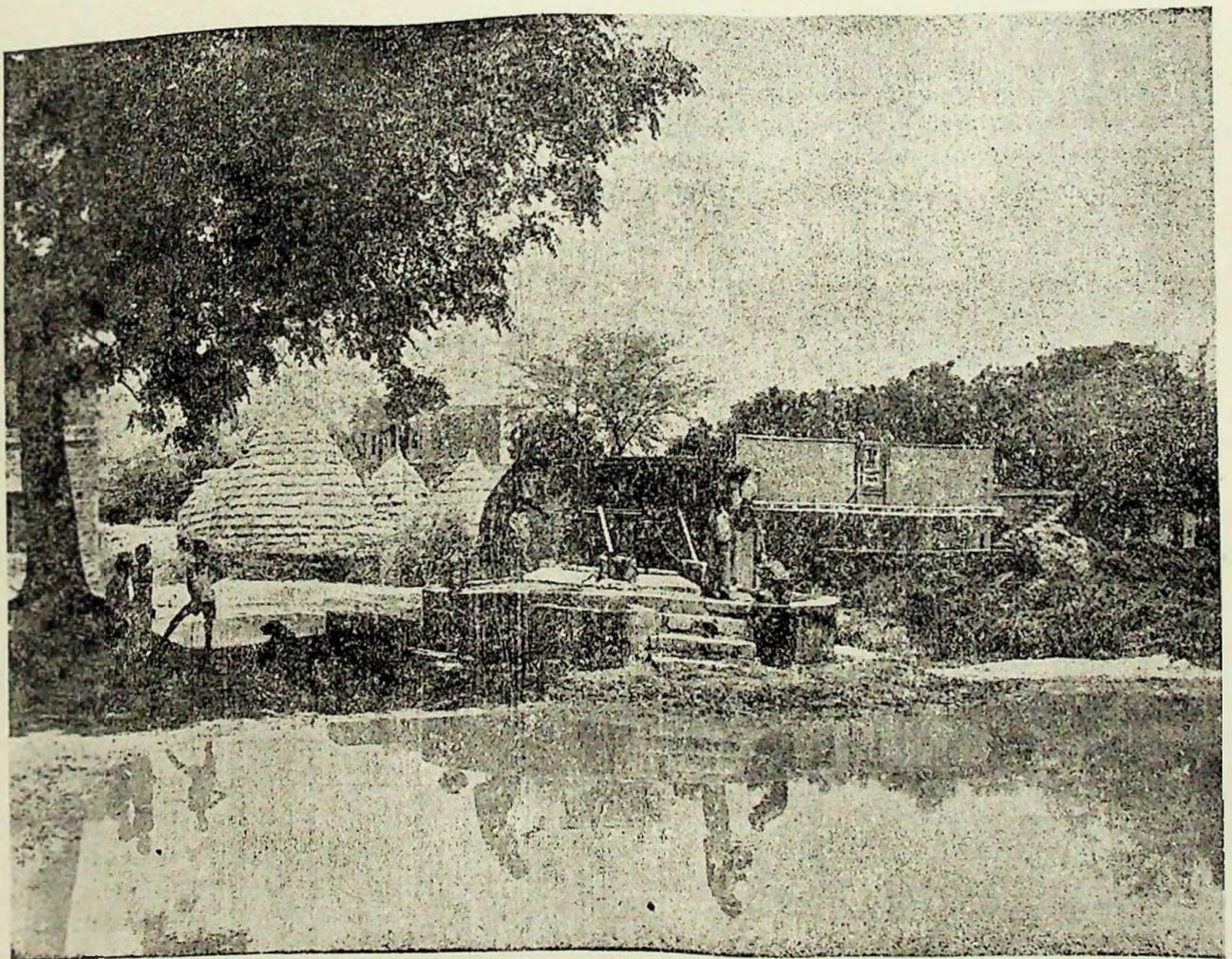


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ENVIRONMENT AND HEALTH

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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.

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Articles on health topics are invited for publication in this Journal.

State Health Directorates are requested to send reports of their activities for publication.

