*Project Report*

# PROGRAMME FOR MATERNAL AND CHILD HEALTH CARE SERVICES IN A DISTRICT


*GROUP C*

Dr.(Mrs.) Rahmathullah, V.
Dr. Mahanti, N.B.
Dr. Dwivedi, Nagesh
Dr. Dara S. Amar
Sri Vazir Ahmed
Sri Gupta, R.K.

*Resource Persons:*

Prof. Ramaiah, T.J.
Mr. Bhatia, P.S.



First Training Course in PERT/CPM Technology from 4th October to 25th October, 1979 at National Institute of Health and Family Welfare, New Delhi-110067.

## PLANNING FOR MATERNAL & CHILD HEALTH SERVICES AT DISTRICT LEVEL

Introduction:

The district described is an average medium sized district in any state. It is 3874 sq. K.M. with a population of 13,60,800 as on 1978. The population forms 11% of the state population and 8.8% of the area of the state. 82% of the population are rural (111586) distributed over 459 villages. Literacy rate of the district is 29.6%.

From the description of the district, it appears to be a predominently agricultural society but not too backward in terms of agricultural development. It also appears that while there are 7 towns or municipalities, they do not have large industries in view of the population division as inferred.

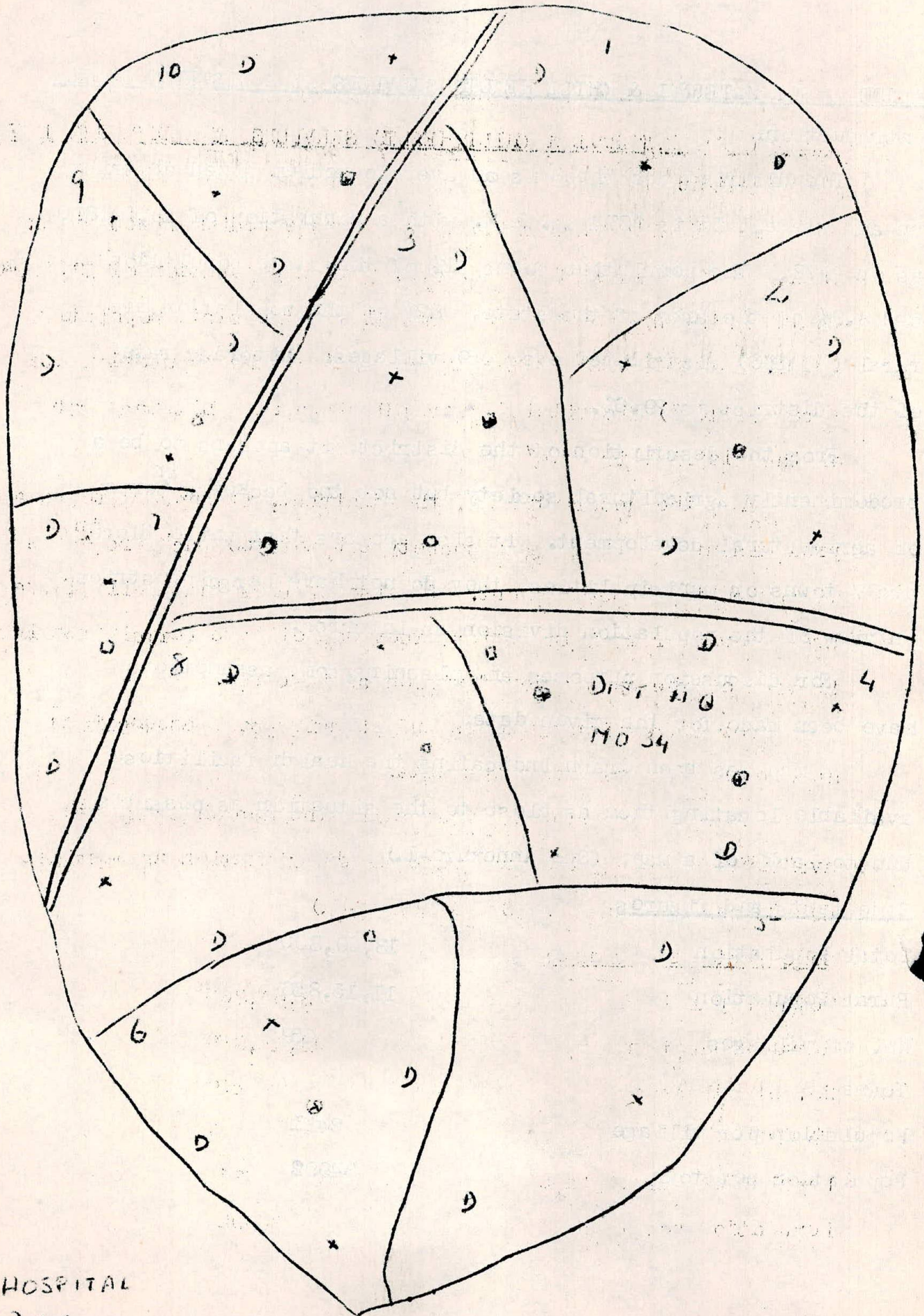
For discussion purposes and planning, some assumptions have been made for the given data.

