology, Kanpur.
- Evaluation of water field test kits by Sriram Institute for Industrial Research, New Delhi.
- Development of an improved fluoride field test kits by the National Chemical Laboratory, Pune.
- Preparation of the State of the Art Report on the Extent of Fluoride in Drinking Water and the Resulting Endemicity and preparation of a Handbook on Planning and Implementation of Water Supply Projects in Fluorosis Endemic Areas by Fluorosis Research & Rural Development Foundation (FR&RDF), New Delhi.
- Desk review of Impact of Nutrition on Fluorosis by Indian Toxicological Research Centre, Lucknow.
- Supply of over 100 Ion meters
- Training of water analysis on the operation and maintenance of Ion meters.
- Training of medical, para-medical and grassroots level workers.
- Standardisation and promotion of field proven technologies.
- Development of local manufacturing capacity for activated alumina and AA-based filters
- Providing support to SWACH for the effective implementation of GOI assisted fluorosis control project in four districts of Rajasthan
- Desk reviews, evaluation studies, and preparation of guidelines for use in the field.

Further, UNICEF has initiated demonstration projects in fluoride affected states in cooperation

with State Governments, users and NGOs. These include Ananthapur in Andhra Pradesh, Dungarpur and Tonk in Rajasthan, Kanpur Dehat in Uttar Pradesh and Chandrapur in Maharashtra. These projects are implemented through local NGOs, panchayats and community groups, and include:

- Selection of beneficiaries on the basis of an initial baseline survey.
- Epidemiological surveys conducted with the help of doctors to understand the magnitude of the problem, as well as to provide basic data on the health status of the families in the area. This information is vital for subsequent impact assessment studies.
- Testing of all drinking water sources in the project villages.
- Habitation contact drives to build rapport with the communities and involve them in project activities.
- Domestic Defluoridation Units (DDUs) introduced on cost sharing basis.
- Training workshops for youth volunteers, DWCRA groups and village sarpanchs, focusing on building awareness on water quality, and means of removing internal and external contamination, followed by a demonstration on the use of the DDUs.
- DDU promotional camps at the village level, where the use, maintenance and regeneration aspects are highlighted.

## DANIDA's initiatives

The DANIDA assisted Rural Drinking Water Supply and Sanitation Project (RDWSSP) aims at improved and sustainable drinking



## Facilitating Domestic Defluoridation

UNICEF has facilitated the design of a domestic defluoridation unit (DDU), which can be used at the household level. The DDU is essentially a water filter, which uses activated alumina (AA) to remove excess fluoride from drinking water. UNICEF has introduced such filters in many affected areas. Household pays part of the cost of the filter and meets full cost of regeneration. The demonstration projects are in Tonk and Dungarpur districts in Rajasthan, Kanpur Dehat in U.P., Ananthapur district in A.P. and Chandrapur district in Maharashtra.

water supply to about 700 habitations (villages) in the Kolar, Chitradurga and Bijapur districts in Karnataka. The project is based on decentralised, demand-driven and participatory approaches, and aims at strengthening of the lowest appropriate level of Panchyat Raj Institutions. In addition to the state-level line departments and the organisations under the CEOs of Zilla Panchayats, the project includes Danida-supported professionally competent Project Advisory Group based in Bangalore, and District Coordination Units at district level. The DANIDA supported units provide professional advice and assistance in project implementation. As the project addresses the technical needs in the context of the existing social environment, it entails both hardware and software inputs from RDWSSP.

Drawing upon experiences gained in the earlier DANIDA supported Integrated Rural Water Supply and Sanitation Project (1990-96) and findings of 'quick' water-quality surveys, "development and testing of appropriate

solutions to excessive fluoride contents in the groundwater" was adapted as one of the four objectives of the project.

The key components of DANIDA interventions include:

- A programme of dual water supply (phase I: 1996-2002) in Kolar, Chitradurga and Bijapur districts, in which low-fluoride water is supplied for drinking and cooking, while the water with high-fluoride content is used for other purposes.
- A study commissioned (1998) on the technical options for fluoride-free water in Sri Lanka and several African countries.

## Other Initiatives

### The Fluorosis Research & Rural Development Foundation

The Foundation established by Prof. (Dr) A.K. Susheela is guiding the fluorosis mitigation programmes of the various state governments. The Foundation is not only a diagnostic centre, but also acts as a Global Consultation Centre for fluorosis mitigation programmes.

Key interventions are listed below:

- Imparting training to doctors, public health engineers, paramedical workers, grass-root level functionaries, anganwadi workers, village sarpanchs, school teachers and other NGOs.
- Developing communication material for professionals and grass-root level functionaries.

A handbook for public health engineers entitled A Handbook on Planning and Implementation of Water Supply Programmes in Fluorosis-Endemic Areas is under preparation by the Foundation under the aegis of UNICEF.

A Treatise on Fluorosis, for the faculty of the medical and dental colleges, as well as other health professionals, is under preparation; dealing with the medical aspects of the disease, it is the first publication of its kind on fluorosis.

**Sanitation Water And Community Health**  
The SWACH project was started by the NGO in 1999.

Coverage: 220 villages in four districts of Rajasthan – Dungarpur, Udaipur, Rajsamand and Banswada.

Implemented by: SWACH with funding from the Rajiv Gandhi National Drinking Water Mission

Key Components:

- House to house survey, water source survey, village mapping etc., has been completed in all the villages. The survey

provides the basic data for further study and impact of the scheme on the health hazard of the rural people who are using the kit.

- 160 Animators have been appointed for 220 villages, with 17 coordinators appointed for supervision of the animators work.
- 4152 kits have been distributed in the different household in 220 villages.
- Regeneration rooms were established in 167 villages. 1612 activated alumina kits have been regenerated
- 4134 water samples have been analysed with Elico meter and Ion meter.
- Village contact drives in 220 villages were conducted upto September 2000.
- 13 training workshops were organized between November 1999 and August 2000, covering various categories viz. public health engineers, health workers, grassroots level workers, doctors, animators and coordinators.
- Five types of posters, flip books and songs have been printed. All have been given to animators. Eight cards on Fluoride and Fluorosis and its Preventive Strategies for Implementation by the Community have been designed by FR&RDF, Delhi and distributed to all animators and coordinators in 220 villages. 1159 wall paintings have been painted on the main locations of the villages.

**Pilot project in Dungarpur**

Coverage: Eight villages of Aspur block, Dungarpur district, Rajasthan.

Implemented by: The Society Affiliated to Research & Improvement of Tribal Areas

## (SARITA) and SWACH

### Key Components:

- Baseline survey (house-to-house survey to identify fluorosis patients, dietary habits, PRA mapping, collection of water samples from potable sources, labelling of safe sources).
- Pre- and post-monsoon water analysis (in state PHED laboratories).
- Awareness generation and development of IEC (wall paintings, slogans, posters, audio, streetplays, etc)
- Distribution of Nalgonda defluoridation containers sets and AA filters, along with the chemicals required, as well as training on their use.
- Pre- and post-intervention clinical examination of patients.
- Field testing of defluoridated water, as well as monitoring.
- Cost sharing by users.
- Constitution of "Pani Panchayats" and

their active involvement to ensure sustainability.

### Project in Ananthapur

Coverage: 25 villages, targeting a population of 18,256

Implemented by: the NGO MYTRY Social Service Society, the Rural Development and Panchyati Raj Department and the community

Achievements: 1540 DDUs introduced in 25 villages

- 3750 DDUs sold directly to households by MYTRY's Rural Sanitary Mart
- Innovation in design using clay and plastic containers, so as to make the DDUs more affordable to the poor
- Rural Development Trust (RDT), an NGO working in nearby areas which there is a fluorosis problem also adopted this intervention and procured 1000 DDUs from MYTRY for sale in their project area.

UNICEF has facilitated the implementation of project SWACH and the pilot projects in various ways.