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ON WORLD ENVIRONMENT DAY—5 JUNE

ENVIRONMENT AND HEALTH

No nation—rich or poor—can ever afford to neglect environment. The price we have to pay for the neglect is virtually undermining the very growth we strive to attain. In the beginning man was shaped by an environment which acted as a selecting agent and controlled the evolution of his present features. Throughout the period man, like other animals, could afford to maintain a balance with his environment. But then something happened which changed the face of the world, completely and irreversibly, man developed culture and thereby shattered this equilibrium. From that time on man has been exerting an ever increasing influence upon his environment. Initially, he simply increased the amplitude of already existing environmental traumas. Smoke from natural fires or polluted water from animal carcasses or mineral seeps, for example, was magnified in proportion to man's numbers and cultural diversity.

Nature's assets need to be preserved not only for future benefit of man, not only on grounds of love and compassion, but because every form of manifestation has evolved through the ages and has a particular role in the time-space perspective.

The three-way link between basic health, economic growth and the environment is not often recognised.

"Poverty is an environmental disaster". By this pungent adage, environmentalists are drawing attention to another of mankind's grave problem: an environment sending signal on its dwindling capacity to support the human population.

But the statement has a third, hidden dimension. When the topsoil starts to be swept away, or alternate floods and droughts make farming almost impossible, the ensuing poverty will inevitably bring with it malnutrition. Very soon, farmers will be sapped of energy to tend their fields as well as they should. The women will be forced to scour an increasingly barren landscape for fuel and water. The children's mental and physical growth will suffer and, as a consequence, will neither learn easily nor perform a full day's work. The whole population will become highly susceptible to diseases.

Poverty-related diseases are generally easy to prevent, at least in the clinical sense. Indicative of the state of the environment in the ESCAP region is the fact that some three million children die each year from simple illnesses like diphtheria, diarrhoea, whooping cough, measles, polio and tuberculosis. A host of water-borne diseases, also largely preventable provided that clean water is accessible, is likewise common. Typhoid and cholera, trachoma and scabies, schistosomiasis and guinea worm, malaria, hookworm and jaundice all threaten the region. If only the environment could be improved, many of these diseases, or at least their severity, would disappear. △

INTERNATIONAL YEAR OF SHELTER FOR THE HOMELESS—1987

The objective of the International Year of Shelter for the Homeless is to devise and demonstrate the strategies for improvement of shelter and neighbourhood of the poor and disadvantaged by the year 1987 and to implement all these programmes to bring forth benefits to the world's homeless by the year 2000.

IN the last 20 years there has been steady deterioration in the shelter conditions of the poor and disadvantaged sections throughout the world. United Nations General Assembly felt the urgent need to attract the attention of the world community to solve this problem in the developed and developing countries. In a resolution adopted in December 1981, the General Assembly declared 1987 as International Year of Shelter for the Homeless (IYSH). In some of the developing countries including India, the problem areas in providing food and clothing to the citizens have already been tackled, but the problem of shelter remains.

The objectives of the International Year of Shelter for the Homeless is to devise and demonstrate the strategies for improvement of shelter and neighbourhood of the poor and disadvantaged by the year 1987 and to implement all these programmes to bring forth benefits to the world's homeless by the year 2000. For achieving these aims a number of steps have to be taken like consolidating available knowledge and experience, exchange of ideas and experience and ensuring commitment from people in different walks of life to improvement of shelter and neighbourhood. The time frame has been divided into three slices the first from now onwards to 1986, second the year 1987, third from 1988 to 2000.

The approach paper on India's Seventh Five Year Plan shows housing as one of the most important felt needs of India. The number of additional units required would be at least 17 million during the Plan

period and 13.8 million four years thereafter. In 1981 there was a shortage of 21.1 million houses all over the country.

Explanation of Terms

'Shelter' means the provision of shelter on a site with secured land tenure and facilities like drinking water, sanitation, etc., at a level affordable by both Government agencies and members of low income groups. "The target groups" under IYSH consists of squatters, slum dwellers, shelterless, and other disadvantaged sections who are without services like drinking water, sanitation, health and transportation. The term "human settlements" will denote the totality of a human community whether city, town or village with social, material, organisational, spiritual and cultural elements that sustain it.

