swasth hind

October 1983

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OBJECTIVES

Swasth Hind (Healthy India) is a monthly journal published by the Central Health Education Bureau, Directorate General of Health Services, Ministry of Health and Family Welfare, Government of India, New Delhi. Some of its important objectives and aims are to :

REPORT and interpret the policies, plans, programmes and achievements of the Union Ministry of Health and Family Welfare.

ACT as a medium of exchange of information on health activities of the Central and State Health Organizations.

FOCUS attention on the major public health problems in India and to report on the latest trends in public health.

KEEP in touch with health and welfare workers and agencies in India and abroad.

REPORT on important seminars, conferences, discussions, etc., on health topics.

Asstt. Editor : **D. N. Issar**

Sr. Sub-Editor : **M. S. Dhillon**

Sub-Editor : **G. B. L. Srivastava**

Editorial and Business Offices

Central Health Education Bureau

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SWASTH HIND reserves the right to edit the articles sent for publication.

CENTRAL COUNCILS OF HEALTH & FAMILY WELFARE CONFERENCE

FAMILY WELFARE —an essential input for development

B. SHANKARANAND

The Ninth Joint Conference of the Central Councils of Health and Family Welfare was held from 7 to 9 July, 1983, in New Delhi. The objective was to have an overview of the situation in the national context and formulate guidelines and strategies on the basis of collective experience, which would help us achieve a much better implementation of programmes during the current year. Shri B. Shankaranand, Union Minister of Health and Family Welfare delivered the inaugural address. He said that the Sixth Five Year Plan took due note of the Co-relationship between Socio-economic factors and success of population stabilization measures. "The revised 20-point programme, which is a bold attempt to translate into reality these population concepts, accords a crucial role to health and family welfare", he added.

Earlier in her welcome address, Smt. Mohsina Kidwai, Union Minister of State for Health and Family Welfare, said that the role of mass media in health and family welfare education cannot be over-emphasized. More and more programmes should be designated, produced and presented over Radio and Doordarshan, she added. The conference made a number of recommendations. These recommendations pertain to: family welfare programme including maternal and child health; primary health care including minimum needs programme; acceleration of health care facilities for Scheduled Castes/Tribes; school health; control of leprosy; tuberculosis; blindness; National Malaria Eradication programme; health education; medical education and indigenous systems of medicine. We publish here the extracts of the inaugural address by Shri B. Shankaranand, Union Minister of Health and Family Welfare.

THE NINTH Joint Conference of the Central Council for Health and the Central Family Welfare Council is the culmination of a series of regional level meetings which were held recently in various parts of the country. It has indeed been a very fruitful exercise in taking stock of the progress made and problems encountered in the implementation of health and family welfare programmes in individual States and Union Territories.

Before proceeding further, I would like to share with you the sense of pride at the international recognition of India's efforts in tackling the vexatious population problems. This year, our Prime Minister, Smt. Indira Gandhi was chosen for the United Nations Population Award for the first time after its institution by the United Nations General Assembly. The note released at the U.N. Headquarters said: "Mrs. Gandhi's leadership in creating awareness and understanding of population issue, specially at the individual and the community levels, has been of crucial importance to the success of India's population programme. She has both governmental and non-governmental bodies to promote family planning with confidence and dedication. She has consistently attempted to make the family planning programme the people's movement, as a result, the programme out-reach has been extended". While congratulating our Prime Minister in this august forum, I would like to assure that under her inspiring leadership, we shall continue our efforts with renewed vigour and dedication in solving the most challenging problem of population growth and thereby accelerating the pace of development in the country.

Essential input for development

It is important to emphasise the fact that development and acceptance of the small family norm interact with each other in a mutually beneficial way. Development by itself provides a strong motivation for parents to have fewer children. However, a developing nation with a high birth rate like ours, cannot

afford to wait for development alone to bring about a change in the attitudes of people to limit the size of their families, as the process of development itself is stifled by unchecked population growth. Family Planning is, thus, an essential input for the development process making it an integral part of the total national effort for providing a better life to the people and to reduce inequalities among them. Alongwith family planning there is also the obvious need for increasing investment on human resource development in the field of education, health, maternal and child health care, water supply and environmental sanitation. The Sixth Five Year Plan takes due note of this co-relationship between socio-economic factors and success of population stabilisation measures. The revised 20-Point Programme which is a bold attempt to translate into reality these policy concepts, accords a crucial role to health and family welfare.

Achievements

Family Welfare Programme showed significant improvement during the year 1982-83. Nearly 40 lakh sterilizations were performed, which represented 42.6 per cent increase over the 1981-82 performance. The performance in regard to IUD was about 11 lakhs which is 43.2 per cent higher than that of the preceding year. This is a record achievement under IUD since the inception of the Family Welfare Programme over two decades back. As regards the use of conventional contraceptives the trend was similarly encouraging. The sale of Nirodh under the commercial scheme registered a positive increase over the last year. The steady improvement in performance during the last three years is reflected in the couple protection levels which had fallen from 23.7 per cent during 1976-77 to 22.3 per cent in 1979-80, but increased to 22.7 in 1980-81 and further to 23.7 in 1981-82. It is estimated that the couple protection should have gone upto 26 per cent by 31st March, 1983.

It is satisfying to note that almost all the States and Union Territories did well in 1982-83. While Punjab, Maharashtra, Himachal Pradesh, Haryana, Sikkim, Delhi, Arunachal Pradesh, Pondicherry, Chandigarh, Mizoram and Dadar & Nagar Haveli exceeded their targets in sterilisation set for the year, achievements of some other States like Tamil Nadu, Gujarat and Andhra Pradesh were above the national average. Although short of its target, U.P. showed a very encouraging trend by registering 171 per cent increase over the preceding year's achievement. With over 80 per cent realization of their annual targets, Madhya Pradesh and Bihar also did comparatively better. In IUD insertions, a number of States and U.Ts. like Punjab, Sikkim, Haryana, Himachal Pradesh, Maharashtra, Manipur, U.P., Gujarat, Chandigarh, Pondicherry, Delhi and Mizoram did quite well. In C.C. Users while Haryana, Maharashtra, Punjab, Himachal Pradesh and Dadar & Nagar Haveli exceeded their targets, U.P. and Orissa and Chandigarh also came close to realising their targets. While congratulating the better performing States and U.Ts. for their achievements during the last year, I would expect of them a much better performance during the current year. At the same time, I would urge those States and U.Ts. which could not reach upto the expected level of performance last year to redouble their efforts to achieve their targets for the current year. All of us have to put in much more vigorous efforts during this year to realise the enhanced targets of 5.9 million sterilizations, 2.5 million IUD insertions and 9 million equivalent C.C. and oral pill users.

Long term goals

The long term goals before us are to bring about rapid decline in birth, death and infant mortality rates to 21, 9 and 60 per thousand respectively by the turn of the century. This calls for an increase in the eligible couple protection level to about 60 per cent from today's level of nearly 26 per cent. This task, no doubt, is stupendous yet we have got to accomplish it if we do not want to condemn our children and grand-children to a nightmarish future. This calls for creating an all-pervading atmosphere wherein the small family concept and its practice gets woven into the very life-style of the people.

While we feel greatly encouraged by the trend of the Family Planning Programme, which indicates that the programme has picked up momentum, it is equally essential to ensure that in our enthusiasm to achieve the targets, the quality of the performance is not diluted.

Population education

The high rate of infant mortality in our country has been causing concern to all of us. The main causes of infant mortality are prematurity, respiratory infections, diarrhoea and digestive disorders, tetanus, malnutrition, fever, convulsions and other causes peculiar to infancy including asphyxia and birth injuries. Our objectives is to promote family planning on voluntary basis by bringing about an informed change in indi-

vidual and social perceptions and behaviour. We have got to have a very effective communication strategy.

Simultaneously, we have to make a major thrust towards population education through formal and non-formal channels. Population education primarily aims at conveying basic facts and information pertaining to population and its trends, its growth and regulation, and its strong influence on the nation's development programmes and on the life of the individual and his family.

Operational efficiency

Appreciating the need for mobility in the delivery of services, a large fleet of vehicles was provided at various levels at different times. The Government of India has decided to replace 1500 such vehicles under the Family Welfare Programme by the end of the current Plan period.

The Central Government has also made an upward revision in the ceiling of funds for POL including provisions for maintenance and repair of vehicles. It has been raised from Rs. 8,000 to Rs. 12,000 per vehicle per annum in respect of F.W. vehicles and from Rs. 3,300 to Rs. 8,000 for other vehicles. With the removal of these two major bottlenecks in mobility, it should now be possible to achieve a very high level of operational efficiency.

Maternal and child health

In spite of India's spectacular success in sharp decline in the overall death rate, its infant mortality rate continues to be quite high. Low infant mortality provides its own rationale for limitation of family size. If couples are assured that the children who are born have a reasonable chance of survival, they will themselves avoid having too many children. Recently, there has been a big expansion in our programmes to protect pregnant mothers and children from diseases and nutritional anaemia. May I request the States and U.Ts. to give special attention to this aspect which has a direct impact on the family planning programmes as a whole?

Population Advisory Council

Ever since the Prime Minister gave a call to make family planning a people's movement, we have taken

While we feel greatly encouraged by the trend of the family planning programme, which indicates that the programme has picked up momentum, it is equally essential to ensure that in our enthusiasm to achieve the targets, the quality of the performance is not diluted.

vigorous steps for a much wider and deeper involvement of opinion—leaders, social workers and all those who are in a position to influence the thinking of the people. The constitution in 1982 of a 20-Member Population Advisory Council to analyse the implementation of the family welfare programme and to advise the Government on policy matters is a big step in this direction. The Population Advisory Council has set up five working groups to discuss and suggest innovations to the various aspects of the Programme. The initiative taken by the Indian Association of Parliamentarians on problems of population and Development by holding State Level Conferences after its successful national level conference in 1981, has assured in good measure the involvement of the elected representatives of the people.

The increase in the amount of compensation from Rs. 70 to Rs. 100 a scheme of giving cash awards to the best performing States and U.Ts. and the scheme of issuing "Green Cards" to the acceptors of terminal methods of family planning give a new dimension to our efforts.

National Health Policy

The Government of India has evolved a National Health Policy which has been placed before the Parliament. The Policy lays stress on the preventive, promotive, and rehabilitative aspects of health care, and points to the need of establishing comprehensive primary health care services to reach the population in the remotest areas, the need to view health and human development as a vital component of overall integrated national socio-economic development, decentralize system of health care delivery with the maximum community and individual participation and self-reliance. The Policy also lays stress on ensuring adequate nutrition, safe drinking water supply and im-

proved sanitation for all. The Policy sets out specific goals to be achieved by 1985, 1990, 1995 and 2000 A.D.