A map has been drawn indicating the health facilities available locating them as close to the situation as possible due to lack of a map. (See Annexure-I.)

Some facts and figures

| | |
|---|---|
| Total Population | 13,60,800 |
| Rural Population | 11,15,856 |
| No. of villages | 459 |
| Towns | 7 |
| Population per village | 2431 |
| Population per town | 34992 |

# MAP OF THE DISTRICT




⊕ HOSPITAL
× PHC
○ Maternity Center

At 140 Eligible couples per 1000 population.
(In view of the B.R. being 27.1/1000).

E C in the district 1,90512

No. of deliveries that took place - 1978

36,878 Live Births

Total No. of Pregnancy is

No. of Institution deliveries 1085

| | |
|---|---|
| Rural | 651 |
| Urban | 434 |
| Total | 1085 |

of the 36,878 deliveries, only 2.9% took place in institution.

No. of Children under 5 years (18%) of the population 244944

Children under 1 year (3%) 47628

Ratio of Health Personnel in the district

| | |
|---|---|
| Dr. to population | 1:14791 |
| Nurse to population | 1:36778 |
| ANM to population | 1:9516 |
| Indigenous Practioner to population | 1:3480 |
| Vaids to population | 1:18389 |

Taking into consideration the no. of PHC and the staffing pattern of the PHC they appear to be adequatlystaffed as per the prescribed pattern. If the doctor population ratio is seen, it is not a very backward district. However, if the ratio of

Indigenous practitioner are taken into consideration it appears the district population is mainly dependent on the indigenous practitioners for their health services and not on Vaid or the Doctor. This indicates that the district is moving towards modern medicine in term of curative services. Two things could be inferred from this.

i) The medical services are not catering to the felt needs of the society and hence the people are dependent on indigenous practitioners.

ii) Alternatively the medical services have made no effort to orientate their services to the demands of the society, which is difficult to do, nor have they made efforts to create a demand for the services that the institution can provide in the health sector. Hence it is fair to infer that there is a communication gap between the health sector and the people. This is borne out by the poor performance in Maternal & Child Care.

Justification for the Programme As per data given the following indices have been calculated.

| | | |
|---|---|---|
| (1) | Immunisation Status of children under 5 years | 4% |
| (2) | Institutional Deliveries | 2.9% |
| (3) | Mothers protected against Tetanus | 8.9% |
| (4) | Anaemia among mothers detected | 50% |
| (5) | Protection against Vit. A deficiencies | 7.03% |
| (6) | Post Natal services only available at the District Hospital | |

Objectives of the Programme

| | | |
|---|---|---|
| (1) | To increase Registration of AN cases upto | 95% |
| (2) | Increase supervised deliveries upto | 50% |
| (3) | Post Natal Care | 95% |
| (4) | Raise Immunisation status of Preg. Mothers | 90% |
| (5) | Improve immunisation of children upto | 90% |
| (6) | Improve distribution of IFA | 90% |
| (7) | Increase coverage with Vit. A Conc. | 60% |

Methodology:

The programme has been divided into 2 components.

a) Preparation for the launching of the programme

b) The service component.