In the Indian context 'shelterless' include the homeless, slum dwellers, squatters, pavement dwellers, houseless rural workers, houseless village artisans and other disadvantaged sections who are without basic facilities like drinking water and sanitation.

Shelter has to be provided in the country thus to economically weaker sections of the society, houseless rural workers and artisans and slum dwellers and squatters who can afford a dwelling unit.

Housing Scenario in India

The provision of house-sites and construction assistance has been included in the Minimum Needs Programme and the revised 20-Point Programme

which form the core of the national plan in India. Point 9 of the 20-Point Programme aims at allotment of house-sites to rural families who are without them and to expand the programme for extending construction assistance to them. Point 10 of the programme consists of improving the environment of slums and implementation of the programmes of house building for economically weaker sections.

The Sixth Plan placed a high priority on the provision of house-sites and assistance for construction of houses for rural landless workers. The number of eligible families needing housing assistance at the commencement of the Sixth Five Year Plan was estimated around 14.5 million families. It was further estimated that out of these, 7.7 million landless families were already allotted house-sites leaving about 6.8 million families to be provided house-sites during Sixth Plan period. The plan proposed to provide sites to all the remaining landless families. Out of the families who were provided house-sites, only about 0.56 million families were given construction assistance till the time of commencement of the Sixth Plan. This left about 13.9 million families who needed housing construction assistance.

During Sixth Plan period (1980-85) the target was to cover 25 per cent of these eligible families, i.e., 3.6 million families for construction assistance. The existing scheme provides for an assistance of Rs. 250 per family for developed plots, approach roads and a masonry tubewell for each cluster of 30-40 families in the rural areas and construction assistance amounting to Rs. 500 per family. The scheme is based on participation of beneficiaries and contribution of labour inputs by them. The outlays during Sixth Plan amounted to Rs. 354.00 crores; Rs. 170.00 crores for the provision of house-sites and about Rs. 184.00 crores for construction assistance. The targets under the programme are expected to be achieved with marginal variations. The programme for housing construction in the country should aim at the construction of at least 17 million housing units during Seventh Plan period and 13.8 million four years thereafter.

Programme Implementation

No project financing is supposed to be made available for implementation of IYSH demonstration projects. The authorities will have to carve out financing for such projects from existing budgets and plans. The existing resources of financing shelter programmes include plan outlays for housing and urban land, loans from Housing and Urban Development Corporation (HUDCO), loans from LIC, GIC and commercial banks, State level Apex Cooperative Housing Finance Societies and projects financed by voluntary organisations.

The concept of a National Focal Point will be a main part of the implementation programme. This will be a person or an organisation who is responsible for receiving and distributing information on IYSH,

developing, reviewing and selecting proposed administrative projects, interacting and discussing with non-governmental organisations, stimulating and coordinating local and national activities, organising meetings, seminars, etc., and reporting periodically on progress and achievement. In the States/Union Territories, the Secretary in charge of Human Settlements is likely to be designated the Focal Point. An Apex Committee for the IYSH has already been constituted by the Ministry of Works and Housing, Government of India. This is headed by the Secretary, Works and Housing and includes the Chairman-cum-Managing Director, HUDCO; Secretary, National Buildings Organisation; representatives of the Ministry of Works and Housing and Finance and commercial banks, Secretary Housing and Urban Development of Uttar Pradesh, the Special Secretary Housing, Kerala, and Secretary Planning, Andhra Pradesh. ●●

Terms of reference of the committee include identification of action areas for the Year, drawing plans and programmes, coordinating activities in the IYSH, and interacting with state level Apex Committees. ●●

HOUSE-SITES FOR RURAL LANDLESS

Many States have exceeded the target of providing house-sites to the rural landless workers during the Sixth Five Year Plan, according to a review made by the Government of India.

A total of about 53 lakh house-sites have been provided to rural families in 18 States during the Plan period upto February, 1985. The scheme is not in operation in Manipur, Meghalaya, Nagaland and Sikkim because the availability of house-sites is not a problem in these States.

Under item nine of the new 20-Point Programme, house-sites are provided to rural families who are without them, and programmes for construction assistance expanded.