Control of major diseases

Control and conquest of major diseases which endanger the health and life of the people, is an important plank of our strategy for advancement of the quality of human life. We have intensified our efforts to tackle diseases like malaria, leprosy, tuberculosis and blindness. It is a matter of some satisfaction that as a result of vigorous action under the National Malaria Eradication Programme and continuous liaison with the State authorities it has been possible to gradually bring down the mortality on account of malaria in general and of p. falciparum type of malaria in particular.

Leprosy eradication

The incidence of leprosy is not uniform all over the country. There are 97 districts in the country where the incidence rate is more than 10 per thousand population. The Prime Minister has given a call for eradication of leprosy on a time-bound basis. As a first step in this direction, the leprosy control programme has been renamed as National Leprosy Eradication Programme and converted into a 100 per cent centrally financed programme and financial provisions have also been considerably stepped up. A National Leprosy Eradication Commission and National Leprosy Eradication Board have also been constituted for effective implementation of the policies evolved by the Commission.

A new multi-drug regimen strategy for interruption of transmission of leprosy in hyper-endemic districts has since been launched.

Control of blindness

The National Programme for Control of Blindness envisages the development of various services at the peripheral, intermediate and central levels. I would request State and U.T. Governments to pay urgent attention to achieve their targets this year for the National Control of Blindness Programme.

T.B. control

The inclusion of the National T.B. Control Programme in Governments' 20-Point programme has undoubtedly given a boost to its implementation. I am happy that the target of 10 lakh new case detection fixed for 1982-83 was exceeded. In view of this achievement the target of the current year has been increased by 25 per cent and I am sure this too will be realised.

Medical research

In the field of medical research we have to define our research priorities to coincide with national health priorities and develop the research strategy and plan of action. Considering the fact that there is unevenness in the geographical distribution of scientific and research capability of biomedical sciences and the fact that there are large tracts in the country with major health problems which are not being serviced by significant regional research facilities, the Indian Council of Medical Research (ICMR) is implementing a strategy of setting up Regional Medical Research Centres in the country. The ICMR is actively pursuing researches for the control of communicable diseases, fertility control, promotion of maternal and child health and control of nutritional and major metabolic disorders.

Indian Systems of Medicine

It is our policy to encourage and support all systems of medicines for ensuring better health to our people. As such a number of measures were taken to promote Indian Systems of Medicines, *viz.*, Ayurveda, Siddha, Unani, Nature Cure and Yoga and also Homoeopathy. The Sixth Plan provides for sufficient financial support for the development of Indian Systems of Medicines and Homoeopathy and the various schemes included in it aim at improving the quality of education, promotion of research programme based primarily on their respective philosophy, planned production of herbal and other medicines on a large scale and their standardization. Primarily rural based programme, these systems of medicines are rendering a great service to narrow the gap existing in medical care between the rural and urban sectors. We intend to harness these systems fully for achieving the target of 'Health for All by 2000 A.D.'. △

PLANNING HEALTH FOR ALL BY 2000 AD

DR N. K. SINHA

The health status of India has improved considerably during the last 30 years. Even though there is a gap between the health service facilities available in the country and the need for the same both in urban and rural areas, still we aim at attaining the historic goal, "Health for all by 2000 AD". This is a social goal of providing an acceptable level of health which will permit all the citizens to lead a socially and economically productive life.

IT is well recognized that an investment on health is investment on human resources development and on improving the quality of life. To improve the quality of life horizontal and vertical linkages have to be established among all the inter-related programmes like protected water supply, environmental sanitation, housing, nutrition, education, family planning and maternity and child welfare. An attack on the problem of disease cannot be entirely successful unless it is accompanied by an attack on poverty which is the main cause of the ill health. For this the Government of India assigns high prority in the Sixth Plan (1980-85) to the programme of promotion of gainful employment, eradication of poverty, population control and meeting the basic needs as integral components of the Human Resources Development Programme.

Some of the main objectives of the Sixth Plan are:

(i) A significant step up in the rate of growth of economy, the promotion of efficiency in use of resources and improved productivity;

(ii) A progressive reduction of poverty and unemployment;

(iii) Improving the quality of life of the people in general with special reference to the economically and socially handicapped population, through minimum needs programme whose coverage is so designed as to ensure that all parts of the country attain within a prescribed period nationally accepted standards;

(iv) Promoting policies for controlling the growth of population through voluntary acceptance of the small family norms; and

(v) Promoting the active involvement of all sections of the people in the process of development through appropriate education, communication and institutional strategies.

Primary health care is the main instrument through which it will be possible to achieve "Health For All By 2000 AD". As per WHO, the primary health care includes at least the following eight elements:

(i) Promotion of food supply and proper nutrition;

(ii) An adequate supply of safe drinking water and basic sanitation;

(iii) Education concerning prevailing health problems and the methods of preventing and controlling them;

(iv) Maternal and child care including family planning;

(v) Immunization against major infectious diseases;

(vi) Prevention and control of locally endemic diseases;

(vii) Appropriate treatment of common diseases and injuries;

(viii) Provision of essential drugs.

Alongwith the objective of "Health For All By 2000 AD", the objective of population stabilization by reducing the birth rate, death rate and infant mortality rate to 21, 9 and below 60 respectively will have to be achieved by the end of the century. Regarding the health care (i) emphasis should be shifted from the city to the rural areas and the health care system would be based on a combination of preventive, promotive and curative health services starting from the village as a base; (ii) Primary Health Centres and Sub-centres which are at present serving a population of approximately 0.1 million and eight thousand respectively will be increased so that each Primary Health Centre serves a population of 30,000 and a sub-centre a population of 5,000. In case of hilly and tribal areas each primary health centre will be established for a population of 20,000 and a sub-centre for a population of 3,000 respectively; (iii) the village or a population of 1,000 would form the base unit where there will be a trained Village Health Guide as a first link between the population and the health infrastructure; (iv) facilities for treatment in basic specialities will be provided at the Community Health Centre at the block level for a population of about 0.1 million. A 30-bedded hospital with four specialists will be attached to the Centre and a system of referral link will be established from the village level to the district hospital/medical college hospitals through the community health centres; (v) the people would be involved in tackling their health problems and community participation in the health programmes would be encouraged by forming village health committee.

The present rural health infrastructure and as expected to be by 2000 AD are given in Statement 1:

Statement 1

Rural Health Infrastructure

Institution Personnel	In position as on 1-4-1980	Likely to be in position by 31-3-85	Requirement and expected to be achieved by 2000 AD
			(Unit Nos.)
1. Village Health Guides	0.14 million	0.34 million	To be covered all the village (7,38,000 VHGS)
2. Sub-centres	48,960	90,000	1,60,800
3. Primary Health Centres	5,500	6,000	22,470
4. Upgraded PHCs (to be named as community health centres) . .	218	315	5,500

The amount of positive contribution that health sector can make for the development of other sectors like agriculture, industry, etc., should be appreciated. Keeping in view the present health status of the country, pragmatic planning has been made as per the policy, strategies and objectives stated earlier. Plan-wise outlays of Health Sector and percentage of the total outlays is given in Statement 2:

Statement 2

Plan outlay

(Rs. in Millon)

Plan period	Expenditure incurred on			Percentage of expenditure of	
	Overall Public Sector	Social Services Sector	Health Sector	Health Sector to Public Sector (Col. 4 as % of Col. 2)	Health Sector to Social Services (Col. 4 as % of Col. 3)
1. First Plan (1951-56)	19600	4119	653	3.3	15.8
2. Second Plan (1956-61)	46720	7302	1430	3.1	19.6
3. Third Plan (1961-66)	85765	13187	2508	2.9	19.0
4. Annual Plans (1966-69)	66254	8601	2106	3.2	24.5
5. Fourth Plan (1969-74)	157788	26854	6135	3.9	22.8
6. Fifth Plan (1974-78)	286532	40150	9097	3.2	22.7
7. Annual Plan (1978-79) (anticipated expenditure)	114443	18679	3542	3.1	19.0
8. Annual Plan (1979-80 outlay) . . .	126007	17637	3844	3.0	21.8
9. Sixth Plan	975000	140353	28311	2.9	20.2

In addition, benefit will flow from programme of other sectors like agriculture and food, water supply and sanitation, housing, rural reconstruction, nutrition, social welfare, welfare of Scheduled Castes and Tribals, employment generation, education, etc., which will lead to better health of the community.

Water supply and sanitation

Most important of all the other sectors is perhaps "Water Supply and Sanitation". The available statistics relating to the status of rural and urban water supply in India, present a distressing picture especially in the rural areas. By March 1980 about 9.2 million villages in the country with a population of about 160 million were yet to be provided with potable water supply facilities. The situation in urban areas is relatively better but here too, particularly in smaller towns (in 2092 out of 3119 towns) water supply and sanitation arrangements are far from adequate.

Concern has been expressed in the 'Water Supply and Sanitation' chapter of the Sixth Plan document as under:

".....in terms of man-days lost due to water borne or water related diseases which constitute nearly 80 per cent of the public health problem of our country, the wastage is indeed colossal."

".....the current methods of excreta disposal are a serious health hazard and until these are improved, the benefits derived from other programmes will be vitiated on account of the propagation of gastro-intestinal infections caused by the existing environmental conditions in the poor areas of our towns and cities. In particular, the health benefits derived from the provision of safe drinking water are nullified unless accompanied by sanitary measures. The Sixth Plan, therefore, views the problems of shelter and urban development as being inexorably connected with the provisions of safe water supply and adequate sanitation."

With a view to ameliorate such a condition, the Government of India keeping in view the 'International Decade on Water Supply and Sanitation (1980—90)', is planning to provide drinking water for 100 per cent population of both urban and rural areas and to provide with satisfactory sanitary condition to 80 per cent of urban and 25 per cent of rural population by 1990. It has been decided to provide drinking water to all the problem villages during 1980—85.

Present position of water supply and sanitation in India and as expected by 1990 is given in Statement 3.