Preparatory Phase of the programme:-

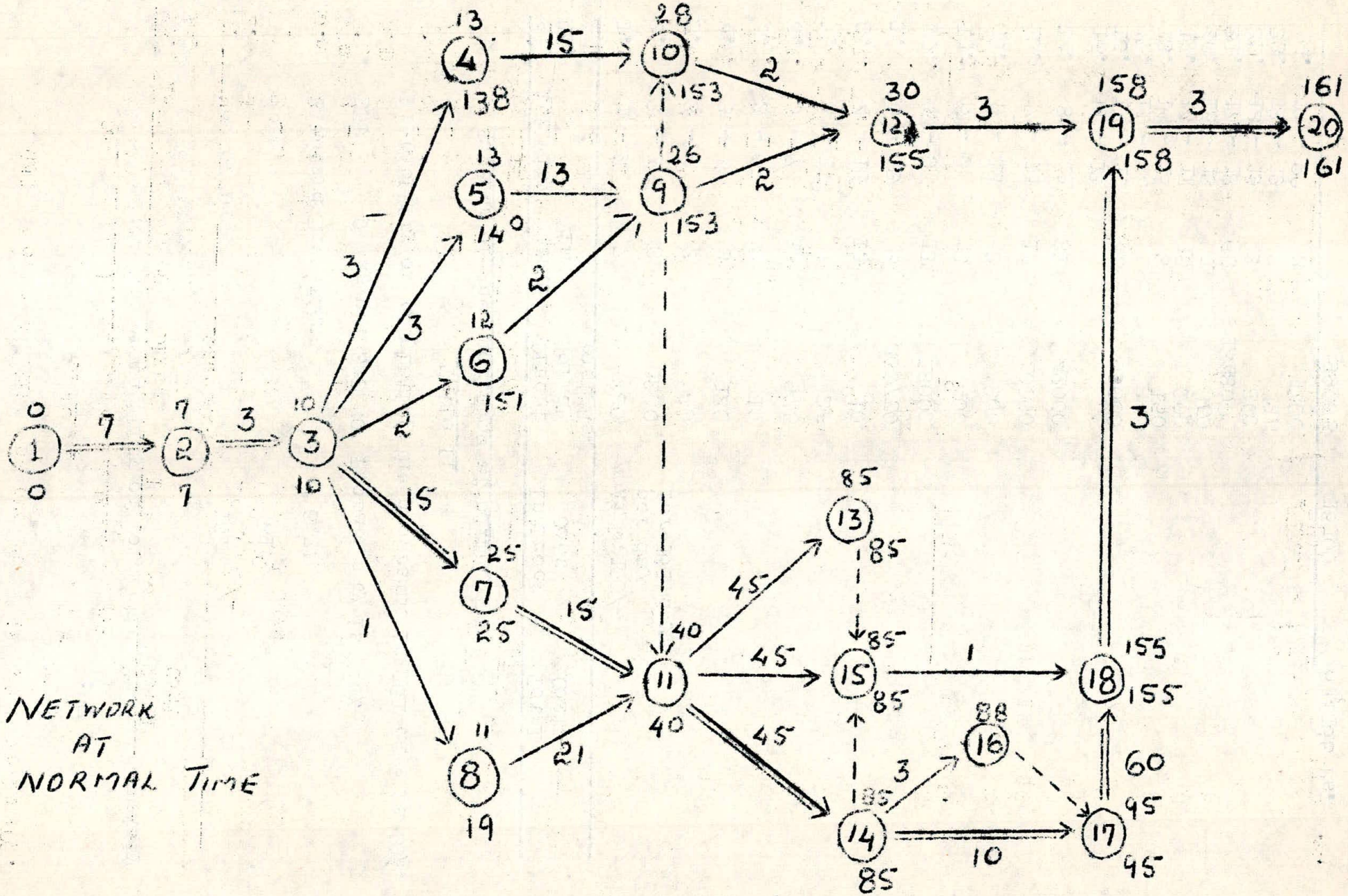
In view of the fact that the services are available but not availed of by the people it was felt that there is need for a campaign to prepare the community as well as make efforts to see that the demands that arise out of it are fully met.

The preparatory phase extends over 150 days, for which the net work and details are given below.

Table I

Activities with Normal Time Estimate

| S. No. | PE | SE | Activity | Time $t_o$ | $t_m$ | $t_p$ | $t_e$ |
|---|---|---|---|---|---|---|---|
| 1. | 1 | 2 | Estimate Households and Population per PHC | 3 | 7 | 10 | 7 |
| 2. | 2 | 3 | Hold staff meeting to discuss plans | 2 | 3 | 5 | 3 |
| 3. | 3 | 4 | Estimate supplies of Vit. Vacc. IFA | 2 | 3 | 5 | 3 |
| 4. | 3 | 5 | Plan format/Records for Registers | 2 | 3 | 5 | 3 |
| 5. | 3 | 6 | Procure vehicle | 1 | 2 | 3 | 2 |
| 6. | 3 | 7 | Plan publicity and Health Education strategy | 10 | 15 | 20 | 15 |
| 7. | 3 | 8 | Plan supervision of LHV etc. | 1 | 1 | 2 | 1 |
| 8. | 4 | 10 | Order supplies | 10 | 15 | 20 | 15 |
| 9. | 5 | 9 | Print record | 7 | 12 | 20 | 13 |
| 10. | 6 | 9 | Deploy Vehicle/Driver | 1 | 2 | 3 | 2 |
| 11. | 7 | 11 | Preparation of publicity Material | 10 | 15 | 20 | 15 |
| 12. | 8 | 11 | Deploy supervisors to field | 15 | 20 | 30 | 11 |
| 13. | 9 | 12 | Procure Records Registers etc. | 1 | 2 | 3 | 2 |
| 14. | 10 | 12 | Procure supplies | 1 | 2 | 3 | 2 |
| 15. | 11 | 13 | Health Education of mothers and identification of Exp. mothers | 30 | 45 | 60 | 45 |
| 16. | 11 | 15 | Execute publicity | 30 | 45 | 60 | 45 |
| 17. | 11 | 14 | Motivate local leader | 30 | 45 | 60 | 45 |
| 18. | 14 | 16 | Identification of local Dais | 2 | 3 | 5 | 3 |
| 19. | 14 | 17 | Prepare training programme for Dais | 7 | 10 | 15 | 10 |
| 20. | 15 | 18 | Evaluate Response | 1 | 1 | 2 | 1 |
| 21. | 17 | 18 | Training of Dais | 50 | 60 | 70 | 60 |
| 22. | 18 | 19 | Prepare operational plan | 2 | 3 | 5 | 3 |
| 23. | 12 | 19 | Distribute supplies | 2 | 3 | 5 | 3 |
| 24. | 19 | 20 | Brief staff and position | 2 | 3 | 5 | 3 |


NETWORK
AT
NORMAL TIME

To calculate the probability of completing the preparatory phase in 161 days

No. of Days 161

Mean 161

Standard Deviation 6.75

SND 0 As per SND 0 Probability is 50%

Probability of completing the programme in 161 days is 50%.