The States which have exceeded the target of providing house-sites are Andhra Pradesh (14,93,170 house-sites), Uttar Pradesh (5,55,332), Gujarat (4,02,814), Karnataka (3,99,138), Rajasthan (3,38,042), Maharashtra (1,73,873) and Tripura (27,149), against their plan target of 11.10 lakh; 3.70 lakh; two lakh; 3.50 lakh; 1.90 lakh; 90,000 and 20,000 house-sites respectively.

In Tamil Nadu also, 13,10,724 house-sites have been provided to rural landless workers during the period, which is very near the target of 13.20 lakh house-sites. △

BIG CHANGES IN CITY PROJECTIONS

HUGH O'HAIRE

Some of the world's largest cities are growing less rapidly than had been thought. But a few are growing faster, and in any case, by the end of the century, almost half the world's population will be living in urban areas.

USING new data from the latest round of national censuses, the United Nations has scaled down its projections for the future populations of some of the world's largest cities, among them Mexico City, Shanghai and Tokyo.

The reductions in the United Nations projections are in some cases quite dramatic. Take the largest cities in China: Beijing and Shanghai. In 1980 the United Nations estimated the size of Beijing at the year 2000 as 22.8 million; the revised figure is 10.8 million. Shanghai in the year 2000 shrinks in the new projections to 13.5 million from the 1980 estimate of 25.9.

According to Nancy Chen, who is in charge of urban and city population projections for the United Nations Population Division, the reductions may be dramatic, but they are not surprising: earlier projections for the size of Chinese cities were based on the 1953 census, the only figures available until recently. Once the results of both the 1964 and 1982 censuses (which were issued simultaneously) became available, more accurate estimates became possible. In effect, the earlier projections were based mostly on speculation while the new figures reflect trends actually experienced by cities up to 1982, said Mrs Chen.

A different case is Mexico City, where projected population in the year 2000 has been revised downward from the 1980 estimate of 27.6 to 26.3 million. This is a result mainly of the projected long-term effects of Mexico's decline in fertility. Mrs Chen said that because of the fertility decline, the projections for the total population of Mexico were also

revised. According to the 1980 United Nations assessment, Mexico would have had 115.7 million inhabitants by the year 2000; the new assessment puts Mexico's total population by the end of the century at 109.2 million.

Up-to-date information based on actual trends also caused a change in the projections for Tokyo-Yokohama. Data from the 1975 and 1980 Japanese censuses, which was not available when the United Nations made its urban projections in 1980, now show that Tokyo/Yokohama grew more slowly recently than it did earlier than in the century. The new projections put the population of Tokyo/Yokohama by the year 2000 at 17.1 million down from the 1980 assessment of 23.8 million. Mrs Chen said that at least part of the decline in projected growth appears to be the result of a greater than expected reduction in fertility in Japan.

Not all projected city populations have been revised downward. Using data from the 1981 Indian census, the United Nations now projects the expected population of Calcutta in the year 2000 at 16.6 million, up from 15.9 million estimated in 1980.

More recent data has also revised the projection for Brazil's largest city, Sao Paulo, upwards by 2.5 million, from 1980 estimates of 21.5 million to the new projection of 24.0 million by the end of the century.

The change in the projected size of major cities illustrates that projections are only as good as the information on which they are based, Mrs Chen said. To ensure that the published projections are as

accurate as possible, the Population Division constantly updates its urban data base. However, timely and reliable information is not always available for all countries at the same time. As a result, overall assessment of growth trends for urban agglomerations is particularly difficult, Mrs Chen added.

Despite lower projections for some cities, the trend toward larger cities will probably go on. Urbanization is continuing worldwide and United Nations assessments are that it will continue through 2025. In 1950, 29.4 per cent of the world's total population

lived in urban areas. This proportion climbed to 39.9 per cent by 1980 and will reach almost 50 per cent by the end of the century. United Nations projections show three-fifths of the world's population living in urban areas by 2025.

The revised urban projections for the year 2000 are contained in *Estimates and Projections of Urban, Rural and City Population: the 1982 Assessment* to be published shortly by the United Nations Population Division.