# Frequently Asked Questions

## 1. What are the main sources of drinking water?

Drinking water comes from various sources such as groundwater, surface water (lakes, ponds, rivers, etc) and rainwater. Surface water is heavily contaminated with bacteria and has been a major cause in the past of morbidity and mortality. Rainwater is not a seriously exploited resource in India. Piped water supplies that rely upon surface water, treat water for pollutants, including microbial pathogens before supplying it to households. Nearly 90% of the people in rural India depend on ground water.

## 2. What happens as a result of prolonged intake of excess fluoride in drinking water?

Long term ingestion of fluoride beyond permissible limits can cause mottled teeth (dental fluorosis) and debilitating bone ailments (skeletal fluorosis). These are irreversible. A diet low in calcium, vitamins C, E and anti-oxidants contributes to the severity of fluorosis. Non-skeletal symptoms, which appear in a shorter span of time, affect the body's soft tissues—ligaments, muscles, red blood cells and gastro-intestinal system.

## 3. What is the extent of the problem of fluoride contamination of drinking water in India?

The presence of fluoride in India's water has been known for six decades. Till 1999, as many as 17 states have been identified with the problem of excess fluoride in underground water sources. Current estimates are that in India, nearly 66

million people are at risk. Rajasthan and Andhra Pradesh are the most severely affected states. Rural populations, which depend mainly on groundwater as drinking water source, are the worst affected.

**4. What is the maximum permissible limit of fluoride concentration in drinking water?**

The WHO guideline value is 1.5 mg/litre. However, in 1992 the Bureau of Indian Standards, in view of the serious health problems prevailing in India due to fluoride contamination, has amended the limit for fluoride in drinking water to 1mg/litre, as the upper limit which the body may tolerate, but lesser the better as fluoride is injurious to health.

**5. Are there other chemical contaminants in the groundwater in India?**

Contamination due to other elements like arsenic, nitrates, iron and salinity is also known to occur in India.

**6. Where does the fluoride in groundwater come from?**

In areas with fluoride-rich minerals and volcanic rocks, groundwater sources such as wells, handpumps and tube wells are likely to contain excess fluoride due to the dissolution of fluoride from fluoride-bearing minerals. India has among the largest resources of these minerals.

**7. Why is fluorosis endemic in certain areas?**

The presence of excess fluoride in groundwater is due to geo-chemical characteristics of the

earth's crust. Areas with fluoride-rich rocks are prone to fluorosis endemicity.

**8. Is fluorosis contagious or infectious?**

No, it is not. One cannot get fluorosis by being with an affected person or by touching or embracing them.

**9. What should be done if a drinking water source contains excess fluoride?**

First, all nearby sources should be tested for fluoride concentration. If a safe source exists, people should be told about it and encouraged to draw drinking water from the safe source. Even water-vending by a community member using a safe source will be a good option. If no safe source is available, the options are tapping of safe aquifer, pumping water from a distant safe source, conventional treatment of surface water before use, rooftop rainwater harvesting, aquifer recharge and lastly defluoridation.

**10. Can fluoride be removed from drinking water?**

Fluoride can be removed by various defluoridation methods. In India, two treatment processes, namely the Nalgonda technique (floculation and sedimentation) and AA-based filters (adsorption) are used for removal of fluoride from drinking water.

**11. Can people afflicted with fluorosis be cured?**

In people with chronic exposure and those with clinical and subclinical symptoms, the only available measure as of today is eliminating the intake of fluorides and prevent the disease. No



chemical till date is capable of extracting the fluoride already deposited in the body. In patients with overt disease, the following measures should be taken:

- Fluoride intake to be eliminated
- Promotion of better nutrition—diet rich in calcium, vitamins C, E and anti oxidants

### **12. Are some people more susceptible to the disease?**

Metabolism and capacity to excrete fluoride play a role in susceptibility. In the same family, not all are affected in similar fashion. Existing data indicate that some sections of the population are more susceptible to the toxic effects of fluoride. These include people with deficiencies of calcium, and/or vitamins C and E, the elderly, and people with cardiovascular and kidney problems. Poor nutrition increases the incidence and severity of fluorosis. Besides, the body physiology and hormonal status also determine who is more susceptible to the disease.

### **13. What is the effect of nutrition on fluorosis?**

Malnourished children and pregnant or lactating mothers form a high risk group. A properly designed nutritional regimen can beneficially interfere with the toxic effects of fluoride. Diets rich in calcium, vitamin C, E as well as anti-oxidants are beneficial. Thus, milk, green vegetables and vitamin C-rich fruits appear to be ideal in nutritional prophylaxis of fluorosis.

### **14. Are water filters, for removal of fluoride, available in the market?**

Filters are not generally available off-the-shelf in the market. However, with the increased

awareness about the health effects of fluoride, the market demand is likely to increase substantially. The private sector will respond to market demand and make available fluoride removal filters.

### **15. Has fluoride any beneficial effects?**

The research studies indicate that fluoride has no beneficial health effects. Rather, fluoride destroys the teeth. Fluoride has no role in prevention of dental caries, which is basically a bacterial dental disorder.

## **UNICEF and Fluorosis Mitigation Programme in India**

### **1. What is UNICEF doing about excess fluoride in India's water supplies?**

UNICEF has been working closely with the Government of India (GOI) and other sector partners to assess safety conditions and implement specific fluorosis mitigation programmes. This is part of a comprehensive effort to ensure safe water environments. It should be noted that over the years the Indian Government has undertaken massive efforts to provide the populations with access to low-fluoride water and that work is continuing. UNICEF has been strengthening water-quality monitoring systems, facilitating household water treatment and advocating alternative water supplies when necessary. Education is key to UNICEF strategy, with emphasis on grass-root implementation of water safety procedures. A number of demonstration projects have been initiated in fluorosis-affected areas.

## 2. What are the main elements of UNICEF's community-level approach in India?

At present, the emphasis is on the introduction of domestic defluoridation. UNICEF's current plan of action includes creating awareness about the dangers of excess fluoride intake and of a poorly balanced diet. UNICEF promotes home sanitation, hygiene education, strengthening community control over the water supply and community monitoring, using field test kits. The organisation has sponsored promising research on the use of Activated Alumina (AA) to remove excess fluoride from water at the household level, promoted its use, and supporting in the development of an improved field test kit. UNICEF also works consistently to develop new data on water quality and health implications for children.

## 3. What is the history of UNICEF's work in areas with high fluoride in groundwater in India?

During the 1970s and 1980s, UNICEF worked closely with the Government to develop rural water supplies, using water from deep borewells to improve access to safe water within a reasonable distance in drought-prone areas. The emphasis in 1970s and 1980s was on bacteriologically safe water, as chemical problems were not so well recognised. UNICEF has always advocated checks on potability of borewell water before handing the source over to the users. However, due to the inadequacy of water-quality monitoring infrastructure and the supply-driven nature of

the government programme involving of some 3 million deep-well handpumps during 1977-1997, water-quality testing did not receive the desired attention.

A result of UNICEF and WHO perseverance, the first national workshop on water-quality monitoring (WQM) in rural areas was held in 1997. The recommendations of the workshop have been endorsed by the high-powered committee of the GOI and specific measures are being taken by the government to strengthen the WQM system. UNICEF is working closely with the government on this important initiative.

## 4. Does UNICEF now advocate a halt to drilling in areas where there is a risk of excess fluoride?

No. In hard rock areas, where some borewells may yield water with excess fluoride, groundwater still remains a major source of protected, reasonably safe water for hundreds of millions. This underlines UNICEF's reasons for placing primary emphasis on strengthening water quality monitoring and awareness generation among users, so as to ensure that water used for drinking and cooking is safe. By the same token, monitoring would reveal contaminated sources, which should be avoided. This approach allows not only for the determination of unsafe fluoride levels but also for awareness of other serious contaminants leading to water-borne diseases.