Statement 3
Water Supply and Sanitation

	(Population Covered)	
	Present Position	By 1990 (Expected)
Water Supply :		
(a) Urban	80 per cent	100 per cent
(b) Rural	30 per cent	100 per cent
Sanitation :		
(a) Urban	20 per cent	80 per cent
(b) Rural	Nil	25 per cent

Housing

Shelter is one of the basic needs of the human beings. Millions of people do not have a bare minimum shelter under which they can live with their family members. The problem is enormous. It is not possible to solve the country's housing problem during Sixth Plan period but it should be feasible to catch up with the housing requirements of the country, if a sustained programme of investment and construction is undertaken over the next 20 years. It has been planned to construct 13 million dwelling units in rural areas and 5.7 million in urban areas with an outlay of Rs. 12,955 million during the Plan 1980—85.

Out of an estimated 14.5 million landless families, 7.7 million families have already been allotted house sites, rest 6.5 million landless families will be provided house sites by March 1985, construction assistance will also be provided to all of them gradually.

Urban slums constitute about one-fifth of the urban population and such population is expected to be about 33 million by 1985. Out of this, about 6.8 million have been covered by improving the condition and by investing Rs. 1,500 million during the Sixth Plan, living condition of 10 million more people will be improved. The improvements are of the nature of providing improved water supply and proper drainage, storm water drainage, paving of the streets, lighting, community latrine in the slum areas.

Education

It has been amply proved that high literacy rate helps in improving the developmental activity in attaining good health and helps in bringing down the birth rate also. The present coverage with regard to elementary (Class I to Class VIII) education of our

country and target to be achieved is given in Statement 4:

Statement 4

Position of Elementry Education

	Position as during 1950-51	Position during 1979-80	Target by 1984-85	By 2000
Percentage covered of the group	32	67.8	78.8	100%

It has been decided that the knowledge about the elements of primary health care should be included in the text books of the elementary education (class I to class VIII). Ministry of Education, in collaboration with the National Council of Educational Research and Training (NCERT) and the Central Health Education Bureau (CHEB), have developed such text books and the programme has been implemented in some States/UTs. It is expected that rest of the States will also follow the same.

Such a step will go a long way in building up an attitude of healthful living amongst the children who are the future fathers of the children and head of the families. Those who are in the age-group of 1 year to 14 years now will form the most important group (20-34) years during 2000 AD. Vigorous and sincere attempt to impress upon this group from now is of paramount importance. And if this can be done it will be easier to achieve the goal.

Minimum Needs Programme

Benefit which will flow by the implementation of the minimum needs programme will be of considerable socio-economic improvement in rural area. The outlay for the different areas of minimum needs programme for 1980—85 and expenditure of 1974—79 are shown in Statement 5:

Statement 5

Outlay on Minimum Needs Programme

(Rs. in million)

Programme	Expenditure of 1974-79	Outlay for 1980-85
1. Rural Health	1070	5770
2. Rural Water Supply	3950	20070
3. Environmental Improvement of Slums	480	1510
4. House sites for rural landless	720	3540
5. Nutrition	690	2190
6. Elementary and Adult Education	3670	10330
7. Rural Roads	3830	11650
8. Rural Electrification	1370	3010
Total	15780	58070

Food Production

Food production on various fronts is expected to increase considerably through various programmes. The present status of our country and annual target of 1984-85 is shown in Statement 6:

Statement 6

Target for food production

Item	Unit	Present status	Target upto (1984-85)
1. Cereal	Million tonnes	116.25	139.10
2. Pulses	-do-	11.61	14.50
3. Edible oils	-do-	9.32	11.00
4. Fish	-do-	2.50	3.50
5. Milk	-do-	30.00	37.00
6. Eggs	No. in million	12320	16500

It is expected that by bringing more area under cultivation and increasing the yield per hectare by using better technology, we will be self-sufficient in the field of food production. Increase in the production and utilisation of edible oils, pulses and animal protein will contribute considerably to improve the nutritional status of the population in general. Annual average area under harvest, yield per hectare and total cereal production in 2000 AD as projected by F.A.O. are shown in Statement 7:

Statement 7

Projection of Cereal Production

Area under harvest ('000 hectare)		Yield (Kg./He.)		Production ('000MT)	
1973-77 (Average)	2000 AD	1973-77 (Average)	2000 AD	1973-77 (Average)	2000 AD
01,802	121,784	1,196	2,010	121,828	244,764

Only food production may not necessarily make it available to all sections of people unless unemployment problem is solved. As such, Sixth Plan envisages to reduce the number of unemployed. Position in regard to the employment status of the country is also expected to improve as shown in Statement 8:

Statement 8
Employment situation

	During 1977-78	During 1980-85
1. Rate of unemployment in age group (15-59 years)*	8.5%	..
2. Expected annual growth rate of population	..	1.8%
3. Estimated annual growth rate of labour force (all active population)	..	2.4%
4. Estimated annual growth rate of employment generation	..	4.0%

* Average number of persons unemployed per day expressed as a percentage of corresponding labour force i.e., all economically active population (as per 32nd Round of NSS)

It is expected that the gap between the increase in labour force and the increase in the employment opportunity will be gradually narrowed down.

Social Welfare and Nutrition

Various social welfare and nutrition programmes are being implemented with encouraging results. Various nutrition intervention programmes, integrated child development programmes are providing package benefits to the vulnerable group of population, like children of various age-groups and expectant and lactating mothers. Area of such programmes will be increased to cover sizeable number of beneficiaries.

Besides these, various other programmes like: (i) Food for Work Programme, (ii) Programmes for the Physically Handicapped, (iii) Welfare of Scheduled Caste/Tribes and Backward Classes, (iv) Labour and Labour Welfare, (v) Special Employment Programmes, (vi) Rehabilitation of Displaced Persons, (vii) Special Component Plan for Scheduled Castes, (viii) National Rural Employment Programmes, (ix) Integrated Rural Development, and (x) Development of Backward Areas will be taken up and benefit on health aspect will improve.

It is expected that with the proper implementation of all these programmes, the living condition of the people will improve considerably and thereby it will be possible to achieve the goal of "Health For All By 2000 AD".

—*Courtesy*: YOJANA, April 1—15, 1983.

Facts about Leprosy in India

Leprosy eradication is a significant aspect of the 20-point programme of the Prime Minister Smt. Indira Gandhi. Steps are being taken to evolve an action plan to remove this scourge from the face of our country by the turn of the century. Here are some facts about leprosy in India:

- ○There are over 32 lakh leprosy patients in India now.
- ○About 25 lakh patients have been identified and 22 lakhs are under treatment.
- ○About 2.3 lakh new cases are detected every year.
- ○The number of patients who get cured and those who die of the disease every year is around 2 lakhs.
- ○Almost 25 per cent of the patients are children below 14 and that one fourth of the patients suffer from physical deformities.
- ○About four lakh patients have their socio-economic life dislocated because of the disease. Some two lakh patients have become wandering beggars.
- ○We have about 8000 centres to treat the patients.
- ○Between 1951 and now more than 10 lakh patients have been discharged by these centres as cured. During the same period, about Rs. 4675 lakhs were spent on fighting leprosy.
- ○Sixth Five Year Plan proposes to spend Rs. 4000 lakhs to fight leprosy and more funds are available if needed.
- ○The National Leprosy Eradication Commission and the National Leprosy Eradication Board have been constituted by the Government of India to evolve an action plan to remove this scourge from the face of our country by the turn of the century. △

ENVIRONMENT

Deteriorating Global Environment

DR ARTHUR WESTING

International cooperation and dependable and openly available statistics must provide a necessary basis for sensible planning and rational action, such as making zero or even negative population growth rate on a world wide basis a coordinated human goal. Over-riding social and ecological reasons demand this.

AT the United Nations Conference on Human Environment, held in Stockholm in June 1972, a modern era of environmental awareness and concern was born. Most nations of the world came together at the time in response to a deteriorating global environment and to a growing threat to its integrity from military and other actions.

Between 1972 and 1982, global population is estimated to have risen from 3800 million to 4600 million. Most of it took place in the developing countries whose agricultural potential and natural environments have already been stretched to the limits.

Forests, grasslands and fisheries are the world's three major renewable resources. Their utilization began to exceed the natural rate of their replenishment. The under-nourished people on earth today are greater than ever before and are continuing to increase. The world has seen an unprecedented loss of topsoil and farmaland, spread of deserts and an alarmingly rapid rate of extinction of species, leading to a growing loss of biological diversity and ecological balance.

Military sector

In this context, the military sector of society is worth a look. Global military expenditures rose from $ 53500 milion to $ 645000 million at 1980 prices between 1972 and 1982. This represents roughly six per cent of the GNP of the world. It will be natural to assume that to that extent, military spending led to deplesion of natural resources and increase of global pollution.

Several factors contribute to a disproportionate amplification of military spending on human environs. Scarce natural resources like copper, lead, germanium, titanium, etc., are consumed at a comparatively high level by the military sector. Moreover, some major air and water pollutants are a corollary to military activity. Military and allied sectors employ about 40 per cent of all the scientists, doctors, and engineers of the world, thus decimating the dues of sectors like health, food and environment.

Conventional wars of a so-called limited nature continue to plague the human race, depleting its resources and disrupting its environment. Added to this is the potential cataclysmic impact of war using nuclear or other weapons of mass destruction. During the past decade, the world continued its retreat from the elusive goal of disarmament. Major military powers continued to synergise nuclear weapons as the main components of their obscenely large arsenals. The injection of vast quantities of nitrogen oxides by nuclear air bursts into lower stratosphere and the consequent depletion of ozone would permit dangerous levels of ultra-violet radiation, especially UV-3 portion, to reach the earth, killing or injuring all living things and severely unbalancing ecosystems. Chemical arsenals are the latest enemies of human habitat. The effects of new generation nerve gases could be environmentally devastating.

Growing awareness

But it is not all Armageddon. An evergrowing awareness and recognition of the inseparable linkages between environmental protection and long term development is spreading among the nations surely, albeit slowly. In 1972 there were only 10 countries to have environmental protection agencies. Today they exceed a hundred. And the world urgently awaits an international renunciation of nuclear and chemical weapons. Environment is beginning to be seen as something that the humans must depend upon not merely for their continued well-being and development but for their very survival.

"Oh! Mother Nature, for besmirching thy face by building on this little plot an abode of man, pardon me!

"Oh! Birds, who lose thy nests in the trees felled in the forests far away, to build this abode of man, pardon me!"

– (Ancient Indian prayer at the breaking of earth to build a house)

Today global environment continues its deterioration. Development is slow and erratic. International security is increasingly elusive. Official recognition of a tripartite linkage among environmental protection, development and peace and security was the innovative highlight of the "Session of a Special Charter" of the Governing Council of the UN Environmental Programme held in Nairobi in May 1982. (The Prime Minister, Smt. Indira Gandhi made clear the anxieties of the Third World in a remarkable address in the meet.)