—People News/Feature

HEALTH CARE AND SLUM IMPROVEMENT

UNDER the scheme to improve environment of slums, 18.31 lakh slum dwellers have benefited upto January, 1985, exceeding the annual target of 18.30 lakh people. The scheme of afforestation is being pursued vigorously and 251.7 crore trees were planted during the period against the target of 250.97 crore plants, indicating an achievement of 100.3 per cent of the target for the year.

Significant progress has also been made in providing house-sites to 7.9 lakh rural families, achieving 99 per cent of the target of 7.98 families. The number of villages which have been provided with safe drinking water is 37,567 against the target of 41,530 villages, representing 90.5 per cent of the target. Under the Integrated Rural Development Programme (IRDP) about 27.45 lakh families benefited against the target of over 30.27 lakh families, accounting for 90.7 per cent achievement of the programme for 1984-85.

Expansion of Integrated Child Development Schemes (ICDS), setting up of Primary Health Centres, slum improvement programmes and tree plantations are some of the schemes of the 20-Point Programme which have made significant progress during the first ten months of the current financial year. Achievement in these fields has been more than 100 per cent of the annual target, according to a review made by the Planning Commission.

The information has been compiled from reports received from 20 States and eight Union Territories.

The reports give figures upto December 1984 only in respect of Nagaland, Tripura and Arunachal Pradesh.

Two hundred and five Primary Health Centres have been set up upto January, 1985 against a target of 192 centres for the whole year. The aim of the scheme is to augment substantially universal primary health care facilities, and control of leprosy, tuberculosis and blindness.

183 ICDS blocks have been sanctioned during the period against the annual target of even number with a view to accelerating programmes of welfare for women and children and nutrition programmes for pregnant women, nursing mothers and children, specially in tribal, hilly and backward areas.

The performance of other schemes which has been evaluated as 'very good' by the Planning Commission on the basis of achievement of 70 per cent or more of the annual target are economic assistance to Scheduled Caste and Scheduled Tribe families, generation of employment under the National Rural Employment Programme (NREP), provision of houses for people of economically weaker sections and setting up of bio-gas plants.

There has also been considerable improvement in the establishment of rural health sub-centres, energisation of pumpsets and construction assistance in rural areas. The States are making special efforts to achieve targets

By increasing the forest acreage, regulating the composition of species and age structure of forest plantations, mankind will not only be able to halt, but also conserve the atmospheric contamination process of carbon-dioxide and restore oxygen which is alarmingly being exhausted.

DWINDLING FORESTS AND HUMAN SURVIVAL

K. R. SWADESHI

ENVIRONMENTALISTS are showing great concern on the alarming rate of tree-felling. They warn that a global catastrophe will ensue if forests disappear from our planet. According to an Indian environmentalist, if arbitrary deforestation is allowed to continue, 25,000 species out of the world stocks of 10 million would become extinct every year. According to wild life report of the Government of India, more than 1,000 animals and 20,000 flowering plants are on the verge of extinction.

The intensification of devastating floods and mud flows, increase in the frequent droughts in various part of the world, dry winds and the dissemination of desertification process are all due to the dimunition of forest areas. Today, erosion drift of the soil into the seas and oceans amounts to about 30 billion tons a year, which is 10 times more than 20 or 30 years ago.

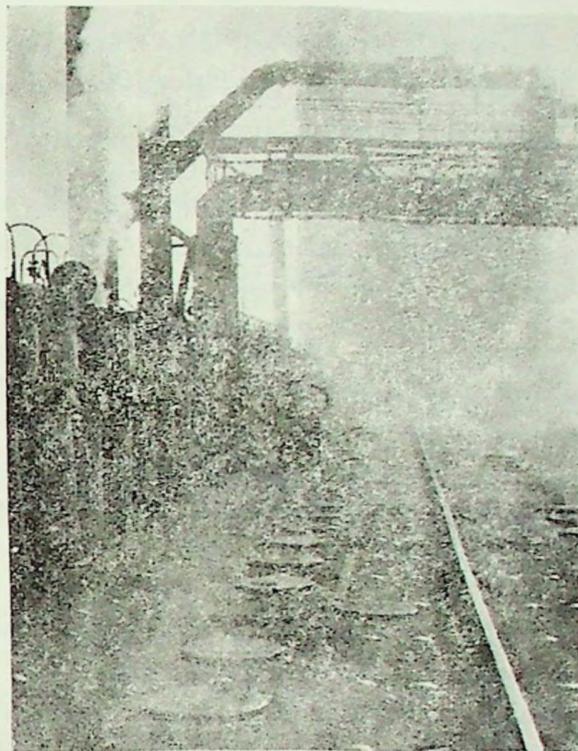
Regrettably, man has not learnt lessons from the past history. At one time, Europe was covered with magnificent forests and the Europeans thought that these were inexhaustible. Today, more than 95 per cent of them in Britain, 85 to 90 per cent in Italy, France and other European countries has been felled. The United States, which once boasted of over 900 million hectares of forests, has now only 262 million hectares of forests mass.