## NUTRITION

### Situation Analysis and identification of problems / gaps to be addressed

#### Background

Data from the National Nutrition Monitoring Bureau (NNMB) and the National Family Health Surveys (NFHS) indicate very slow improvement in nutritional status in Karnataka over the past three decades. The Karnataka Task Force on Health has recommended that as food and nutrition is a basic determinant of health, the Department of Health should give greater priority to improving nutrition status particularly of vulnerable groups in society. Through this project the Department of Health, GOK, is placing nutrition higher on its agenda of strategic health planning and implementation. It will focus on improving the following dimensions of nutrition interventions recognising that these have been some of the gaps in services provided so far.

- a) **Effectiveness** which is the extent to which a specific intervention or service, when deployed in the field, does what it is intended to do, for a defined population, within a given time frame.
- b) **Equity** which will work to redress societal and economic disparities, by providing affirmative action to those most in need - that is to dalits, tribals, women / girl children and people living in poverty.
- c) **Quality of service** which is multidimensional and will include technical quality, staff capacity and staff attitudes and relationship between provider and people.
- d) **Intersectoral coordination** with departments of WCD, Education, RD & PR and Horticulture, PDS (Civil Supplies), and Agriculture.

#### Current Nutrition Status

##### 1. Preschool Children

- a) Reliable, research based data over 25 years indicate that a 91% of under-six children remain underweight, with 50% of children suffering from moderate to severe undernutrition. (Table 1) This is extremely serious with grave consequences to the health and well being of the future generation. The time to act is now, and the age to focus is the under-two year period which is when maximum growth of the brain occurs.

Table - 1 Percent weight for age distribution of children aged 1 - 6 years, over time, in Karnataka (Gomez Classification)

Year	Nutritional grade			
	Normal	Mild	Moderate	Severe
1975-79	4.6	31.1	50.0	14.3
1988-90	4.8	38.1	48.8	8.3
1996-97	9.5	38.6	45.4	6.2

Source: NNMB Rural, 1999 (pooled data of boys and girls)

- b) Data regarding the nutritional status of *tribal and urban preschool children* indicates a worse situation (see Tables 2 and 3)

Table - 2 Percent weight for age distribution of preschool tribal children (1-5 years), 1985 - 87

Year	Nutritional grade			
	Normal	Mild	Moderate	Severe
1985-87	2.3	15.1	49.7	32.9

Source: NNMB Report of the Tribal Survey, 1985 - 87.

Though dated, this is the only available data. This constitutes a public health emergency. We are unaware of any concerted response to this alarming situation.

Table - 3 Percent weight for age distribution of urban poor, pre-school children (1-5 years) in Bangalore, 1993-94.

Year	Nutritional grade			
	Normal	Mild	Moderate	Severe
1993-94	2.5	37.7	53.5	6.3

Source: Report of Urban Slum Survey, Bangalore 1993-94.

We do not have specific data for scheduled castes, but experience suggests that nutritional status would be worse among them.

- c) *Gender disaggregated data* over two decades shows a reversal and slight shift in favour of boys over girls. In the mid 1970s boys were slightly more malnourished, whereas in the mid 1990s fewer girls are normal and more girls are severely undernourished (see Table 4). The rate of change in the two extremes (normals and severe) is greater for boys than girls. This suggests that the situation for girls has become more adverse during this period.

**Table - 4 Percent weight for age of girls and boys aged (12 - 71 months) (1 - 6 Years)**

Year	Sex	Nutritional grade			
		Normal	Mild	Moderate	Severe
1975-79	F	5.6	31.9	47.8	12.5
	M	3.7	30.3	52.1	13.9
1996-97	F	7.6	40.1	45.5	6.8
	M	11.2	37.9	45.2	5.7

Source NNMB Rural 1999

This is also seen in height for age data, a sensitive indicator of chronic malnutrition, which shows that severe stunting is higher among girls (see Table - 5), balanced by higher moderate stunting among boys. The overall high percentage of stunted girls and boys is cause for serious concern. Repeated and specific educational inputs regarding child feeding practices are required.

**Table - 5 Percent stunting (height for age) among girls and boys below 4 years (1 - 47 months) in Karnataka, 1992-93**

Year	Sex	Stunting	
		-3Z	-3Z to -2Z
1992-93	F	25.2	23.5
	M	20.4	26.2

Source NFHS, 1992-93

*d) Interstate variations and trends*

It is noted that nutritional deprivations among young children below 6 years are worse in Karnataka as compared to the neighbouring states of Kerala and Tamil Nadu. The decline in undernutrition and infant and child mortality in these two states has been more rapid since the mid 1970s suggesting that nutrition gains can occur more effectively. Comparative data with Tamil Nadu is given in Table - 6.

**Table - 6 Percent weight for age (1- 5 years) over time between States**

State	Year	Moderate undernutrition	Severe undernutrition
Karnataka	1975-79	50.0	14.3
	1996-97	5.4	6.2
Tamil Nadu	1975-79	45.4	12.6
	1996-97	33.5	2.9

e) *Regional disparities*

There are significant regional disparities in undernutrition of young children (see Table -7).

Table - 7 Percent malnourished children under 4 years by region in Karnataka

Region	Weight for Age < -2 SD
NE Plateau	62.6
NW Plateau	54.9
Central	52.1
South	51.9
Middle and Coast	39.5
Karnataka	53.4

Source: Calculated from NFHS I by Mari Bhat et al, EPW:3008-32, Oct 16-23, 1999.

Note: NE Plateau comprises Bidar, Bijapur, Bagalkot, Gulbarga, Raichur and Koppal.

2. **Anemia**

The commonest cause of anemia is iron-deficiency due to dietary inadequacy. It is widely prevalent in India and is described as 'hidden hunger'. Studies by the National Institute of Nutrition (NIN), Hyderabad show that 63% of India's children below 3 years and 45% between 3-5 years suffer from iron deficiency anemia, with moderate to severe anemia in 10-15%.

a) *Prevalence of anemia in young children*

Levels of anemia in children in Karnataka are shown in Table No.8

Table - 8 Percentage of anemia in children below 3 years in Karnataka

Age (in months)	Hemoglobin levels (grams / deciliter)			
	Normal >11	Mild 10-10.9	Moderate 7-9.9	Severe <7
<12	43.8	20.8	33.7	1.7
12-23	21.9	20.2	48.7	9.2
24-35	37.8	16.4	36.8	9.0
Total	34.2	19.2	40.1	6.6

Source: NFHS II, 1998-99.

**Table - 10 Prevalence of Vitamin deficiency by time and location in Karnataka**

Year	Percent prevalence of Bitots spots in children 12-71 months	
	Rural	Urban
1975-76	2.3	7.1
1988-90	1.1	NA
1996-97	0.5	1.1

Source: NNMB reports, Rural 1988-90 and 1999. Urban Slum 1984 and 1993-94

b) *Tribals*

**Table - 11 Vitamin A deficiency in Tribal children in Karnataka**

Survey and year	Percent prevalence of Bitots spots
NNMB Tribal Survey 1985-87	1.4
NIN Jenu Kuruba, Tribal Survey 1989	0.7

It is to be noted that prevalence of Bitots spots of more than 0.5% <sup>which</sup> is considered to be a problem of public health significance by WHO.

c) *Interstate variation*

Comparison with neighbouring states is shown in Table - 12

**Table - 12 Prevalence rate of Vitamin A deficiency in 0-6 years population in Southern Indian States (percent Bitots spots)**

State	Rural	Urban
Karnataka	1.57	4.9
Kerala	0.49	1.45
Tamil Nadu	2.03	10.10
Andhra Pradesh	2.78	1.36

Source: National Survey of Blindness Report, 1986-89.

The rates in urban poor children are worse. There are fewer ICDS projects and balwadis for urban poor pre-schoolers. An organisational mechanism to reach them will be evolved.