Among the environmental factors that have to be urgently monitored on a world wide basis are the atmospheric burdens of carbon dioxide, sulphur, radio-active and other pollutants, the reduction of ozone in stratosphere, the encroachment on tropical forests and other endangered habitats, desertification and reductions in marine fish populations. Similarly, population growth rates, infant mortality rates, food production, literacy rates and higher education and GNP also require urgent attention. Continuing wars and remnants of the past wars, nuclear weapon stockpiles, their testing and delivery systems, international trade in arms, etc., remain to be studied among the security factors. International cooperation and dependable and openly available statistics must provide a necessary basis for sensible planning and rational action, such as making zero or even negative population growth rate on a world wide basis a coordinated human goal. Over-riding social and ecological reasons demand this.

Agriculture

Agricultural production and food distribution systems have to be developed to such an extent where each nation supplies its own people with an adequate level of basic food staples. Larger nations must strive for the goal of equitable food staple self-sufficiency in each of a number of internal geographic sub-divisions. A major concomitant goal of agricultural development implies an indispensable insistence upon tillage, fertilizer, pesticides and other practices that ensure soil conservation for the prevention of desertification and greater reliance upon renewable sources of energy. All these require enhanced cooperation between developing and developed nations and expanded research, development and dissemination of appropriate technologies through relevant agencies.

The great bioproductive systems of the world, especially the woodlands, the grasslands and the oceans provide homes for the world's wild flora and fauna. The wood, the livestock and the fish derived from them are indispensable for the survival and well-being of the earth. It is a tragedy that forests, fisheries and range are now being exploited at rates beyond those of their natural renewal. All nations must bring into balance the harvest and regeneration of these resources. Transnational resources like ocean fisheries and tropical forests should be managed through international treaties and related instruments.

"While the earth was left to its natural fertility and its immense forests, whose trees were never mutilated with axe, it could afford, on every side, both sustenance and shelter for every species."

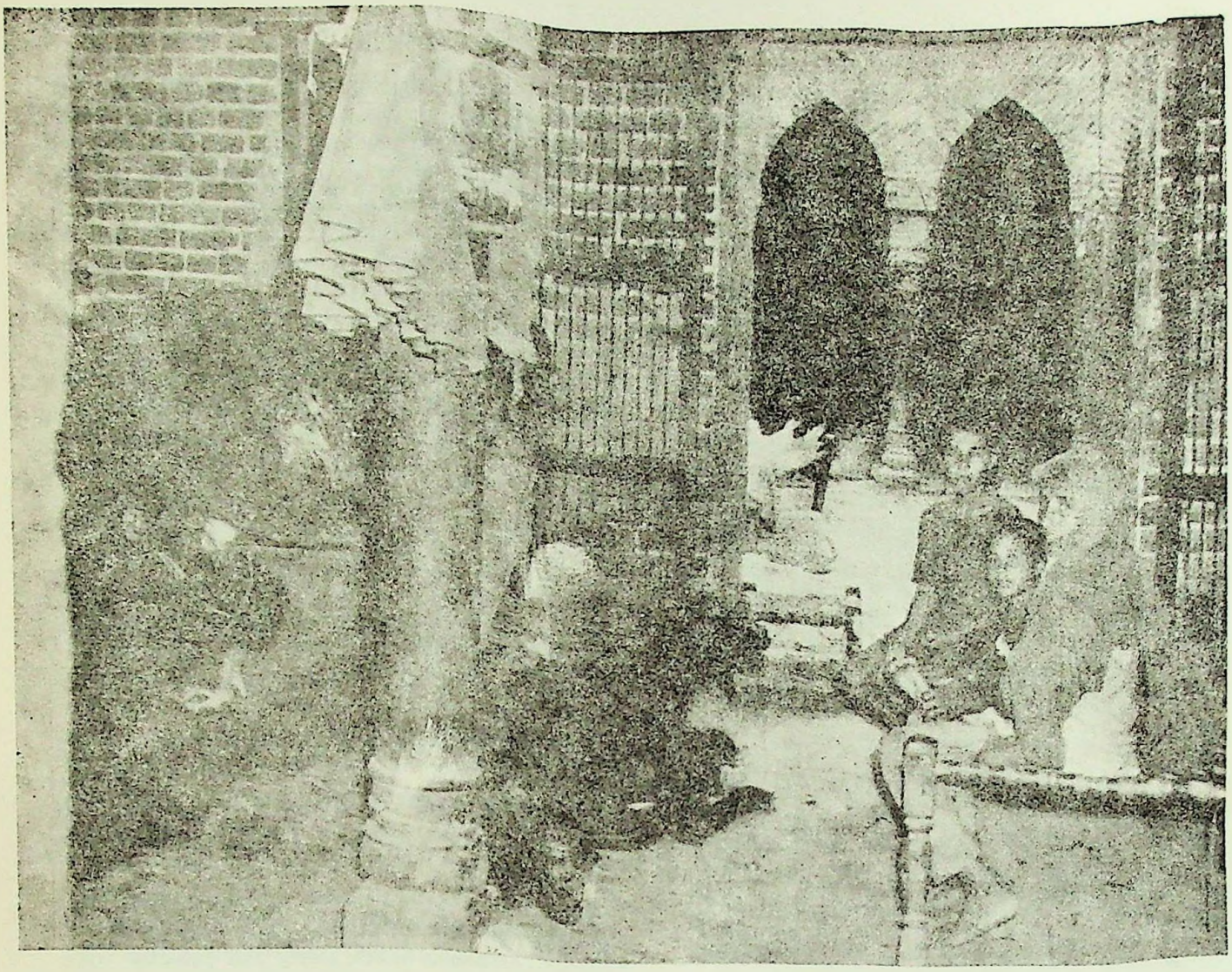
—Rousseau

Growth in national products necessitated by development must be carried out with fully adequate standards of public health, safety and pollution control. It must conform to health and safety standards promulgated by the WHO and other appropriate intergovernmental agencies.

Crucial for survival

The Universal Declaration of Human Rights proclaims: "Everyone has the right to a standard of living adequate for the well-being of himself and his family, including food, clothing, housing and medical care.....". Today, 35 years after this Declaration was accepted without dissent by the world family of nations, more people than ever are hungry, sick, shelterless and illiterate. To reverse these terrible trends we humans must first of all learn to live within our global environmental means. True international security will depend upon population controls, self-sufficiency in food staples, exploitation of renewable natural resources on a sustained basis, pollution control, maintenance and restoration of the balance of nature and the development of a deep respect for all things living. Such an agenda for the 80s is crucial for our survival and betterment. △

—Based upon the author's thesis (UNDF).



HOUSING AND ENVIRONMENTAL PLANNING

S. V. Joshi

There are 1.6 and 0.8 persons per room in East European and West European countries, respectively, whereas the same in India is 2.8 persons per room. This is a pointer to the fact that there is an urban congestion which should be considered as the root of many ills afflicting the society. Ill-health, unhygienic conditions, and child delinquency flow from this over-crowding and congestion.

INDIA is a big country which has the characteristics of a sub-continent in respect of size, population, climates, languages, and living habits. Its housing has been greatly influenced by all these factors. It has an area of 32,97,352 sq. kilometers and it is considered as the seventh largest and second populous country in the world. Its population in mid 1976 was 609 million people, and in less than five years reached 684 million in 1981, an increase of 75 millions. By the turn of this century it is estimated to cross one billion mark. Out of the 609 million people in 1976 nearly 21 per cent lived in urban areas. In absolute numbers this urban population of 128 million exceeded the population of many countries of the world, like Pakistan, Bangladesh, U.K., Canada and U.A.R. This comparison will, to some extent, give an inkling of the enormity of the problems in general and that of the housing in particular.

Housing shortage

The land factor, what it is, is to remain constant whereas the population factor is ever on the increase. In other words, the solution to the nagging problem of housing and housing shortage will be illusive. It is estimated that the overall shortage of housing is about 15 million housing units and the projected deficit in the next decade will be anywhere between 23 to 26 million units. The deficit in housing is most felt in the income group below Rs. 100. Two thirds of total deficit accrue from this income group. It has been observed that the housing deficit in the income group of Rs. 101-200 and Rs. 201-500 is about 21 and 13 per cent respectively.

Housing in rural areas

The houses that are in occupation of the people in rural area do not in fact deserve the attribution of a 'House' as most of them do not have the basic amenities like water taps, latrines and baths. Four out of every five houses do not have water taps, latrines and bathrooms. They are constructed mostly of thatch and mud. Only 13 per cent of the rural households stay in structures built with permanent building materials, the urban households have a better lot comparatively, as they have better structures and have access to the basic amenities. Every other household has a structure built with permanent and semi-permanent building materials and has water, latrine and bath. This plus point in case of urban household is negated by inadequate space within the confines of the four walls. They barely have one or two small rooms.

Congestion

The number of persons per house has increased from 5.6 in 1951 to 5.9 in 1971. The number of rooms per housing unit has, however, remained constant at two only.

In this regard, it may be educating to see the proportion of persons per room in East European and West European countries. There are 1.6 and 0.8 persons per room in East European and West European countries respectively, whereas the same in India is 2.8 persons per room. This is a pointer to the fact that there is an urban congestion which should be considered as the root of many ills afflicting the society. Ill-health, unhygienic conditions, and child delinquency flow from this over-crowding and congestion.

It has been given to understand that about two-thirds of the urban households are bracketted in the income-group of Rs. 101-500, and 43 per cent get a little more than Rs. 200 per month. On rural side the condition is anything but pleasing. Nearly one-half of the households are in the income group of below Rs. 100 per month. It may be deduced from this that the average income of the urban household is Rs. 3660 per annum and that of the rural household is Rs. 1850 per annum. Among the two poors the urban poor is a little better placed.

The perspective planners have projected a scenario whereby, by the turn of the century the households that may not afford to own standard houses may range between 50 million to 92 million. On the rural side the number of households incapable of paying for a standard house may range between 37 million and 70 million whereas that on the urban side may vary between 12 million and 13 million.