Table II

Costing of the programme at normal time

| Sr. No. | Activity | Normal Time | Direct Normal cost Rs. | Indirect Cost | Total Cost |
|---|---|---|---|---|---|
| 1. | 1 - 2 | 7 | 280 | At Rs. 100/- per day for 161 days | |
| 2. | 2 - 3 | 3 | 1200 | | |
| 3. | 3 - 4 | 3 | 60 | | |
| 4. | 3 - 5 | 3 | 120 | | |
| 5. | 3 - 6 | 2 | 10 | | |
| 6. | 3 - 7 | 15 | 975 | | |
| 7. | 3 - 8 | 1 | 25 | | |
| 8. | 4 - 10 | 15 | 10 | | |
| 9. | 10 - 12 | 2 | 260750 | | |
| 10. | 5 - 9 | 13 | 18000 | | |
| 11. | 6 - 9 | 2 | 400 | | |
| 12. | 9 - 12 | 2 | 200 | | |
| 13. | 7 - 11 | 15 | 50000 | | |
| 14. | 8 - 11 | 21 | 42000 | | |
| 15. | 11 - 13 | 45 | 99000 | | |
| 16. | 11 - 14 | | | | |
| 17. | 11 - 15 | | | | |
| 18. | 14 - 16 | 3 | 160 | | |
| 19. | 14 - 17 | 10 | 200 | | |
| 20. | 15 - 18 | 1 | 60 | | |
| 21. | 17 - 18 | 60 | 124800 | | |
| 22. | 12 - 19 | 3 | 800 | | |
| 23. | 18 - 19 | 3 | 25 | | |
| 24. | 19 - 20 | 3 | 1200 | | |
| | | | 599065 | 16100 | 615165 Rs. |

tion
To estimate optimum dura/ at optimum cost
(Critical Path has been ticked)

| Sr. No. | Activity | Nomtal Time | Normal Cost | Crash Time | Crash Cost | Cost Slope |
|---|---|---|---|---|---|---|
| ✓1. | 1 - 2 | 7 | 280 | 3 | 120 | - 40 |
| ✓2. | 2 - 3 | 3 | 1200 | 2 | 800 | - 400 |
| 3. | 3 - 4 | 3 | 60 | 3 | 60 | |
| 4. | 3 - 5 | 3 | 120 | 3 | 120 | |
| 5. | 3 - 6 | 2 | 10 | 2 | 10 | |
| ✓6. | 3 - 7 | 15 | 975 | 10 | 650 | - 65 |
| 7. | 3 - 8 | 1 | 25 | 1 | 25 | |
| 8. | 4 - 10 | 15 | 10 | 5 | 10 | |
| 9. | 10 - 12 | 2 | 260750 | 2 | 260750 | |
| 10. | 5 - 9 | 13 | 18000 | 13 | 18000 | |
| 11. | 6 - 9 | 2 | 400 | 2 | 400 | |
| 12. | 9 - 12 | 2 | 200 | 2 | 200 | |
| ✓13. | 7 - 11 | 15 | 50000 | 10 | 50000 | 0 |
| 14. | 8 - 11 | 21 | 42000 | 21 | 42000 | |
| 15. | 11 - 13 ) | | | | | |
| ✓16. | 11 - 14 ) | 45 | 99000 | 30 | 109000 | - 667 |
| 17. | 11 - 15 ) | | | | | |
| ✓18. | 14 - 17 | 10 | 200 | 10 | 200 | 0 |
| 19. | 15 - 18 | 1 | 50 | 1 | 50 | |
| ✓20. | 17 - 18 | 60 | 124800 | 60 | 124800 | 0 |
| 21. | 12 - 19 | 3 | 800 | 3 | 800 | |
| ✓22. | 18 - 19 | 3 | 25 | 2 | 25 | 0 |
| ✓23. | 19 - 20 | 3 | 1200 | 2 | 800 | - 400 |
| | | | 599065 | | | |
| | Indirect Cost | | 161000 | | | |
| | | | 615165 | | | |