Overall 65% of under 3s are anemic, with the highest level of 78% occurring among the 1-2 year age group. Moderate to severe anemia is found in 46.7% or almost half of the children.

Specific data from *districts and tribal communities* are available, though scattered and dated. The Bidar Integrated Rural Development Study reportedly estimates more than 90% of preschool children with anemia among whom 13.4% had severe anemia. Chitradurga district reported anemia among 54% of preschool children (IPP, 1978). Studies of Jenukuruba Tribals in Mysore and Kodagu districts found 99% of preschool children anemic with 16.3% severe, 57.5 moderate, 25% mild. (NIN, 1989). Interdistrict and intergroup variations are likely to occur. This needs to be regularly surveyed and monitored and the program fine tuned accordingly.

- b) Prevalence of *anemia in Women* is also high (see Table - 9)

**Table - 9 Percent Prevalence of anemia in women in Karnataka**

Age in years	Mild	Moderate	Severe	Any Form
15-24	29.3	16.4	1.7	47.4
25-34	25.4	12.5	2.4	40.2
35-49	25.8	12.2	2.7	40.7

Source: NFHS II, 1999

*N.B: At least one additional case of sub-clinical iron deficiency occurs for each case of iron deficiency anemia, when prevalence rates are <50%.*

Severe	< 7.0 gm/dl	
Moderate	7.0-9.9 gm/dl	
Mild	10.0-10.9 gm/dl	- children, pregnant
	10.0-11.9 gm/dl	- non-pregnant
No anemia	> 11 gm/dl	- children, pregnant
	> 12 gm/dl	- non-pregnant

*It must be noted that 10% prevalence is the cut off point, triggering the need for public health action.*

- c) Various programmes including RCH programme have not made a dent in this important problem. A public health approach based on public health ethics will be used to respond, given the magnitude and health consequences of the problem. Immediate and urgent intervention measures are being initiated and will be closely monitored, with regular reporting to a public body.

### 3. Vitamin A deficiency

- a) **Time-trend** - Over the decades clinical Vitamin A deficiency has declined (see Table - 10)



#### 4. Iodine Deficiency

There are four endemic districts with goitre prevalence rates of more than 10% (Goitre Prevalence Study 1988-91). They are Chikkamagalur (41%), Kodagu (23.1%), Dakshin Kannada (14.2%), and Uttar Kannada (10.7%). Goitres are prevalent in all districts with rates ranging from 0.9% to 6.9%. The prevalence is higher among females and in the age group 12-18 years. A 1989 study of Jenukuruba Tribals found a goitre prevalence of 4% in school age children and 10% of among adolescents in Mysore and Kodagu districts.

#### 5. Status on Nutrition related issues

##### a. Breastfeeding (From NFHS 1992-93)

Though almost all children were breastfed (>95%), only 5% were put to breast immediately after birth (within 1 hour). Another 18% began breastfeeding within 24 hours of birth. Majority of mothers (67%) who breastfeed squeeze out the first milk from the breast before they begin breastfeeding their babies.

The duration of exclusive breastfeeding is only 69% in the age 0 to 3 months. However, a majority of women continue breastfeeding till 2 years (median is 21 months). Ideally food supplementation should begin only from 6 months. Merely 40% of infants in the age group 6-9 months received both breast milk and solid foods. Regrettably, bottle feeding is prevalent; increasing from 7% in 2 months to 18% for children aged 12-13 months. Infant formula as a supplement is much rarer than other milk (cow or buffalo). Males were breastfed for two months longer and were initiated to supplementary food earlier.

##### b. Measles immunization

Only 67% of children aged 12 to 23 months were immunized against measles disease (NFHS 1998-99). Sadly, girls were less likely to be immunised than boys. Measles immunisation is the most important one time medical intervention which prevent deterioration of children's Vitamin A status and for a significant proportion of children can prevent deterioration of their overall nutritional status.

The RCH baseline surveys of 1998 and 1999 also confirm that Measles immunization coverage is particularly low in Northern Karnataka (see *Table 3. 8*).

**Table-13 Measles Immunization Coverage (%) among children aged 12-36 months.**

District	Coverage
Bidar	57.2
Gulbarga	32.5
Raichur	44.0
Bellary	69.3

## Current Ongoing Nutrition Programmes

### 1. Integrated Child Development Scheme (ICDS)

The Integrated Child Development Scheme (ICDS) functions under the WCD, with 175 rural projects (one per taluk) and 10 urban projects in Karnataka. It covers a population of over 31 lakhs in the State, including Children, pregnant and lactating mothers and adolescent girls. As a key strategy in Nutrition and Child Care, this project will work with, support and strengthen the ICDS. Hence it is described and discussed in detail.

- a) **Numbers** As of 1999 - 2000 there were 40,012 Anganwadi Centres functioning out of a sanctioned 40,170 (gap of 158). \*
- b) **Personnel** - There were 39,469 anganwadi workers (gap of 601) and 39,926 anganwadi helpers (gap of 244). There is an acute shortage of personnel at an important level namely, supervisors, or Mukhiya Sevikas even as of September, 2001 with 574 in position out of a sanctioned 1861 (gap of 1287). The WCD has initiated measures to rectify this. This needs to be followed up urgently as a pre-project activity.
- c) **Infrastructure** - There is a shortfall in buildings. Forty percent of anganwadis (16,883) function from their own building. Others function from community building (5289), temples (4415), schools (4319), makeshift arrangements (2708), rented buildings (2933), panchayat buildings (2662), youth association (502) and mahila mandal buildings (315). A district wise break up is available. The estimated cost of a building is Rs. one lakh. The state government is considering loans from NABARD for further coverage of buildings. The location / siting of buildings should favour access to dalit, tribal and poor children. Even in the short term availability of water for drinking, cooking and washing and also of toilets needs to be ensured as basic facilities for hygiene and health. Enough space for playing, for storage and cooking and for growing some vegetables and fruit trees should be provided for.
- d) **Coverage** - In mid - 2001, twenty six lakh children of an estimated sixty - eighty lakh under - 7 children in Karnataka were covered by the ICDS. Only 50% of under - twos get supplementary food. Coverage of urban poor children is limited and needs expansion.

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\* All numbers are based on information received from WCD, ICDS section.

- e) **Training** - Anganwadi workers (AWW) receive a 3 month training at 26 training centres, located in 20 districts, the majority of which are run by NGOs (list is available). The minimum qualification for an AWW is 7<sup>th</sup> standard for rural and X<sup>th</sup> standard for urban centres. The training is being improved and intensified through "UDISHA", a World Bank assisted scheme all over India. Adequacy of content methodology, quality of basic training as well as of continuing and on-going education of AWWs is to be assessed, particularly with regard to nutrition and health related areas.

Refresher training is conducted every 2 years.

Supervisors whose minimum qualification is graduation are trained at the Middle Level Training Centre (MLTC) at Ujire in Dakshin Kannada district. ACDPOs and CDPOs, (Child Development Project Officers and Assistants) with a required post graduation in Social Work or Home Sciences, receive a 2 month training at NIPCCD, Bangalore.

f. **Mobility / Transport**

Vehicles are supplied by UNICEF. There is one four wheel vehicle per project. (i.e. taluk)

g. **Equipment and Supplies.**

- ❖ Shortages of weighing scales are being rectified by the WCD through procurement. Replacement of old weighing scales and calibration needs to be done on an ongoing basis. The estimated requirement is 6830 weighing scales
- ❖ Shortages of growth charts are also being rectified by the WCD. UNICEF is experimenting with new growth charts in Gulbarga and Raichur.
- ❖ Medical kits with supplies worth Rs.600 per annum are provided through local purchase at district level through the Zilla Panchayat.
- ❖ Fuel money is now provided directly to the AWW and not through the gram panchayat.
- ❖ Energy Food Supplies are through Karnataka State Agro Corporation. Amylase Rich Food (ARF) in 1 kg plastic packets are provided for under twos. The CDPO at Taluk level procures rice through the Public Distribution System (PDS). The contractor directly supplies it to the anganwadi every month. Under a new scheme, through the Prime Ministers Grameen Yojan (PMGY) 1 egg will be supplied thrice a week, to be given to children as boiled eggs.