If all of them were to be given standard R.C.C. houses at present rates the subsidy figure may be very staggering to the tune of Rs. 610 billion. This, however, need not preclude from setting an ideal, which if not achieved in the immediate future may at least lead us nearer our goal of bridging the gap between the man and the house. To this end we may begin by giving a high priority to housing, scaling down the standards but aiming at better environment. We may not aim at having a house to last 50 to 100 years, but should set our eyes on a house which may carry us through its life span of say 10 to 15 years.

Standardization

This leads to an inescapable conclusion that in order to meet the challenge some sort of standardization leading to manufacturing of some of the important components of houses, like the doors, windows, lintels, hollow concrete blocks, built in cupboards, precast cooking platforms, precast shelves for storing groceries and utensils, drying bars, peg sets, etc., is required to be resorted to. The use of flyash which is obtainable in plenty, from the thermal power stations could, to some extent, help conserve the cement which is in short supply.

The people in rural areas have, through ages, developed an expertise in construction of houses with materials locally available to them. Besides encouraging this trend the know-how obtained from the laboratories may have to be taken to them to promote their acceptability. It is a common experience that any new device is taken with a pinch of salt. People in general will not fritter away the hard-earned saving on untried and untested material. Materials like flyash, quick setting lime, stabilized earth and a host of others have on experiment proved to be useful in construction work, yet they have to become acceptable to the public. It is on record that it took about 50 years for bath-tub to come in baths of European countries as the idea of seeing the reflection of one's own nude body was considered a moral taboo. The introduction of biogas in rural houses suffers from similar inhibitions.

The majority of rural houses are marked by the absence of adequate light, ventilation, and sanitation. As a result they become dingy and unhealthy. Of all the bounties of nature there are only two which are still free and untaxed. They are sunshine and air. They, therefore, should be used to the desired limits to make the houses of teeming millions cheerful and healthy. In a tropical country like India openings in a house to the tune of 10 to 17 per cent of floor area are considered enough to admit adequate sun and air.

Environment

Motorized transport is at once the boon and the bane of urban life. It brings in its wake din and dust which pollute the atmosphere. Excessive noise has been a part of industrial environment for a long time. Motors, horns, metal presses, riveters, drills, lathes, heavy machinery, work and movement, blaring radio and loudspeakers, supersonic aeroplanes have become irritant and a source of environmental annoyance. In the process of planning of the settlements these are required to be kept at a safer distance to assure an atmosphere of serenity within and without the houses.

Road accidents

For the poor the only means of easy, cheap and handy conveyance is the bicycle which is seen plying everywhere throughout the country. But the road pattern available in the urban areas do not take kindly to the poorman's vehicle. There are about one million cycles in Delhi which means 6 or 7 out of every ten vehicles are bicycles and in many other cities like Bangalore, Pune and Hyderabad they are as many as 65 per cent of the total traffic. The semblance of the footwalks and the cycle tracks are fast giving way to the road widening meant to accommodate the motorized transport. Cycle tracks are now conspicuous by their absence and wherever they do show their existence they are bumpy and are hazardous owing to the access to the bungalows crossing the cycle tracks at interval of every 100 feet or so.

About 30 per cent of oxygen we get is from the trees, vegetation and grasslands. In the light of this fact the need to preserve and plant more trees should be impressed upon the minds of the people.

It has now been estimated that on an average 25 per cent of the persons killed in road accidents in cities are the cyclists. This apathetic indifference to the needs of the poorman is inexcusable when the consideration of improvement in the houses of the lowest income group is being discussed for implementation. The housing we contemplate for the low income groups must promise a relationship of people to one another so as to create confidence in them and to shed their economic backwardness and the inferiority complex that follows.

The roads have a dual function. They provide a thorough passage and access. There is, therefore, a possibility of conflict between these two functions, the motorized and non-motorized transport should have well defined traffic lanes to avoid bottlenecks and accidents. In housing colonies motorized transport should be confined to the periphery and should

not be allowed to penetrate into the open spaces and play-fields.

Landscaping

The area surrounding the houses and settlements should have a fair sprinkling of trees, lawns and shrubberies. The trees besides giving the desired shade to the houses, bring down the temperature by transpiration process. Prof. Lamant Cole has shown that Oxygen in atmosphere has remained stable because of green plants recycling it by photosynthesis.

About 30 per cent of Oxygen we get is from the trees, vegetation and grasslands. In the light of these facts the need to preserve and plant more trees should be impressed upon the minds of the people.

There is no doubt about the fact that the use of local materials, standardized building components and scaling down the standards in area and specification will decidedly bring down the cost to be within the tolerable reach of the persons badly in need of houses. No efforts should, therefore, be considered too great in popularizing all the technological measures aimed at economizing on construction. This, however, need not be considered as an end in itself and a panacea to cure all evils. Standardization is not a magic wand the touch of which would bring quick results on platter.

Efforts in this direction are required to be made at the highest political level, without which housing for poor will remain a distant dream.

The key building materials like brick, cement, steel and timber must, of necessity, be handled at Government level. It would be advisable to open building material markets at important centres so as to make them available to the people. Secondly the land policy should undergo a drastic change and that the majority of the land should be under Government control. Such a policy if pursued properly, the land for house building would be available at a fairly cheaper rates. Technological progress and the policy of the Government will in the end enable the common man to realise his dream which had hitherto been eluding. △

SIGNIFICANCE OF WATER AND SANITATION FOR PHC WORKERS

Water quality, water quantity, excreta disposal and all the aspects connected with sanitation and the transmission of water-connected disease usually have been considered as factors, each contributing its part, to the spread or containment of these diseases. The available empirical evidence suggests that it may be more fruitful to look at all these aspects: if only one of them is not met it has immediate detrimental effects on health. If all are not met the improvement of any one or two of them will not contribute much to the reduction of disease.

In developing countries the most important aspect of the water-connected diseases probably is the "water-washed" mechanism where disease transmission depends mainly on the availability and the use of large quantities of water irrespective of their quality. Where water scarcity is an important feature of life—true for many rural (and urban) areas of developing countries—nothing much can be done about it on the local level without considerable economic improvement. This is possibly the reason why the question of water quantity is virtually not addressed in the training manuals of PHC-workers. Theoretically there are three aspects related to the transmission of water-connected diseases on which the PHC worker can have an impact : improving the water quality by advice on protecting wells/springs, on boiling drinking water and on building latrines. These measures, however, are not easily accepted by the population for a variety of reasons. Even if individuals or the population at large would adopt them this would probably have hardly any impact on the prevailing morbidity and mortality pattern as long as the other conditions, notably increased water quantities and changed hygiene habits are not met.

At the moment there is a lot of talk about the importance of preventive measures in the context of primary health care and PHC workers in developing countries. Yet a closer look at the originally "water-borne"—labelled diseases shows that the interruption of the transmission probably depends much more on water quantity than water quality. Because the PHC worker—due to his training and due to economic constraints of a poor population—can at best improve water quality, his ability to reduce the morbidity and mortality due to these diseases is rather limited.

— ZACHER, W. HYGIE

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INTEGRATED EFFORT IN MALARIA CONTROL

NEDD WILLARD

Integrated effort in malaria control includes, chemotherapy, vector control, environmental management. Much can already be done now with the means at hand. For example, so-called "man-made malaria" may be the result of faulty drainage or the creation of breeding grounds for mosquitoes. When roads are built, the pits from which soil was dug are often left uncovered and become mosquito breeding spots. Sometimes these swampy ditches can be eliminated simply by using a pick and shovel. Irrigation that is poorly conceived or executed can spread malaria so that it is important for sanitary engineers to be associated with the design and operation of irrigation systems.

ROUGHLY 40 per cent of humanity, 1,900 million people, are still at risk from malaria today. The disease exists in varying degrees of intensity in 102 countries and poses a continuing problem to health authorities. Resistance of the *Anopheles* mosquitoes, which transmit the disease, to pesticides and resistance of the most dangerous malarial parasite, *Plasmodium falciparum*, to the drugs most commonly used to treat the disease have made things worse. These factors give urgency to devising new strategies, both nationally and internationally, and have spurred research.

Resistance to DDT and other insecticides was first recorded in *Anopheles* mosquitoes in Greece in 1950. Since then there has been a steady increase in the number of *Anopheles* species showing resistance. By 1968, malaria vectors were reported in several areas to be resistant to one or more insecticides.

The intensive and in many instances excessive and irrational, use of pesticides was mainly responsible for the "selection" of resistant mosquitoes. Those which are most susceptible die. Those which are resistant survive and go on to multiply and fill the population gaps left by the others. Where massive agricultural spraying has been going on for a number of years in some cotton growing areas for example, mosquitoes now show a high level of resistance to the main classes of insecticides: Organochlorines, organophosphates, carbamates and synthetic pyrethroids.

Fortunately, in some countries, insecticide resistance does not yet pose a serious problem. This is the case in most of South America, Africa and the Western Pacific. In other places, such as Sri Lanka, the local malaria vector is resistant to DDT but remains susceptible to most of the other insecticides.

Chloroquine falters

A similar situation has developed in relation to the malarial parasite itself, which has developed resistance to many of the drugs most commonly used in treatment, especially chloroquine. Chloroquine-resistant forms of *Plasmodium falciparum* were first reported from South America and South-East Asia. In the Americas, resistant forms are found in ten countries as far north as Panama. In Asia, they are found as far west as India and as far east as some of the Pacific islands. Alarmingly, resistant *P. falciparum* is now known to occur in East Africa. In some places, such as Thailand, up to 90 per cent of all *P. falciparum* malaria cases fail to be completely cured with the standard dosage of chloroquine. And increasing proportions of these sufferers derive no benefit at all from this drug. Other drugs are available for the treatment of chloroquine-resistant falciparum infections, for example, quinine, the tetracyclines and combinations of sulfamides with pyrimethamine such as Fancidar. But reports are coming in of treatment failures with Fansidar in some areas with a high degree of chloroquine-resistant *P. falciparum*. New drugs, safe drugs, are urgently needed.

In addition to these grave problems, efforts to control malaria have been hampered by administrative, financial and even political problems. Fighting malaria costs money and, over the years, many developing countries have been reluctant to put their scarce funds into a struggle that has no end in sight. Moreover, changing health priorities have often meant depriving anti-malaria programmes of the vehicles, personnel and funds they vitally need. Also, most measures require

a high degree of cooperation on the part of the people concerned, which is hard to achieve on a long-term basis.

New strategy

Working with its Member States, WHO has helped to draw up a new strategy which is intended (1) to reduce mortality, (2) to curb suffering from the disease (both of these steps rely primarily on making effective drugs and good treatment available to all those suffering from malaria), and (3) to prevent and control malaria to the extent possible, so that socio-economic development is not hampered by the effects of the disease and to achieve eradication whenever this is feasible.