Table IV

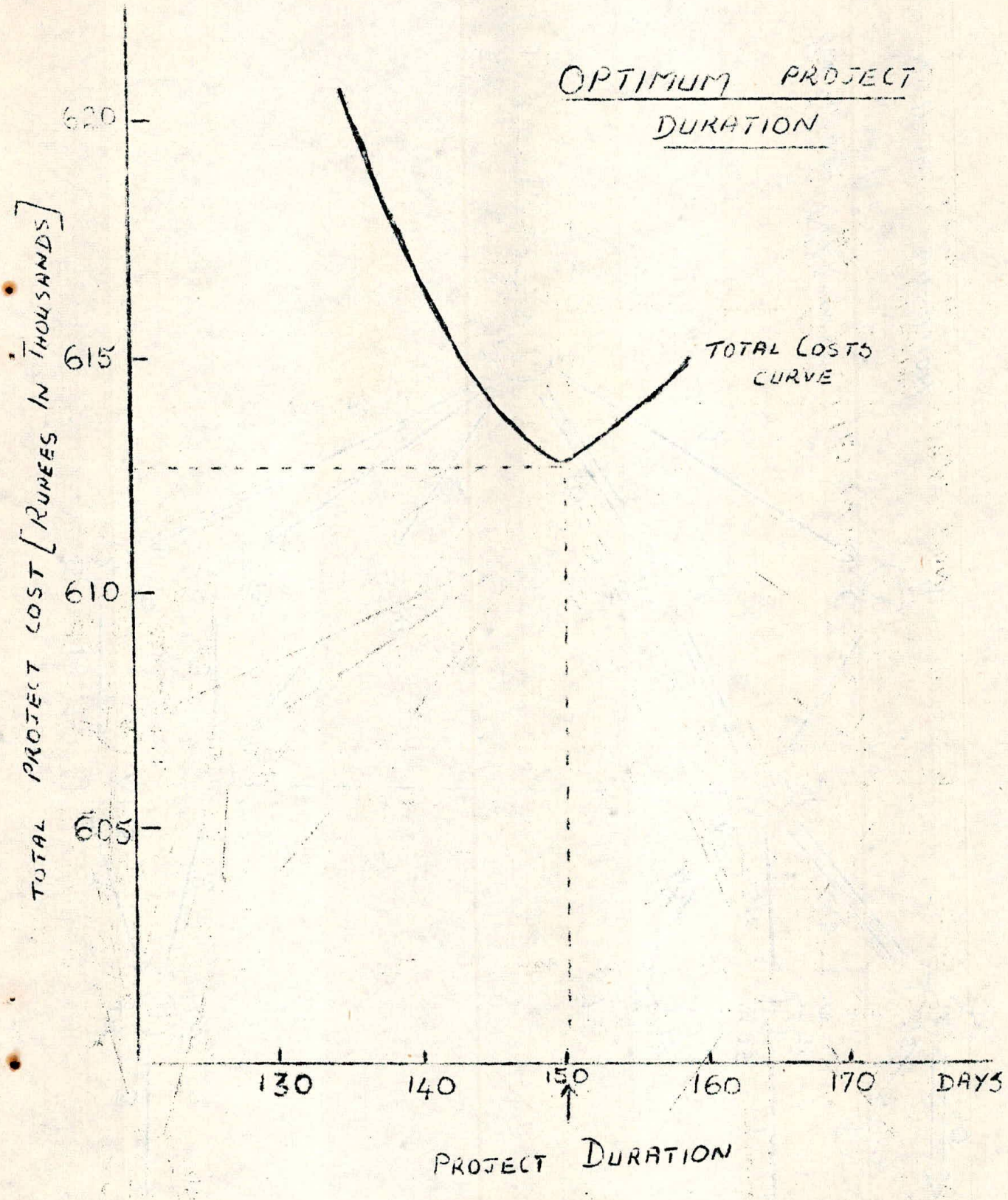
Project Costs and Time - Normal and Crash

| Activities | Normal Time | Crash Time | Project duration | Direct cost | Indirect cost | Total |
|---|---|---|---|---|---|---|
| | | | 161 | 599065 | 16,100 | 615165 |
| 2 - 3 | 3 | 2 | 160 | 598665 | 16,000 | 614665 |
| 19 - 20 | 3 | 2 | 159 | 598265 | 15900 | 614165 |
| 3 - 7 | 15 | 10 | 154 | 597940 | 15400 | 613340 |
| 1 - 2 | 7 | 3 | 150 | 597780 | 15000 | 612780 |
| 11 - 14 | 45 | 30 | 135 | 607785 | 13500 | 621285 |

Refer (i) Total Cost Curve and Optimum Duration estimation

(ii) Revised Network for Project ending at Optimum duration

If the project duration is intended to be completed with 90% probability then the duration ought to be 158 days. However, the optimum duration of 150 days will give a probability of 50% only.


OPTIMUM PROJECT DURATION
TOTAL COSTS CURVE
TOTAL PROJECT COST [RUPEES IN THOUSANDS]
620
615
610
605
130
140
150
160
170
DAYS
PROJECT DURATION

REVISED NETWORK AT OPTIMUM DURATION

Costing Refer to Squared Network for details

Table V

Costing of the Preparation Phase

| Month | Cost as per early start | | Cost as per late start | |
|---|---|---|---|---|
| | Monthly | Cumulative | Months | Cumulative |
| 1st month | 178162 | 178162 | 91785 | 91785 |
| 2nd month | 66000 | 244162 | 66000 | 157785 |
| 3rd month | 96850 | 340012 | 95650 | 253435 |
| 4th month | 62400 | 402412 | 62400 | 315835 |
| 5th month | 825 | 403237 | 87402 | 403237 |

Note:- The Cost of Drugs procured have been distributed over 4 quarters and only cost of drugs for 3 months have been included in the preparatory phase so as to obtain and position drugs at the start of the project.

Phase II of the programme - The service component starts at this stage. The service component has been planned at the PHC level.

Population per Block is 1,25000. However out of 10 blocks 6 have 2 PHC.

Approx., 1 PHC covers 85050 population MCH services are mainly the responsibility of the ANM with supporting services from the PHC Medical Officer, Lady Health Visitors. The following calculation has been made to estimate the work load of 1 ANM.