- h. **Workload** – In addition to their own work AWWs who are “volunteers” are involved in the pulse polio programme, census, livestock census, leprosy and RCH programme. Since 2000 every AWW is required to form and facilitates 3 self help groups, each with a revolving fund of Rs. 5000.00. Since 2000, AWWs are also looking after the non-clinical responsibilities of ANMs. It started in category C districts and was later extended to category B districts and parts of A districts A sum of Rs.250.00 per month is given for this by the Department of Health. The workload of AWWs needs to be assessed in relation to her remuneration (about Rs. 750.00 per month) and status.

**i. Budgets and Expenditure**

Currently Rs. 205 crores are spent annually in Karnataka on the ICDS. Being a Centrally Sponsored Scheme (CSS), the establishment and administrative expenditure is borne by GOI. During 1999 – 2000, Rs. 7813 lakhs were sanctioned and Rs. 5111.35 released, against which Rs. 6424.15 lakhs were spent by the Zilla Parishads. The expenditure for the nutrition supplement is borne by the State government through the Zilla Panchayats. During 1999 – 2000, the GOK spent Rs. 3634 lakhs under plan, Rs. 6022.76 lakhs under Non-Plan, Rs. 962 lakhs under special Component Plan for Scheduled Castes etc and Rs. 289 lakhs under Tribal Sub Plan.

Expenditure per child was Rs. 1.25 per day and for children with grade III & IV under nutrition it was Rs. 2.50 per day. According to the Pradhan Mantri Gramodaya Yojana (PMGY), the amount available is to be increased to Rs.2/- to all children below three years and severely malnourished children in the age group of 3 to 6 years: Rs.1.25 would come from the regular supplementary nutrition programme and Rs.0.80 to be met from the PMGY funds. From September 2001 onwards children are to get eggs three times a week.

An analysis of Revenue Expenditure on Social Services Sector (Subramanya and Reddy PH, 1997) noted that during the decade 1990 – 91 to 1999 – 2000 expenditure on nutrition declined in real terms at the rate of 4.3 percent per annum. Inadequate funding for nutrition has affected the programme.

Given the importance of the work being done under the ICDS, there will be need for increased expenditure to improve and maintain infrastructure, to improve the training and supervision of staff and for better services including health and nutrition education, food supplementation and child care and education.

**j. Outcomes**

The ICDS started in 1975, Projects in taluks were started incrementally over the years and all 175 taluks in Karnataka were covered in 1993. \*

Recent data regarding the nutritional status of children in Karnataka reveals that the impact of the intervention is inadequate and poor even through the scheme has other gains. There is therefore need for a more specific and qualitative improvement in the area of nutrition through the ICDS and other schemes. The Integrated Health Project aims to fill this gap.

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\* The additional taluk formed in Bangalore Rural district in September 2001, will need to have a project.

**2. The Reproductive and Child Health Programme (RCH)**

This programme presently assisted nationally by the World Bank provides for:

a) Iron and Folic Acid (IFA) for young children and pregnant and lactating women.

These are supposed to be available throughout the state. Since the project was launched in 1997, there have been shortages of IFA for long periods of time. Levels of iron deficiency anemia are high and is still of public health significance.

3. **The Inter State Border District Cluster Strategy (BDCS)**, is supported by UNICEF during the period 1999 – 2002 in the districts of Raichur, Gulbarga, Bidar and Bijapur. It aims to reduce child mortality and morbidity by strengthening and revitalizing sub centres as a key strategy and to improve functioning of PHCs and FRUs. It attempts to build both community and health worker capacity. For nutrition it includes nutrition education, joint training of AWW, ANMs, TBAs and NGOs, the formation of health and nutrition teams at village and sub centre level, joint field visits and meeting by higher level officers and the formation of Community Advisory Boards to enable community supervision, management and accountability. It supports the RCH program and the Project Director, RCH is responsible for implementation.

4. **The Integrated Nutrition Project** is being developed with the WCD as the nodal department through a consultant linked to Micronutrient Initiative (MI), Canada, to cover four districts namely Raichur, Gulbarga, Tumkur, Chikmagalur. The initial project proposal has been developed in December, 2000 and district workshops have already been held in mid 2001 in the 4 districts and have involved district health personnel. The project has 7 proposed components.

- a) IEC through women's SHGs, schools and joint training of government and NGO functionaries.
- b) Food fortification of local cereals with iron, folic acid and Vitamin A.
- c) Supplementation of IFA to under 3s, adolescent girls, pregnant and lactating mothers, Vitamin A supplementation also provided for.
- d) Dietary diversification through promotion of micronutrient rich horticultural produce through support to Department of Horticulture.
- e) Health service linkages and establishing Nutrition Rehabilitation Units in Districts.
- f) Project Management through a PMU and steering committee.
- g) Monitoring and evaluation – ongoing, external and community using Triple A approach.

Funding for this project has not yet been confirmed and hence work has not yet started. There are overlaps in the districts and components covered.

5. **School supplementation**, under the Department of Education, provides 3 kg of raw uncooked rice, per child (? Only to SCs / STs) per month in government and aided schools throughout the State.

A school mid-day meal programme has been recently announced by the government. The Integrated Health & Nutrition Project will need to fill in some of the gaps (other gaps will be covered by Government of Karnataka's own funds), and to bring about coordination and convergence between the various health and nutrition related schemes at primary care level.

6. The Iodine Deficiency Disorders Control Programme provides iodized salt through out the state.
7. The Vitamin A prophylaxes programme is a component of the National Programme for Control of Blindness. Massive dose of an oily preparation of Vitamin A is given orally to children from 6 months to 6 yearly at 6 monthly intervals through ANMs.

## Goal

Recognising nutrition as a basic determinant of health, to incrementally improve nutritional status of people of Karnataka especially those most vulnerable, by closer integration of nutrition interventions with the primary health care system.

## General objective

During the project period (2002-2007) to develop and implement nutritional interventions particularly for under two children; adolescents, especially girls; and women; and underprivileged social groups such as adivasis, dalits and the urban poor.

## Specific objectives

1. Develop and implement nutrition education and child care strategies in all 27 districts of Karnataka through the four Departments of Health, Women and Child Development, Education and Rural Development & Panchayati Raj, supported by other Departments as an integrated part of health promotion, to positively influence people's knowledge, attitude and practices regarding nutrition, especially use of low cost, locally available foods.
2. Reduce undernutrition of under six children and especially of under twos, by supporting better technical capacity, quality, increased coverage, reach and effectiveness of existing nutrition services, particularly through the Integrated Child Development Scheme (ICDS), with close intersectoral coordination and joint training programmes at different levels. To ensure better access to girls, underprivileged social groups, urban poor and tribal children. Efforts towards institutional strengthening will focus on anganwadis, health sub-centres, primary health centres and women's sanghas. Increased community ownership will be promoted through community empowerment, particularly of women through sanghas and self-help groups.
3. Introduce a special package of nutrition intervention (complementary food) for under two children in the seven classified category C districts ( Bidar, Koppal, Gulbarga, Raichur, Bellary, Bagalkot and Bijapur) and for tribal children.

4. By 2007, reduce iron deficiency anemia by 30 - 50% among children, adolescent girls and women.
5. By 2007, reduce Vitamin A deficiency in children under six years by 50% - 75%.
6. To increase and sustain support to nutrition in Karnataka, through ensuring increased budgetary allocation and by developing technical expertise at State and District level in government institutions through capacity building, continuing education, supportive supervision and monitoring and increasing awareness regarding importance of nutrition in Panchayati Raj Institutions to enhance ownership and governance.