Malaria control as part of Primary Health Care (PHC) systems requires technical, organizational and administrative changes. Priority will go to supporting activities that are related to integrated effort in malaria control. Integrated effort means using all measures available today for the control of the disease: chemotherapy, vector control, environmental management. Much can already be done now with the means at hand. For example, so-called "man-made malaria" may be the result of faulty drainage or the creation of breeding grounds for mosquitoes. When roads are built, the pits from which soil was dug are often left uncovered and become mosquito breeding spots. Sometimes these swampy ditches can be eliminated simply by using a pick and shovel. Irrigation that is poorly conceived or executed can spread malaria so that it is important for sanitary engineers to be associated with the design and operation of irrigation systems. Larviciding, through the application of biological or chemical agents, also has an important role to play although it can rarely be successful in isolation.

In fact, the environment as a whole can be used with good engineering to cut down on malaria but this will require proper planning and active community involvement. Combinations of insecticides, integrated with such biological methods as larvivorous fish and other methods of control, offer some hope. They should be combined with treatment of malaria cases. Strong educational programmes can show how personal protection, such as the use of mosquito nets and improvements in housing, can help bring down the incidence of malaria.

Speeding up research

Research is being accelerated in a number of fields: applied field research, research on chemotherapy, research for potential malaria vaccines.

Applied field research means finding out more about the complex factors involving the mosquito and the human and natural environment in which the mosquito operates. It means finding answers to practical problems. The types of crops being grown and the pesticides used are studied. Changes in the behaviour of mosquitoes must be closely watched as well, since they may develop the ability to avoid contact with insecticides sprayed on the inside of houses.

Roughly 40 per cent of humanity, 1,900 million people are still at risk from malaria today. The disease exists in varying degrees of intensity in 102 countries and poses a continuing problem to health authorities. Resistance of the *Anopheles* mosquitoes, which transmit the disease, to pesticides and resistance of the most dangerous malarial parasite, *Plasmodium Falciparum*, to the drugs most commonly used to treat the disease have made things worse. These factors give urgency to devising new strategies, both nationally and internationally, and have spurred research.

More training is going to be needed. In the early days of malaria eradication programmes, simple skills often seemed enough. Today, with the complex evolution of the situation in all its aspects, a variety of skills are necessary. Therefore, WHO is pressing ahead with expanded training and retraining of health professionals in many different fields.

Drugs—new and ancient

Research and development are vitally necessary to develop alternative anti-malaria medicines. Two promissing drugs, mefloquine and Quinghaosu, are under development by the UNDP/World Bank/WHO Special Programme for Research and Training in Tropical Diseases. Both are effective against chloroquine-resistant falciparum strains but neither is ideal. Mafloquine, discovered by the Walter Reed Army Institute to Research (USA), is the only new anti-malarial drug that has reached an advanced stage of development and clinical assessment. Qinghaosu is derived from an ancient Chinese herbal remedy. But all drugs that may be used have to be carefully tested first and used in a controlled manner to prevent rapid development of parasite resistance. This will mean strict measures of drug control by national health authorities.

The reliance on drug treatment in the new strategy will require the establishment of a surveillance system to detect the development of malaria parasite resistance. This system should be based on observations by all those responsible for treating malaria cases. WHO has developed kits with which health workers can observe in a test-tube the response of *P. falciparum* parasites to the commonly used anti-malaria drugs.

More research is needed to discover and trace how resistance arises and spreads. Moreover, field workers need simple methods of measuring serum and plasma drug levels in order to distinguish between drug resistance and the effects of abnormal drug metabolism or absorption.

Developing vaccines

Great strides have been made over the past decade in research aimed at discovering a vaccine against malaria. It is likely that one or more types of malaria vaccine will be tested in humans before long. But since unforeseen problems may arise at any stage along the complex route from antigen identification to vaccine production it is impossible to predict exactly when malaria vaccination will become a reality. Vaccination could make a major contribution to malaria control by protecting susceptible individuals from the disease and by limiting transmission of the parasite. Research towards the development of malaria vaccines is the subject of a coordinated effort in several countries and is being carried out under the auspices of a number of national and international funding agencies. Important recent technological advances have enabled protective antigens of the parasite to be identified and isolated, and it is expected that when the appropriate antigens have been selected for use in vaccines their production on a large scale will be feasible. Yet important questions remain: How long will the new vaccines protect people and to what extent? How safe will they prove in use, and how can we be sure that these vaccines will get to those who need them most and be produced at a price developing countries can afford?

Like new drugs and insecticides, it is unlikely that vaccines alone can eliminate malaria. The only feasible strategy will be an integrated approach using all methods, constantly updated by research and data gathered in the field, and understood and supported by practical measures carried out by the people themselves who are most at risk.

—W. H. O. Feature

Involvement of Private Medical Practitioners in Family Welfare Programme

It has been decided that private practitioners of integrated medicine who are members of the National Integrated Medical Association may also be allowed to undertake tubectomy (mini lap) operations as per the following terms and conditions:

1. Only those private practitioners of integrated medicine with necessary expertise and who are members of the National Integrated Medical Association and are recommended by the National Integrated Medical Association will be covered under the Scheme to undertake tubectomy operations in his/her nursing home/clinic/hospital.

2. The nursing home/clinic/hospital should have all facilities for the conduct of tubectomy operations and post-operative care services, viz. equipment, furniture, instrument—sterilization facilities, operation theatre, beds, anaesthesia, resuscitative and emergency services, etc. The Civil Surgeon/C.M.O/D.F.W.O. must certify *in advance* that the private medical practitioner of integrated medicine who is also a member of the National Integrated Medical Association is experienced and has necessary surgical facilities to undertaken tubectomy operations.

3. The private doctor will be responsible for follow-up care and treatment of complications free of cost in respect of his/her own patients either in the hospital/nursing home/clinic or at the residence of the acceptor. In cases of complications of tubectomy requiring hospitalization he/she can refer the case to the Government hospital.

4. The operatee/acceptor should be within the eligible category and should also fulfil other conditions laid down by the Ministry.

5. The following amounts will be admissible to the private doctor/acceptor out of the compensation amount of Rs. 200 regardless of whether the private doctor charges his/her own fee from the acceptor:—

(i)	Amount payable to the acceptor of Tubectomy Operations	Rs. 100/-
(ii)	Private doctor.	Rs. 50/-
(iii)	*Diet to be provided to the acceptor.	Rs. 20/-
(iv)	**Misc. Purposes (State Govt's Share)	Rs. 30/-
	Total	Rs. 200 (Two Hundred only)

*The amount to be paid in case to the acceptor in case diet is not provided in the Nursing Home.

**To be retained by State Govt.

6. In order to ensure the reliability of the information supplied by the private practitioners, the State Governments should prescribe a 20 per cent verification of the cases by the Distt. Family Welfare Bureau and a 2% to 5% check by the State Family Welfare Bureau.

7. The private doctor will have to maintain some minimum records as prescribed by the State Government in respect of acceptors of tubectomy as regards their age, sex, religion, number of children with sex,

(*Contd. in Page 257*)

MEASURES TO CONTROL ENVIRONMENTAL NOISE POLLUTION

K. R. SWADESHI

TODAY, noise has become one of the active pollutants of man's environment. He is completely helpless in avoiding it everywhere—at work, at home and even in the street. Its omnipresence around his surroundings is not only a major factor which affects his hearing power but also results in lessening his working capacity, particularly in the cities all the world over. Medical specialists have also confirmed that noise is playing a very dangerous role in creating nervous disorders and cardiac diseases. It is enormously contributing to create health hazards.

Sources of Noise

Paradoxically, man himself is responsible for noise. During the present century, he has made stupendous scientific and technological progress. He has mechanized most of the manual operations by developing more and more powerful machines, which are responsible, to a large extent, for culminating noise that surrounds him. What a pity that the local source of noise is created by one person or a group of persons, but is affects and has to be faced and tolerated by a large number of people of the locality. The more the scientific and technological advance the newer the source of noise. In other words, noise is going out of man's control assuming larger and larger proportions.

In order to control the problems of noise pollution in Soviet cities, some strict measures have been taken which include a law on the protection of the atmosphere air. The experts are taking concrete scientific steps in order to control noise as far as possible, if not wholly. For instance, recently a State standard of noise has been introduced on maximum permissible noise levels in the Ukraine. Now all the work of noise control is coordinated by the Inter-Department Commission in this republic.

Preventivt steps

Health and epidemiological centres of the republic make about 300,000 noise level measurements every year. Preventive measures are always far better than surgical operations. Therefore, health control is exercised in the republic at all stages of design, construction and modernization of projects.

During the last six years, more than 1,000 industrial enterprises in the Ukraine have been screened for noise. The ones which created nuisance have been shifted from the residential zones to special industrial complexes. The remaining have either been modernized or their equipments have been replaced in the light of health regulations. For instance, when a mining machine was found short of State standards it was discontinued. At the same time, some types of metal-working machines in the engineering industry have also been replaced.

Scientific devices

Sound-absorbing walls have been constructed in the textile industries. Blueprints for an oxygen converter workshop provide for a new technology at the iron and steel works in Dnieprodzerzhinsk, which is under construction. It will greatly help in reducing noise.

In other large cities, blocks of residential flats are built at a far distance from the roads where heavy traffic, which engineers noise to every house, is plying. Detours have been provided and streets are opened only to pedestrians. Sound-insulating materials, use of triple glass and special direction of windows used in the flats have proved very effective and help avoid much of noise penetration into the residential locality. Living rooms face the yard, with closed galleries fronting the street and a hospital and a polyclinic have been built in the acoustic shade of one of the blocks of flats in Dniepropetrovsk. These measures have resulted in reducing noise level by 20 to 30 decibels in this particular block.

The specialists of the Dniepropetrovsk Institute of Civil Engineering have set up unique acoustic proving grounds and a quiet chamber. The ideal acoustic conditions, thus, provided help to test future residential areas with shops, schools and kindergartens. Instruments imitate any city noise. Here not only blocks

and areas are modelled but also terrain. Now, new houses in Dniepropetrovsk are erected only on the scientists' recommendations.

Curbing transport noise

Transport is the greatest noise-maker in modern cities. In order to control its noise, studies were carried out in 30 cities of the Ukraine republic. The experts made special maps, which indicate zones of acoustical discomfort, the "hottest" spots, and noise perspectives for the future. These maps are taken into consideration whenever the development of the cities is planned. They help choose the right type of building and more rational architectural and planning directions.