Population covered by 1 ANM 7087

Population per village = 2362
i.e. No. of families per village 472 families
Area covered by ANM = 22.50 Sq. K.M.( 5 K.M. x 4.5 K.M)
= (of which 4 K.M. are surface road)

Since the ANM has to cover 3 villages her weekly work schedule has been so organised so as to give her 3 days field visits and 3 days at the sub centre, which in practice will lead to one visit per village per week. To facilitate work - the village is divided into 5 sectors, with approximatly a little less than 100 families per sector. On the first visit to the village the ANM should organise a village committee with 2 members from each sector, one male and one female. However before finalising the committee a meeting of the village elders has to be organised. This should be easy as the preparatory phase campaign was worked through opinion leaders in the community. At the meeting, the elders should be asked to identify one male and one female at the sector who will co-operate and co-ordinate the worked of the ANM and the village community. Once the sectoral leaders are identified a meeting of the 5 sectoral leaders are to be held and the following points discussed. (It is expected that the response to participation would be forth coming due to the earlier motivation campaign for the programme).

1) The possibility of getting a room or verandah where the ANM could conduct her clinics and attend to the problem in the community.

2) The leaders would take responsibility for the following.

(a) Keep the ANM informed of

i) Pregnant mothers
ii) Births and deaths
iii) Immunisation status of children & mothers
iv) Illness among women and children
v) Post natal cases and their health status

(b) Inform the families of the day of visit of the ANM.

(c) Help the ANM during immunisation and weighing of children.

Per visit the ANM should be able to cover two sectors in a village.

Function of the ANM during her visit :-

1) Examination of pregnant mothers.

Prior to the onset of the programme the ANM has prepared a list of pregnant mothers with their EDD and listed children under 5 years with the immunisation status. From this list she could start the work with known pregnant mothers.

2) Organise immunisation with DPT & Vaccination.

3) In the first visit organise a children clinic.

(a) weigh all the children and bring them to the road to health card.

(b) give Vit. A to all children above 1 year of age.

The ANM will be directly responsible to the LHV.

Before the next visits, she should review the health status and identify the following.

1) High Risk Mothers

a) Primi Gravida
b) Multiparous women
c) Women with History of abortions and still Births
d) Women with H/o of complicated pregnancies.

2) Special Group of Children.

a) From the health cards identify IIIrd degree malnutrition children, so as to refer them to the doctor for treatment.
b) Children of contraceptors.
c) Non-immunised children.
d) Children in Ist and 2nd degree malnutrition.

To facilitate easy extraction of information the following records must be completed

1. Eligible Couple Register
2. Immunisation Register
3. Cards for contraceptors, for follow up
4. Maternal cards
5. Road to Health cards.

The activities of the ANM for the month:-

1. Meeting with health committee members twice a month.
2. Preparation of monthly report.
3. Review of work.
4. Visit PHC once a month for collection of drugs.

5. Medical Activities

Ante Natal - Register Case.
Take Medical/OBS History
OBS Examination
Take B.P.
Weight
Urine examination for alb/sugar
Distribute IFA
T.T. Immunisation
Health Education on maternal & child care and family welfare
Refer high risk cases, early enough, to doctor
Help supervisor in her work.

Natal care - Domicilliary Delivery with sterile kit
Registration of Births

Post Natal - Follow-up/mother for
a) Temperature
b) Discharge (Lochia)
c) Condition of Breast
d) Child's card
e) Regression of uterus
f) Motivation for F.P.