## Strategies

### Strategy 1 - Nutrition Education

1. *Nutrition Education is an integral part of health promotion.* This is a critical strategy for better nutrition and will require close attention from the project management team.

#### Year One: Setting up Framework for Organisational Responsibility - at State & District Levels.

- ◆ The Deputy Director / Joint Director-Nutrition in coordination with the Joint Director, ICDS in WCD; the concerned state officers in the Department of Public Instruction and the RDPR will be jointly responsible and accountable for the Nutrition Education Component in their respective constituencies. These will be the four major participating government departments. \* They will be reporting to the Additional Director- HET (Health Promotion). The nodal officer initiating and facilitating work will be the State Nutrition Officer (JD / DD) in DHFW.
- ◆ *A state level consortium for nutrition education* with approximately 12 members will be set up in the first 3 months functioning within a loose, flexible frame as a Technical advisory body. It will include the Regional Office of Government of India's Food & Nutrition Board, the Karnataka Branch of the Nutrition Society of India, Women's Development Corporation, Mahila Samakhya, VHAK, Medical & Home Science Colleges, NGOs, experts / practitioners and district officers representing the 4 divisions. It will meet every 6 months to advise planning and to review progress.

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\* Other Departments such as Horticulture, Agriculture, Animal Husbandry and Fisheries will be involved as required to support supplies to anganwadis and schools and to promote household / school / village based gardens / fish culture etc.

- ◆ In the 3-4<sup>th</sup> month, responsible persons / organisations from the 4 departments, NGOs, women's groups will be identified in all 27 districts to form *district nutrition bodies*. A state level meeting will be held with district representatives to develop a broad, year wise plan of nutrition education activities for the next 4 years.
- ◆ A specific detailed *plan of action for the first year* will be finalised.
- ◆ A collection / documentation of all the existing nutrition education material available in the state / country will be made and continuously developed as a *resource centre for nutrition education* in the Directorate of Health.
- ◆ Organisations / individuals who have expertise and experience in nutrition and health education / promotion and communication will be short-listed. A selection will be made from among them of an *organisation of competent nutritionists for developing materials and methods* that need to be location specific for the four broad regions of the State.
- ◆ *Workshops will be held, facilitated by the above organisation.*
  - a) to identify thrust areas and specific content of nutrition education for the different regions (broadly 3-4 regions) of the State and for different age groups. District / location specific fine-tuning can be done locally.
  - b) to develop communication strategies using different methods for different content areas.
- ◆ *Training programs* will be planned and conducted to train trainers at state level, and a core group of district trainers in content and use of different methods. Over a two year period a core group well versed in nutrition education will be developed in each district. Focus in the first year will be on the 7 priority northern districts.
- ◆ The state and *district core group of trainers* will be multidisciplinary and interdepartmental. At district level these will be part of the district nutrition body and may include the government District Nutrition Officer / DHEOs / District Health Promotion Officers, District Nursing Officers, ADs / CDPOs from WCD, DDPIs / Principals of DIETs, Saksharata Samitis, NGOs, academics etc.
- ◆ Nutrition education and health promotion will be linked to women's empowerment and community empowerment for leaders involving WCD, WDC, Mahila Samakhya & NGOs.
- ◆ A small group of *mass communication* experts will help to draw up a plan for nutrition education using radio, Doordarshan / private channels and the mass media. The Department of Information and Publicity (State and Central Government ) and Song and Dance Division of Government of India, and nodal persons from the private sector will be involved.



- ◆ Nutrition and health education is person intensive. It will involve:
  - a) group work - through Mahila Sanghas, Yuwati Sanghas, Gram and Ward Panchayats, parents associations etc.
  - b) person to person interactions, implemented on a large scale, so that it will bring about a social shift in food, nutrition and dietary practices. Schools, colleges, sub- centers and health centres, PRI institutions will be the institutions through which this education for better health and nutrition can occur. The nutrition and dietetics / practical component in the curriculum of training of teachers, health staff, WCD staff and panchayat members will have to be reviewed and modifications made. A professional group may be entrusted with this task in the first 4 months. After a 3 month study their recommendations for each specific group will be considered and implemented.
- *Studies regarding* traditional knowledge regarding nutrition and local food practices, besides area specific needs assessment will be carried out.
- *By the end of year one district plans* to cover the different groups are to be developed.
- *Detailed plans for years 2-5*, will be evolved by the 10<sup>th</sup> month of the previous year, following the objectives and principles of the project and guided by the groups that have been set up.
- *The experience and expertise* of voluntary agencies involved in nutrition education will be availed of.

**Strategy 2 – To support technical capacity, quality, coverage and effectiveness of nutrition services for under six children, particularly under -twos, through the ICDS, ensuring access to girls, urban poor, tribal and under privileged social groups.**

*Broad principles for action*

1. Increase coverage of under -twos by the ICDS. House to house surveys conducted by Anganwadi Workers will identify under-tuos.
2. Increase coverage of children through increased projects / anganwadis especially in urban poor areas and among under privileged social groups. Mapping of Anganwadis and identification of areas requiring additional centres to be undertaken as a pre-project activity.
3. Increase capacity for nutrition and health education of ICDS Supervisors (1861 sanctioned posts), supported by CDPOs, ANMs & PHCs through training and capacity building.
4. Increase participation of ANMs in referral services, organising health checkups, home visits, nutrition and health education. Organising fixed day visits to Anganwadis for health checks and Health Education for groups of mothers.
5. Increasing early diagnosis and treatment of infections and illnesses of under six children at the PHC.

6. a. Increasing community participation by developing Anganwadi Workers skills in communication and promotion of community participation.
- b. Community mobilization by greater involvement of mahila mandals and self help groups to enhance ownership. Participation is the programme as an empowering process.
7. Improving caring of under - two (with gender and age sensitivity), with a focus on psychosocial development, through supporting parenting. (using experience and material from UNICEF and the parenting network from Tamil Nadu)
8. Conducting joint training programmes for ANMs, AWWs, Supervisors.
9. Joint-Planning, mobilisation and orientation programmes at cluster, taluk, district and state levels.
10. Food, nutrition, health, childcare, pre school education components to be shared / communicated through a quarterly or six monthly newsletter for Anganwadi workers.
11. Ensuring supply of growth charts, nutrition education material, food, fuel, firewood, registers, equipment etc. The ICDS allocation by Centre and State may be supplemented by the project to meet specific gaps after prior permission.
12. Training manuals in the local language that are focussed on region specific food habits and options.

#### *Pre-project Activities*

1. Vacancies of Anganwadi workers, helpers and supervisors to be filled up.
2. DHFW to identify / appoint District Nutrition officers or nodal officers incharge of nutrition. Their job responsibilities will need to be developed, especially for training of (Doctors, LHV's, CDPOs, Supervisors, ANMs, AWWs, Panchayat members), Supervision and Monitoring. Their administrative and financial powers will need to be delineated and relationship to other district level officers.  
Selected Directorate Staff may be deputed for training at National Institute of Nutrition (NIN, Hyderabad). Ensuring continuation and further strengthening of nutrition expertise in the Department.
3. Purchase and calibration of weighing scales at Anganwadis to be undertaken. (WCD). Weighing accuracy of  $\pm 100$  g. to be ensured.
4. Nutrition content of all training programmes to be reviewed by JD (Nutrition), DHFW.
5. Linkages to be established with WCD, other departments / groups dealing with nutrition. Meet every 2 months to discuss evolution proposed.
6. Review of nutrition recording and growth monitoring systems. Periodicity of weighing children to be every three months, rather than every month. Staff from academic institutions to be involved in growth monitoring.
7. Massive health awareness programmes through a series of Kalajathas and mobile exhibitions to build up the community involvement and stake in the programmes.

### Strategy 3 - Interventions to reduce iron deficiency anemia.

The following components need to be integrated into action points at different levels.