Morever, river ships on the Dnieper are prohibited to sound signals when they pass residential localities. In order to reduce aircraft noise, the number of night flights has been cut. Over-flight over residential areas has also been forbidden. In Kiev, protective screens have been erected along railway lines, which help avoid the noise.

In green spaces the dust content of the air drops by 40 per cent. The "green fences" absorb and dissipate sound energy and are good means of noise protection. Therefore, every year about 40,000 trees and 350,000 bushes are planted in the city of Kiev. The green barrier along the streets, in fact, is an effective absorber of sonic bang. △

SCHISTOSOMIASIS—AN ENVIRONMENTAL DISEASE

In the past decade many water resources development programmes have been undertaken in endemic areas of Africa, South America and Asia. During this period an increase has been observed in the transmission of communicable diseases, particularly of schistosomiasis. (A blood-fluke (trematode) disease with adult male and female worms living in veins of the host (mainly mesenteric, portal and pelvic veins). Eggs there deposited produce minute granulomata and scars in organs where they lodge). Such projects have led to the development of many regions, but as a result schistosomiasis has now attained an unprecedented prevalence.

Schistosomiasis is caused by waterborne parasite which is snail-transmitted and infects humans on contact. Its transmission is always a local ecological phenomenon, particularly in desert lands, where it occurs in oases or fertile valleys. Difficulties in control in rainy and intensively irrigated areas may frequently be anticipated, particularly when there is dense population relying on the use of water for land and cultivation for example Nile delta of Egypt and Gezira region of Sudan.

The disease occurs mainly in the tropical and sub-tropical regions, where it ranks high among the major public health problems. It has been estimated that at least 200 million people in 72 countries suffer from this chronic disease. During the first half of the present century schistosomiasis affected more than 10 million Chinese, and probably resulted in greater number of deaths than in any other country. Productivity is inevitably affected through increased absenteeism and decreased work capacity. Reduced productivity and costs of medical care, can be expressed in monetary terms, but other losses are more difficult to quantify, for example, the discomfort of illness, increase in the dependency ratio due to morbidity, etc.

Efficient disposal of human excreta should be an adequate method of controlling transmission of schistosomiasis, but the socio-economic conditions prevailing in many endemic areas make the provision of adequate facilities difficult. Washing and laundry facilities require a safe water supply as bathing in water is a common mode of infection. If adequate water is provided to meet the needs of the population, schistosomiasis will consequently be reduced. The provision of water should be linked with ensuring adequate drainage, otherwise the problem of schistosomiasis and other infections may even be aggravated.

The control of schistosomiasis is an urgent need for improving health in endemic areas and also for enhancing socio-economic progress in these areas. However no single method for the control of schistosomiasis has been recommended; only an integrated approach which takes local factors into account can achieve successful results. Health education, medication and surveillance of population movements are the principal tasks to be undertaken to control the disease. Japan was able to procure active community support to eliminate snail habitat by environmental modifications. Also in China, the socio-political structure made it possible to implement the necessary environmental changes and thus achieving a considerable reduction in prevalence.

—Kunwar Jalees,
School of Environmental Sciences,
Jawaharlal Nehru University,
New Delhi-110 067.

OPEN HEART SURGERY IN INFANCY AND EARLY CHILDHOOD

DR M. R. GIRINATH

IT is estimated that two and a half lakh children with congenital heart defects are born each in India. Of these, roughly one third die in the first month of life and another one third between one month and one year of age. Approximately 50 per cent of those who survive the first year of life die before they reach the end of the fifth year. Thus, by waiting till a child with congenital heart disease is about five years of age, less than 20 per cent of these children can be salvaged by corrective surgery.

Open heart surgery in very small children has now become feasible with the help of techniques that have been developed during the last decade or so. The main problem confronting the surgeon is that very small children, especially infants do not withstand conventional techniques of open heart surgery very well. The post-operative management of these children is also very much more difficult than in older children and adults. The most significant advance in this area has been the introduction of the profound hypothermia and total circulatory arrest technique devised at first by Mohri *et al* and later perfected by Barratt-Boyes, Merendino, Kirklin, Cartmill and others. Various modifications of the technique exist but the technique developed by Barratt-Boyes is the most widely used. The technique essentially consists of covering the infant with ice packs after induction of anaesthesia and allowing the nasopharyngeal temperature (which reflects the brain temperature) to come down to around 25 C. At this temperature the chest is opened and the child connected to a heart lung machine. The temperature is brought down to about 17°C with the heart lung machine during a short period of Cardio-pulmonary bypass. At this temperature, the circulation is arrested and the repair carried out in a still, relaxed and empty heart without any cannulae obstructing the field. Following completion of the repair, the child is re-warmed with the help of the heart lung machine to a rectal temperature of 37 C. The advantages of this technique are that the period of cardio-pulmonary bypass is considerably reduced and the surgeon gets the most ideal operating conditions for doing difficult repairs in small hearts.

There are a few congenital heart defects such as transposition of the great arteries, total anomalous pulmonary venous connections, ventricular septal defects with large flows, total atrio-ventricular canal defects, some cases of tetralogy of Fallot etc., in which without surgical intervention survival beyond the first year of life is not possible. These exciting new techniques are now available at a few centres in India—namely at the Southern Railway Hospital, Madras Bombay Hospital and the All India Institute of Medical Sciences New Delhi. At the Southern Railway Hospital, Madras more than 100 operations have been done during the past four years using these techniques for a variety of conditions. The overall mortality has been less than 20 per cent which though high is acceptable because many of these children had complicated defects. Because of a lack of awareness that surgery is possible in very young children there has been a paucity of referrals. The development of this field has therefore been slow in our country. △

(*Contd. from Page 254*)

age of youngest/younger child, address, etc., and send the return to the Distt. Family Welfare Officer through the local branch of National Integrated Medical Association every month.

8. **Ex-Gratia Payment in the event of Death after Tubectomy operation.**

A sum of Rs. 5.000/- (Rupees five thousand only) as ex-gratia payment will be paid to the spouse or the natural heir in the event of death of the person as a consequence of tubectomy operation by the above categories of private medical practitioners of Integrated Medicine. The ex-gratia payment will be regulated by rules and conditions already laid down by the Govt. of India, Ministry of Health & Family Welfare (Deptt. of Family Welfare) in this regard. For this purpose, the concerned private integrated medical practitioners will be required to contact the chief Medical Officer of the respective district. △

ON LEPROSY

NEW APPROACHES IN LEPROSY CONTROL

VACCINE TRIALS UNDER WAY

TRIALS have started with human volunteers on a vaccine that scientists hope will combat leprosy, a disease suffered by millions of people and still spreading.

The vaccine has been prepared by the Wellcome Foundation drug group of London for Britain's National Institute for Medical Research, where a team is working as part of a World Health Organization special programme to speed progress in fighting major diseases.

The vaccine, which is made up of dead leprosy germs taken from two-year-old armadillos, is badly needed because present-day drugs are not containing the disease as new strains develop. A once-only injection of such a vaccine given to children when they go to school from isolated rural areas could overcome the problem of repetitive drug injections and lead eventually to world eradication of the disease, as recently happened with smallpox.

The vaccine has already been used with dramatic effect on groups of patients with the most serious form of leprosy at an advanced stage in Venezuela. Now the aim is to carry out organised trials with humans in Britain, Norway and the United States. These countries have been chosen because of their varying public health immunisation programmes. The trials will, therefore, produce wider-ranging information than simply covering individual response to the vaccine.

The first of these trials has started in Norway and involves a group of seven to 10 people. The group will be progressively widened, depending on the response. Similar U.K. trials are expected to start later this year.

Once these trials have been carried out and the results analysed, a more detailed study will start with trials in an area of the world where leprosy has a firm hold.

Although it was one of the first human diseases shown to be caused by a bacterium, leprosy has been particularly difficult to study because the organisms cannot be grown in the laboratory. A major step forward was made in 1971 when it was confirmed that the nine-banded armadillo was susceptible to the disease.

(Contd. in Page 26)

REHABILITATION OF LEPROSY PATIENTS

SHRI ZAIL SINGH, President of India, has called upon humanitarian organizations like the Hind Kusht Nivaran Sangh to help leprosy affected persons to earn their living by doing some work and not being forced to resort to begging or living on doles.

Addressing the annual general meeting of the Sangh in New Delhi in August 1983, the President said it was a crime on the part of the society to let leprosy patients beg for a living.

These patients needed job training, employment, marketing of what they produce and assistance to avail themselves of the facilities granted by the government.

"Whatever we can give, let us give with love and sympathy which patients crave for", the President said. Leprosy could not be handled successfully by doctors alone. "The psychological, social and economic problems that leprosy creates for its victims and those of the victims' families have to be tackled by social workers as well", he said.

"The vital role the voluntary agencies have to play in this field cannot be overemphasized. Health education and rehabilitation are the two important areas where voluntary agencies are better suited than the government department to produce results," he added.

Shri Zail Singh spoke of the interest shown by the Prime Minister, Smt. Indira Gandhi to wipe out leprosy by the turn of the century and its inclusion in the new 20-point programme. "Voluntary organizations are best suited to take advantage of the people's enthusiasm to strengthen the national leprosy eradication programme", he said.

Health for All by 2000 AD would remain an empty slogan if the participation of the people was lacking in the efforts. Therefore, voluntary organizations should prepare the ground by educating the people about the basics of good health.

The President said that doctors and scientists were doing commendable work in research and we can only hope that the day will not be far off when an effective vaccine is discovered to protect people from the onslaught of this disease. △

AID TO EARLY DETECTION

A TINY instrument the size of a fountain pen offers the prospect of early detection of leprosy at a stage when action can prevent the victim from being disfigured.

The thermal sensation tester is a new approach to leprosy detection and has been developed by a Scottish firm (Speyside Electronics Ltd.) which normally specialises in microprocessors for the oil industry. In the face of world competition, it won the contract to develop an idea put forward by Mr. Michael O'Regan, a leprosy worker for the World Health Organization in Geneva. He and Mr. Bent Stumpe, an electronics engineer also from Geneva, put forward plans for a neat and simple electronic device that could detect leprosy in its early stages.

An estimated 15 million people worldwide are currently suffering from leprosy and, although the disease can be cured, 25 per cent. of those who contract it are left permanently disabled. Early detection is therefore vital before the disease disfigures its victims.