Education in Child Care

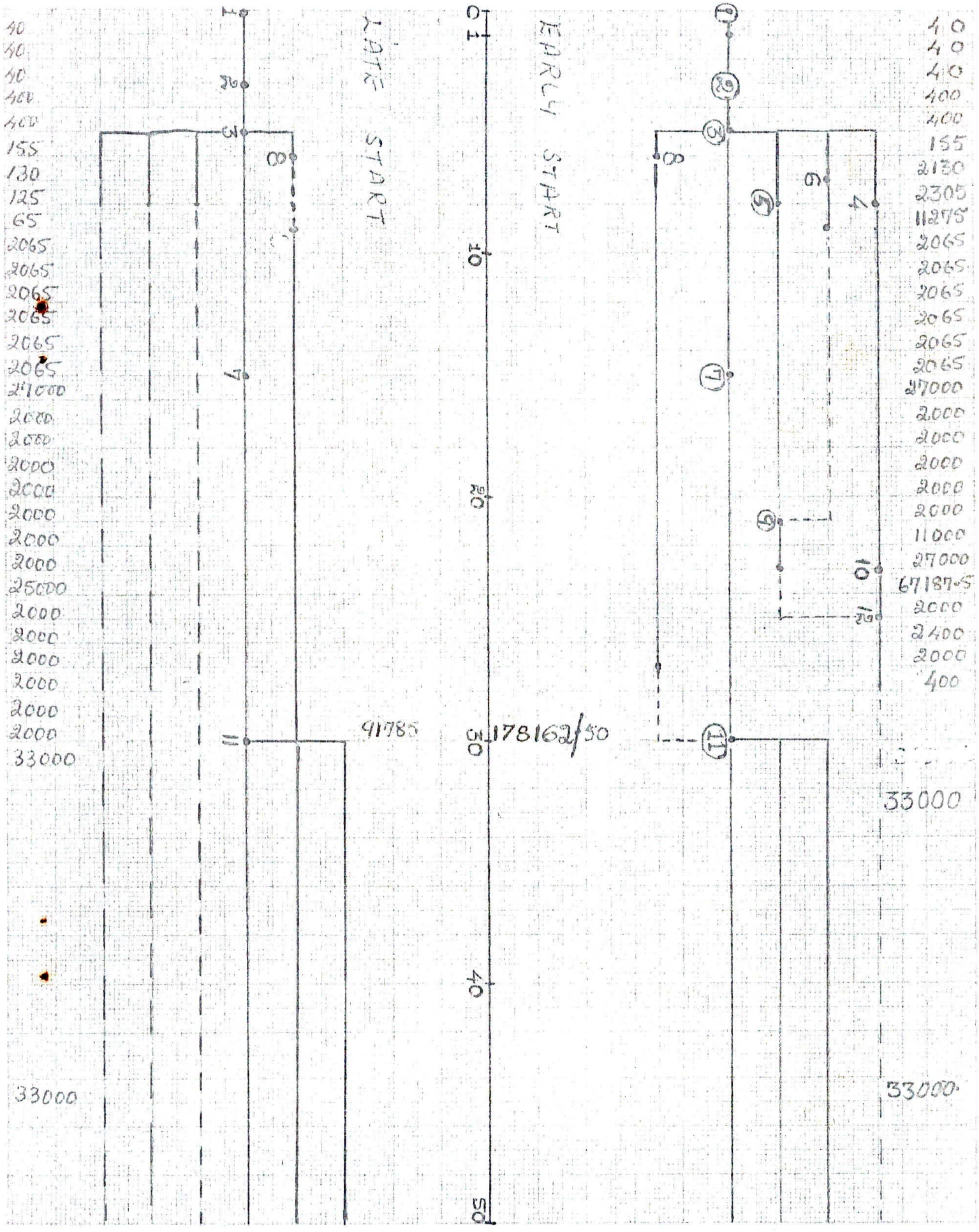
Child - Immunisation with DPT and Vaccination