Indian forests

The picture of Indian forest mass is getting dismal and calls for urgent attention. The large-scale deforestation in recent decades has rendered the sensitive catchment areas in the Himalayan and other hilly areas vulnerable to soil erosion. The paucity of forest cover in India is apparent from the fact that of the 75 million hectares classed as forest lands,

less than half is actually under adequate tree cover and as much as 20 million hectares of forest land is estimated to be affected by soil erosion. What is more alarming is that the forest area is progressively decreasing. The national forest policy of 1952 described 33 per cent of India's land mass to remain under adequate forests which at present stands at 12 per cent only. Further, 13 million hectares are classed as "permanent pastures". But these areas are in fact generally without any vegetation on account of either overgrazing or irrational encroachments.

At the dawn of the scientific and technological revolution, particularly in the second half of this century, many people believed that wood as a source of primary materials would inevitably dwindle into insignificance, as the Synthetics Age was on the doorstep. However, the consumption of wood all over the world rose from 1,500 million cubic metres in 1950 to 2,500 in 1970. According to an estimate of the Food and Agricultural Organisation (FAO), the lumber consumption will further grow by 75 per cent over the last decade by the end of this century. The reason is obvious as no branch of production, even the most advanced, can do without it.



Today cities and industrial zones are facing acute shortage of fresh and pure air. Apart from polluting the atmosphere, industries are exhausting its most precious component—Oxygen.

Global situation

The role of forests on the global level was revealed only recently as a result of the large-scale tree-felling in various parts of the world. According to the recent UN experts' estimates, the forest cover of our planet is shrinking rather fast due to man's economic activities. The area of tropical rain forests is decreasing by 7.5 million hectares per annum. The jungles are being destroyed at the colossal rate of about 20 hectares per minute, i.e., 28,800 hectares every day. If the current rate of tree-felling continues, the tropical forests now covering one-tenth of land mass will completely disappear by the year 2100. Naturally, this will bring about calamitous disaster to mankind, something that a common man can hardly think of.

Fresh and pure air

Even today cities and industrial zones are facing acute shortage of fresh and pure air in many parts of the world. This problem is becoming ever acute like the energy crisis, food and shortage of fresh water. Apart from polluting the atmosphere, industries are exhausting its most precious component—oxygen. It is estimated that the technosphere is consuming 15 times more oxygen today than all the living organisms of the earth taken together. The atmosphere is losing nine billion cubic metres oxygen annually and is replacing the same amount with carbon dioxide. As a result, the concentration of carbon dioxide has increased by 15 per cent over the last 50 years in the atmosphere. According to some forecast, the percentage may further double by the

Forests not only clean the air from pollutants, but also from pathogenic microbes. Thus, the 'green-filler' belts if grown around the industrial complexes and densely populated cities, will ensure healthy micro-climate in such areas.

end of this century. Naturally, such an increase will inevitably affect many natural processes, living organisms and the climate of our planet.

Forests are natural consumers of carbon dioxide, which goes to build up wood mass. Every cubic metre of wood is half a ton of assimilated carbon dioxide. What is more important, the biosphere stands to gain from the very process of photosynthesis. By taking carbon dioxide from the atmosphere, forests replace the same with much more precious oxygen. It is probably thanks to forests, which work as oxygen factories, that our planet is not yet gasping for air, which may happen as a result of the mounting consumption of oxygen by industry and the continuously decreasing area of forests.