	Component	Operationalisation
1	Delayed ligation of umbilical cord till it stops pulsating	1 To be emphasized in training of dais (TBAs), ANMs, LHV's, nurses and doctors
2	Exclusive breast feeding for 6 months Iron supplementation for 6-18 months Iron for low birth weight babies for 2-18 months	2 To be introduced in training Supplementation through RCH
3	Promote iron rich food (drumstick leaves and jaggery, flesh food) Use enhancers that increase iron absorption eg. Vitamin C in limes / amla. Reduce inhibitors that decrease iron absorption e.g. phytates and tannin as in tea, coffee. Fermented food (idlis) increase absorption.	3 Health Promotion through AWWs, ANMs, TBAs for dietary change to prevent the "hidden hunger" of iron deficiency anemia.
4	Helminth control by 6 monthly or annual anti helminthic treatment for children.  Also sanitation and footwear	4 Through Anganwadis and schools - provision of albendazole through RCH, PHC drug supply and through the project.  Through the integrated water supply and sanitation project community and women's empowerment.
5	Early diagnosis and treatment of malaria, opportunistic infections with HIV / AIDS and chronic infections which increase anemia.	5 Training of PHC doctors and regular drug supplies.
6	Universal supplementation (weekly iron 200 mg of Ferrous Fumarate) for adolescent girls (10 - 19 years). Adolescents form 21% of the total population in India (2000), with adolescent girls forming 10.5%.	6 (a) In schools and colleges through Department of Education (b) for out of school girls through Sanghas, WCD, Mahila Samakhya, WDC and NGOs.

7	Certain contraceptives like IUD increase bleeding	7	Change of contraceptive and iron supplementation.
8	Special attention to nutrition of the girl child and women. There is need for adequate dietary protein for the globin component of hemoglobin	8	Nutrition and Health Education through the ICDS, schools and families.

In summary, the operational strategies to combat iron deficiency anemia are:

- a) Adequate coverage of anemia through in-service training of all health personnel as it is a problem of public health magnitude.
- b) Repeated coverage in health promotion.
- c) Provision for iron supplementation for under twos, adolescent girls, pregnant and lactating mothers, and non-pregnant anemia women, anemic boys / men.
- d) Provision for anti helmenthics - through ICDS, schools, PHCs. (integrated, with one agency, the Department of Health being responsible to avoid overlap and deficiencies.
- e) Monitoring levels of anemia through surveys and regular hemoglobin testing at PHCs. to check if anemia levels are declining.

#### Strategy 4

Special package of nutrition interventions (complementary food) for under-two children in the seven category C districts. (Bidar, Koppal, Gulbarga, Raichur, Bellary, Bagalkot and Bijapur) and for tribal children.

#### Concept

An external intervention is being made by the state, in a responsibility that is fundamentally of the family. This is in order to correct the prevailing situation of high levels of undernutrition, which is detrimental to the physical and mental growth of the child, with life long effects. Undernutrition also adversely affects the family and community well being and productivity. This intervention is not of a permanent nature, and is secondary to the more important one of nutrition and health promotion, of which it is an integral part. It is also a response to the adverse economic circumstances that many households currently face.

The Principles outlined below, will be discussed with project managers and implementers during the training.

- a) This supplementary feeding programme is not a charity or dole, but an attempt *to fill a gap in nutritional requirements. It is not a replacement* of the food that needs to be given by the family. The development approach of encouraging self reliance, self sufficiency, and responsibility will be used. Every effort will be made to ensure that families, implementors, decision makers, administrators and politicians do not view or project this as merely a food distribution programme.

- b) The *educational aspect of the activity* will be emphasised, by demonstrating to mothers and families the importance of and methods to reach optimal growth of children. It will reinforce to mothers and families their role in providing an adequate diet and care for growing children. Dependence will not be created.
- c) It will be a *centre based programme*. Workers will not provide food supplements at people's homes.
- d) *Cooked food* will be made available, using local familiar foods that are palatable to children and providing adequate variety. These are foods that can also be prepared by mothers at home.

#### Other directional points

- a) *Good food hygiene* will be maintained by the food handlers, with utmost care in the handling of raw and cooked food and cleanliness in the cooking process. This will be repeatedly stressed during the training and supervision of anganwadi helpers and workers, along with the need to maintain good personal hygiene. This is to avoid food borne diseases.
- b) *Periodic checks* and regular objective monitoring of the food distribution, consumption and growth of children will be made by Supervisors, ANMs, taluk and district level staff. Growth of the children will be discussed with the mothers.
- c) *Sharing sessions* about the nutrition and child care programme will be held among peer workers to share problems, solutions, innovative approaches, successes etc.
- d) *The number of children per worker* will not exceed the norm.

#### Nutritional requirements of under-tuos

Exclusive breast feeding is the best for the baby till six months. After six months the baby is gradually weaned with the addition of supplementary / complementary foods, though breast feeding may continue upto two years. In practice the quantity and quality of supplementary food is often inadequate to meet the nutritional requirements. The baby at that age does not demand food and dietary inadequacy results in stunted growth. The supplementary food should be soft, palatable, tasty and acceptable. Feeding is to be an enjoyable experience for the child.

The recommended daily nutrient requirements of children are

<u>Age</u>	<u>Calories</u>	<u>Proteins (gms)</u>
6 - 12 months } 1 - 3 years }	900 - 1240	15 - 22

[Ref: NIN, 1991, RDA for Indians, in Nutritive Value of Indian Foods]

Supplementary food should provide 220 - 300 calories and 4 - 5 grams of protein per day. This will be made available through a combination of the following foods:

Cereal	-	0 - 40 gm
Greengram dhal	-	10 - 15 gm
Jaggery	-	20 gm
Nuts	-	5 gm (for older children)
Oil	-	10 gm

For younger children the consistency of food is like porridge, with a transition to solids over a period of time. Mothers will feed the infants until they can feed themselves.

The different preparations suggested are:

- a) Rice-based: (1) Kitchidi  
(2) Pongal  
(3) Vegetable bath  
(4) Rice and Greens bath  
(5) Rice butter milk  
(6) Rice dhal mix with sprouted gram
  
- b) Wheat based: (1) Rava Kichidi  
(2) Dhalia Porridge with milk  
(3) Vegetable bath  
(4) Chappathi with methi leaves  
(5) Wheat / Gram Undai  
(6) Roti with dhal
  
- c) Ragi-based: (1) Ragi with Jaggery kungi  
(2) Ragi Muddhe with leafy veg dhal  
(3) Ragi Ambali / with milk  
(4) Ragi laddu  
(5) Ragi and wheat flour roti with tomato  
(6) Ragi Bengal gram Porridge.

These could be used in different taluks and districts to suit local preferences.

Community participation will be actively encouraged through the anganwadi workers, who will be prepared for this in their training. Mothers and families will be encouraged to bring vegetables / any additions to enhance flavour, taste, content. They could also assist the AWW in specific activities (cutting, cooking, feeding) through rota systems.

There will be fixed time on fixed days for group health education. The anganwadi worker will also fix a time to discuss the progress of each child with the parents once in every month. The participation of fathers in these meetings will be encouraged. Special attention will be given to the feeding and care of girl children. The anganwadi workers will develop their Plan of Action on an annual basis, with specific details about children, dates etc, with the support and guidance of their supervisors and CDPOs.

### Strategy 5 - Reduction in Vitamin A deficiency.

Despite the National Prophylaxes Programme for Prevention of Blindness due to Vitamin A deficiency, this continues to be a problem of public health significance in Karnataka. It is increasingly recognised that Vitamin A deficiency besides causing effects on the eye, also increases morbidity and mortality in children. Vitamin A is anti-infective. Preventive measures will be taken through sub centres, primary health centres and anganwadis. Urban poor children will need to be reached through existing and additional channels.

1. *Health Promotion* regarding consumption of food rich in Vitamin A and beta - carotene ( a precursor of Vitamin A) such as green leafy vegetables, yellow and orange vegetables and fruits like pumpkin, carrots, papaya, mango, oranges and where feasible milk, cheese, paneer, yoghurt, ghee, eggs, liver. Growing of these foods in home, anganwadi and school gardens to be encouraged. Help to be sought from Department of Horticulture.