Mr. Michael Ramsay, Managing Director of Speyside Electronics, said: "One of the characteristics of leprosy is the inability of victims to distinguish between hot and cold in patches of skin affected by the disease. Various methods are used to test thermal sensation, one of them involving holding test tubes of water at different temperatures against a patient's skin. In remote parts of the world where there is neither water easily at hand nor the means to heat it, a new method was needed."

The Speyside tester has already been described as a "magic fountain pen" because of its ability to provide a simple and instant nerve reaction when put to the skin. The device, which operates on two small penlight batteries, has an electronic head at one end with a probe that is heated to 40 degrees C when the tester is switched on. The other end of the unit acts as a contrasting cold probe.

Speyside has supplied 20 prototypes to the WHO, and trials in India, Africa and Thailand with them have another couple of months to run. Mr. Ramsay said that, although the device is deceptively simple, it took a long time to solve the problem of fitting the electronic mechanism into such a small casing where it competed for space with the two batteries. Mr. Ramsay said it was not only leprosy victims who would benefit from the development. Neurosurgeons doing research on pain thresholds think they might also be able to develop the device for their own tests. A prototype tester has already been supplied to a neurosurgeon in Stockholm. —BIS

More Tooth Decay Reported in Third World Countries

IN 1982 for the first time ever, more people in the developing world were victims of toothache than those in the developed world, according to a report presented to the thirty-sixth World Health Assembly held in Geneva.

That is one indication why the state of oral health today is deteriorating in most countries of the third world, and particularly in urban areas, while it is improving in the industrialized world.

This represents a sharp reversal of trends from two decades ago, and is attributed to preventive programmes against both dental caries and periodontal diseases (diseases of the gum and tissue around the tooth). While such programmes are carried out by developed countries, they are, in large part, neglected by developing countries.

The prevalence of dental caries is recognized as the chief indicator of oral health trends. According to experts of the World Health Organization (WHO), the average number of caries in a population is gauged by an index, based on a count of teeth "decayed", "missing" and "filled" (DMF) in a person at age 12.

Drawing on new data available from a WHO bank, the report shows the DMF-teeth index as an average of 4.1 for the third world in 1982, but only 3.3 for the industrialized world. For urban areas of developing countries, it is even higher than 5.

By way of comparison, 20 years ago the index was less than 1 DMF-teeth for most developing countries, and as high as 10 DMF-teeth for developed countries. An index of up to 1.1 is rated "very low" in caries; from 1.2 to 2.6, "low"; from 2.7 to 4.4 "moderate"; from 4.5 to 6.5, "high"; and above 6.6, "very high".

According to targets set in 1979, the goal is an average of a 3 DMF-teeth index for all countries by the year 2000. Although health officials believed that the prevalence of dental caries "could be health for most of the developing countries at, or below, the level of 3 DDF-teeth", that is not as yet proving to be the case, the report states.

Another indicator of oral health is in the prevalence of periodontal disease. Here, again the pattern for developing and developed countries is dissimilar.

The prevalence of periodontal disease "remains high" in the third world, the WHO report says, while it is decreasing to "moderate or even to low levels" in industrialized countries.

By the year 2000 "many of the highly industrialized countries will do far better than expected, reducing their prevalence well below 3 DMF-teeth, and very markedly reducing their levels of periodontal diseases also", the report says in summarizing the situation, while adding :

Warning that targets are "unlikely to be achieved by present endeavours", the report calls on third world countries to carry out programmes that promote oral hygiene, essentially, brushing teeth; fluorides in water, in tooth paste, in salt, and as tablets; as well as diets low in sugar. "Though adequate, simple, inexpensive, preventive technology is available", the WHO report states, "it has almost been exclusively the highly industrialized countries" that have used them.

The greatest need of the third world is for the primary health care worker, trained in preventive measures, with dental auxiliaries next, at the level of first referral, and with dentists only at the second level, but with responsibility for all.

—U.N. Weekly Newsletter
July, 29 1983.

VITAMIN B IS NEW CHALLENGE TO DISEASE

SCIENTISTS have discovered that children suffering from metabolic diseases can achieve a "remarkable" recovery by being given doses of Vitamin B.

Research at the Clinical Research Centre at Harrow, London has shown that children with disorders of organic acid metabolism can develop a secondary deficiency or insufficiency of carnitine, which is also known as Vitamin B1. It appears to be associated with increased acylcarnitine excretion.

Dr Terry Stacey, of the centre's paediatric research group, told a London conference that it was now thought that extra carnitine would prove to be of general value in the treatment of patients suffering such diseases.

He said the clinical consequences of carnitine deficiency included musle weakness, recurrent vomiting and general failure to thrive. "Secondary carnitine deficiency, which has been identified in children with several metabolic diseases, must contribute significantly to the spectrum of symptoms observed," Dr Stacey added. One in 5,000 people suffered such disorders.

Dr Stacey said "dramatic" clinical improvement and favourable biochemical changes had been demonstrated in a three-year-old patient as a result of being given oral doses of carnitine. In another case, a baby girl, one of twins, who was admitted to hospital in a coma, was found to be excreting large amounts of acylcarnitine. But when given extra carnitine the child recovered within hours.

There is hope that the use of carnitine may have what Dr Stacey describes as "wider implications".

BIS

(*Contd. from Page 258*)

From then on the armadillo has provided a regular supply of the bacilli from which London's National Institute for Medical Research has produced vaccine. Originally it was difficult to extract dead leprosy germs from the animals without damaging the components that immunize, but three scientists from the Institute devised a process that was adequate both on grounds of purity and volume of yield.

Scientists believe it may still take another seven years to prove the effectiveness of the vaccine and so open the door to a campaign of eradication.

BIS

DR KAKAR IS FIRST INDIAN HONORARY F. R. C. S.

Dr Prem Kumar Kakar, Professor and Head of the ENT Department, Maulana Azad Medical College, New Delhi, was made the first Indian **Honorary** Fellow of the Royal College of Surgeons, London, at a private ceremony held on 13 July, 1983.

Dr Kakar is a renowned ENT specialist who pioneered eardrum transplant in Asia in 1971 and established the only national ear bank in India in 1975. He received the prestigious Dr B. C. Roy National Award in 1982. △

BOOKS

IMPROVING PHYSICIAN-PATIENT INTERACTIONS: A REVIEW. STRECHER, VJ. PATIENT COUNSELLING AND HEALTH EDUCATION. 1983; 4 (3): 129-36.

The interaction between physician and patient comprises aspects of communication common to any two human beings and other aspects peculiar to the roles exclusively adopted by physicians and patients. In this review, nonverbal and verbal elements of general communication are discussed, detailing important aspects of vocal tone, body postures, appearance, and verbal cues that may influence attributions made of physicians by patients. Role-related element of physician-patient interactions are discussed in the light of findings from research on interactions between physicians and patients. Developmental elements of general communication are discussed, relating stages that evolve in interactions to physician-patient interactions. Finally, an examination is made of how interpersonal skills are taught to physicians and medical students. Discussion of what skills are specified for teaching, whether they are effectively taught, and whether the learning of these skills produces desired patient health-related outcomes is presented.

THE MULTI-DISCIPLINARY TEAM: A DIFFERENT APPROACH TO PATIENT MANAGEMENT. LOGAN, RL AND MCKENDRY, M. THE NEW ZEALAND MEDICAL JOURNAL, 1982 DEC. 22; 95 (722): 883-4.

The use of multi-displinary teams in some areas of patient management reflects changing concept of illness and increased specialization of those providing health care. This paper discusses the ways in which they function: Co-ordination of such teams with special reference to the role of the doctor is considered. Briefly examines the reasons why they may fail?

The optimal functioning of a multi-disciplinary team is difficult to achieve and to maintain. The attitudes and modes of behaviour are participative rather than hierachical. If the team is to maintain its cohesion and vitality, it is important that it pays attention to its own health by regular review and assessment of its functions and aims. The principal causes of failure usually lie within rather than outside the team. Goals and roles must be clearly defined and agreed upon. The levels of communication within the group and with those outside it should be commensurate with the goals. The multi-disciplinary team should provide a service relevant to its own community and patients. It should be able to maintain its identity and sense of purpose and must possess capacity for change.

—Highlights of Current Literature
National Medical Library, New Delhi.

Authors of the month

Shri B. Shankaranand
Union Minister of Health & Family Welfare
Nirman Bhawan
NEW DELHI-110011.

Dr N. K. Sinha
Deputy Adviser (Health & F.W.)
Planning Commission
Yojana Bhawan
NEW DELHI-110001.

Dr Arthur Westing
Professor of Ecology
Hampshire College
U.S.A.

Shri S. V. Joshi
Retired Senior Architect
Central Public Works Department
NEW DELHI.

Mr Nedd Willard
Information Officer
World Health Organization
GENEVA (Switzerland).

Dr M. R. Girinath
Addl. Chief Medical Officer (CVS)
Southern Railway HQ Hospital
MADRAS (Tamilnadu).

Qualities of ideal family physician

The ideal family physician was variously described as communicative, sympthetic, easily accessible and knowledgeable at a panel discussion on "What a family physician is to me", held during the annual conference of the General Practitioners' Association--Greater Bombay, held in Bombay recently.

The panelists, representing a broad section of society, insisted that doctors should listen patiently, talk freely and regard their patients not as impersonal cases but as individuals. Patients must be told the nature of their illness and feel confident that they are receiving the best care available, the panelists said.

— *Courtesy :* Medical Times, April-May 1983

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INFORMATION FOR CONTRIBUTORS

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Articles on every aspect of public health are invited. They should be such as have not been published or accepted for publication elsewhere.

The articles should be written in simple and non-technical language so as to be understood by the laymen.

Articles should not exceed 1,500 words in length.

The name, designation and all relevant details about the author should be clearly indicated in the beginning of the article itself.

Manuscripts should be typed on one side of the paper, double-spaced and sent in duplicate.

Good illustrations enhance the value of the articles and contributors are requested to submit photographs, drawings, charts, etc.

Photographs should be in black and white on glossy paper, easily reproducible and of 6 × 8 inches in size.

All photographs, charts, etc., should bear captions clearly on the back.

Lettering on charts, tables, etc., should be in black ink (Indian ink) and should be large enough to be read when reduced. Good quality white paper should be used.

While sending photographs, drawings, etc., contributors should take care to see that they are not damaged in transit. They should be placed between hard cardboards and never pinned to anything.

Each contributor whose article is published receives one complimentary copy of the issue and 25 reprints of his article.