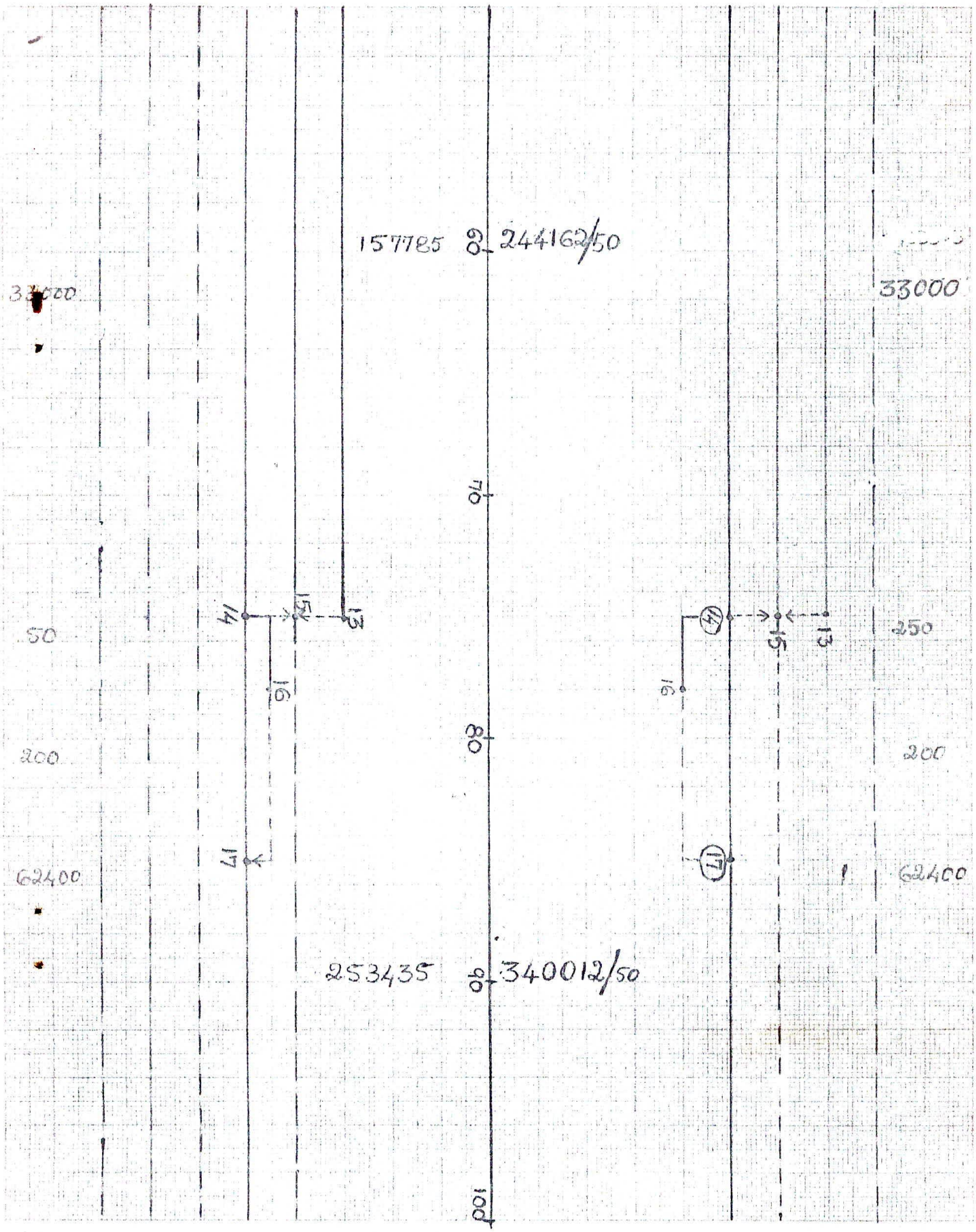
Weighing of the children monthly

Refer IIIrd degree malnutrition to the doctor for treatment

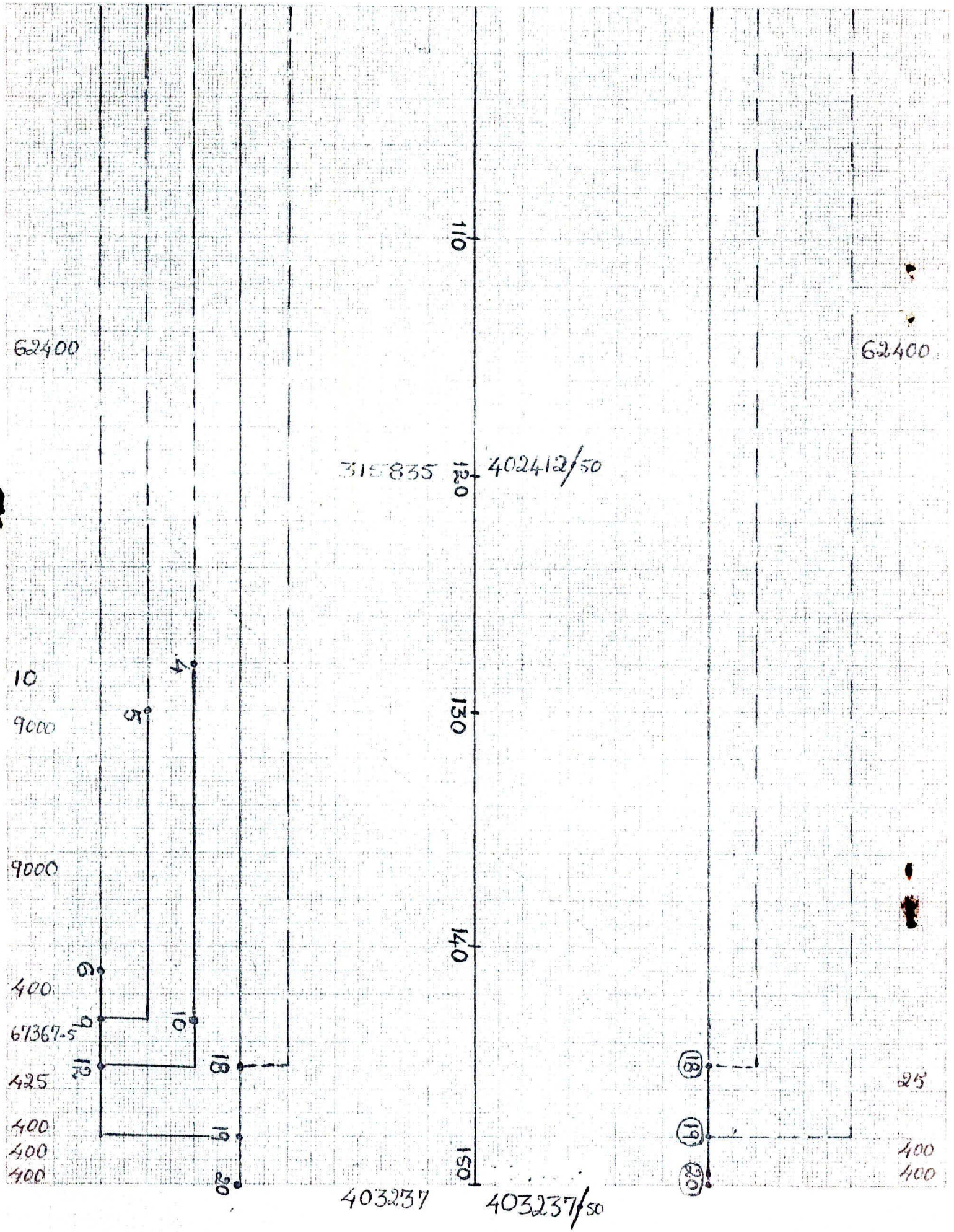
Group Talks - Organise mothers clubs so as to do the following
a) Educate mothers on mutrition by demonstration
b) Health Education, using the health cards.

Group C




157785
60
244162/50
33000
33000
70
14
15
13
50
250
16
16
14
15
13
80
200
200
17
17
62400
62400
253435
90
340012/50
100

Group C


62400
110
62400
315835
120
402412/50
10
9000
130
9000
140
400
67367-50
425
400
400
400
150
403237
403237/50
25
400
400