Promotion of breast feeding, including colostrum, which among other beneficial effects, also protects against Vitamin A deficiency.

This will be an integral part of the health promotion strategy.

2. *Periodic prophylactic massive dose of Vitamin A*

Every infant 6 - 11 months and children 1 - 5 years to be administered Vitamin A orally every 6 months.

The recommended schedule is:

- a) 6 - 11 months - one dose of 100,000 IU
- b) 1 - 5 years - 200,000 IU every six months.

A child receives totally 9 oral doses of Vitamin A by its fifth birthday. This is to be entered into the child's growth card.

The first dose can be administered along with the measles vaccine, the second dose with the DPT / OPV booster in mid second year. The remaining doses through the anganwadi for the 28 lakh children covered by it. The remaining children to be covered by the ANM. Urban poor children will need to be reached through the Municipal Corporation bodies by the end of year one and where possible, before the project.

This project will cover gaps that are not met by the RCH programme.

### Strategy 6 - Increase Technical expertise in nutrition at state, district and sub district levels and increase budgetary allocations for nutrition from Government of Karnataka and other sources.

- a) Appointment of *District Nutrition Officers / or nodal officer in charge of nutrition (preferably lady).*

They will be nutrition specialists or health personnel with special training in nutrition. They will be responsible for implementation of the nutrition component of the DHFW including the project. They will organise or facilitate all district level nutrition training programmes. They will ensure adequate competence in the theory and practice of nutrition among CDPOs, district and taluk health programme officers, supervisors, AWWs, Senior and Junior Health Assistants. S/he will also oversee nutrition assessment and monitoring.

b) *Training Programme in Nutrition*

1. *District Nutrition Officers*

The District Nutrition Officers may be given training as follows:

First year: 2 weeks in collaboration between Health Services and WCD

1 week at the Institute / Centre : 27 x 1 week

1 week in the field : 27 x 1 week

Thereafter, 2 days annually.

2 days at Institute / centre

with field demonstration : 27 x 2 days

Guest faculty drawn from institutions

Organised by J.D / D.D nutrition with help from WCD.

There is need for residential accommodation with food.

2. District Assistant Directors / State Officials

2 days in a year : 35 x 2 days

Guest faculty drawn from institutions

Organised by J.D / D.D nutrition with help from WCD.

Need for accommodation with food.

3. Upgradation of functioning of Anganwadi Training Centres and NIPCCD.

27 ATCs – NIPCCD. Where? How long?

Guest faculty.

4. CDPOs, Supervisors, ACDPOs

CDPOs

? Supervisors

ACDPOs

Batches of 20 for 2 days each.

Organised by District Nutrition Officers.

Accommodation

5. Anganwadi Workers

AWWs are given 3 months orientation training when newly recruited, at 27 Anganwadi Training Centres (AWTCs). It is necessary to have refresher courses of 3 days once in 2 years.

AWWs (40, 170) : 25 batches of 30 each x 27 centres x 3 days. Need for accommodation with food.

c. *Ensuring Nutrition Competence*

The project will generate enthusiasm for Nutrition in Karnataka, to achieve significant reduction in infant and child mortality over the next five years.

The following workshops are to improve understanding of nutrition concepts and strategies and to increase ownership and effectiveness and ownership of programmes.



i. Sensitization workshops for decision makers and Political leaders, Panchayats. Period - One day for Officers, Panchayats (One Workshop in every Taluk and at District level). And repeated every year. Similar event will be organised for the media separately.

d. *Mobility support for ICDS Staff*

Since the ICDS Supervisors and CDPOs will be involved in the Projects new components, there would be additional travel for organising and supervising the proposed activities. Hence mobility support is essential. This would involve hiring of vehicles and where required major repairs of existing ICDS vehicles.

e. *Project and finance managers will need to protect, increase and sustain budget allocation for nutrition.*

They could approach other schemes and public sources for additional funding. This is a tangible area where private individuals, trusts and organisations would be willing to put their funds. Project managers would need to champion the cause for nutrition and attract funding. They would also need to ensure timely utilisation with accountability.

# IMPROVING NUTRITION STATUS

## SUMMARY OF INPUTS AND INTERVENTIONS FROM DIFFERENT SOURCES

Objective	Ongoing Programmes Interventions	HNP Component
1. Nutrition Education as part of health promotion	ICDS through WCD INP through WCD (Proposal stage for 4 districts)	<ol style="list-style-type: none"> <li>1. State Nutrition Officer.</li> <li>2. State level consortium on nutrition education.</li> <li>3. District level nutrition bodies.</li> <li>4. Core group of trainers - state and district.</li> <li>5. Training of trainers. workshops.</li> <li>6. Development of nutrition education material.</li> <li>7. Mass communication strategy.</li> <li>8. Resource centre for nutrition education.</li> <li>9. Partnerships.</li> <li>10. Studies.</li> </ol>
2. Reduce under nutrition of under six children and particularly of under twos.	ICDS, BDCS, INP	<ol style="list-style-type: none"> <li>1. Surveys by AWWs to identify under 2s.</li> <li>2. Increased coverage / projects / AWWs for urban and rural poor coverage. Mapping AWWs / areas covered.</li> <li>3. Training of ICDS Supervisors, CDPOs, ANMs, PHC staff, Joint training.</li> <li>4. Health checkups / referrals / education fixed day visits. Early diagnosis and treatment.</li> <li>5. Training on psychosocial development and parenting.</li> <li>6. Community Mobilisation.</li> </ol>

3. Special package for under 2s in 7 category C districts (Bidar, Koppal, Gulbarga, Raichur, Bellary, Bagalkot, Bijapur) and tribal children.	ICDS	1. Complementary food programme using locally available food involving women's sangha's / SHGS with intense nutrition education. 2. Survey and monitoring.
4. Reduction of iron deficiency anemia.	RCH - IFA for pregnant, lactating mothers.	1. Iron supplementation for adolescent girls, non pregnant women, anemic boys and men. 2. Anthelmenthics - AWs, schools. 3. Health promotion
5. Reduction of Vitamin A deficiency.	Vitamin A prophylaxis programmes of National Programme for Control of Blindness	1. Vitamin A supply to meet gaps. 2. Health promotion
6.a) Ensure adequate budgetary allocation to nutrition. 6.b) Develop technical expertise in nutrition.	a) JD, Nutrition, DHFW. b) ICDS	a) DHFW to take responsibility for adequate sustained financial support from GOK. b) State and district nutrition officers in DHFW. c) Training at different levels of Health and WCD staff for increased nutrition competence. d) Sensitization workshops.

## ASSUMPTIONS AND RISKS

1. Food and nutrition being an intersectoral issue, it is assumed that different departments will collaborate, coordinate and work together at different levels (namely at 1685 PHCs, 175 taluk, 27 districts and state).

The risk is that any officers at these 1887 nodal points may due to personal inadequacies, interpersonal reasons, or for maintaining turf or other reasons, not work in collaboration. The leadership will have to be strong and lead by example.

2. It is assumed that the complexities of improving nutrition status will be understood, and that it will not be reduced to a food distribution programme with a few messages thrown in.

3. It is assumed that the Department of Health will take greater responsibility for nutrition, which it has not done in the past. If departmental and project leadership are not pro-active, this objective and strategy will not work.
4. It is assumed that in the pre project period steps will be taken to identify and put in place a state nutrition officer and to appoint or send for training district nutrition officers. The risk is that there will be a frequent turn over of district officers and if officers are put in-charge and are not regular. The state and district officers will need adequate administrative and financial powers.
5. It is assumed that logistic arrangements for supplies will function with regularity, with minimal political interference and corruption.
6. Supervisory systems, if not functioning, will be a risk.