According to scientists, forests can play a vital role in saving mankind from this impending calamitous disaster. Forests are an excellent medicine against the diseases—born of our industrial age—of the biosphere. Thus, planting forests in and around industrial belts will tantamount to fetching an oxygen pillow to a patient in a critical situation. According to Soviet scientists, each hectare of woodland helps in purifying upto 18 cubic metres of air on an average. Forests not only clean the air from pollutants, but also from pathogenic microbes. Thus, the "green-filler" belts if grown around industrial complexes and densely populated cities, will ensure healthy micro-climate in such areas. Moreover, the favourable effect of forests are not only on a local or national scale, but also on global level.

Formation of Organic matter

Recent Soviet observations by land-study satellites for study of earth have shown that in many parameters

vital to mankind, the role of forest vegetation is comparable to the World Ocean. Forests accumulate tremendous amount of solar energy, which they transform by photosynthesis. It has been estimated that 90 per cent of the phytomass on land is concentrated in the forests. This alone is an evidence of the importance of forests in the formation of organic matter on earth. It has been established that the forests also play principal role in energy and mass exchange in the biosphere. With forest-related organic matter invading vast amounts of moisture, the forests produce their effects on hydrology.

We know that mankind, at least for the time being, cannot alter the size of the World Ocean, melt the Antarctic or Arctic ice, and increase or decrease the amount of solar energy. However, it is within its power to improve the forestation of its home—earth. During the last two-and-a-half decades, Soviet experts have already grown forests over more than 67 million hectares, including 35 million hectares under conifers. The suggestions of forest experts are temptingly quite feasible and simple. They advise plantations on each free acre of land all over the world. Such a measure will prove to be the best ecological antidote against the anthropogenic contamination of the atmosphere. Thus, by increasing the forest acreage, regulating the composition of species and age structure of forest plantations, mankind will not only be able to halt, but also can reverse the atmospheric contamination process of carbon-dioxide and restore oxygen which is alarmingly exhausting.

According to Soviet experts' calculations, a hectare of "well-working" forestry annually absorbs about 6.5 tons of carbon dioxide and releases 3.5 to five tons of photosynthetic oxygen—vitaly necessary for all

“Our greatest wealth is our people. We must enable individuals and families to realise their potential to the full. For this we shall stress programmes on family planning, nutrition, welfare of women and children, control of diseases, elementary and adult education, sports and better communication.”

—Prime Minister, Rajiv Gandhi

living organisms. However, absorption largely depends on the species of trees. They have found that poplar plantations absorb seven times more carbon dioxide than conifers.

Health and forests

At the same time, forests act as an excellent biological filter. Like a magnet, they possess the property of attracting the tiny solid particles suspended in the air—the products of industrial waste. Scientists have measured the forests' antinoise and radiation-protection efficacy and their production of health-building negatively charged ions and phytoncides. It turns out that forests are the best sanitation workers: one hectare of pine forest helps in settling down 36 tons dust annually and for beech the figure is even higher—68 tons. It is interesting that phytoncides, aromatic substances contained in forest air, kill pathogenic germs “on the spot”. The microbes of dysentery are immediately killed by the remote action of poplar leaves.

Experts also maintain that forests create zones of moisture concentration above them. Sometimes precipitation over them is upto 30 per cent heavier than over woodless mass. Thus, this precipitation plays a major role in washing down industrial dust from the air in the cities. Moreover, they also clean the atmosphere of aerosoles and other technogenic substances.

But what is happening to the health of forests? Ever growing contamination of air is seriously affecting their health and vital functions. It first reduces their productivity and consequently leads to their elimination. In fact, forests do not simply help in settling down hazardous substances, but also absorb them. As a result, about 50 per cent hazardous matter

penetrates them like a tumour. The species of trees differ from one another in their sensibility. Oak, maple and poplar have the greatest resistance stamina, whereas pine is the most easily vulnerable and fragile species. These distinctive characters should be taken into consideration as Soviet experts do, while planning plantation around industrial zones.

Some countries have begun creating “forest plantations”, which are attracting increasing attention of experts. This type of forestry is akin to industrial-type farming, and many see this process a real opportunity for expanding lumber output. The FAO experts propose to create international forest plantations by pooling the scientific and technical efforts and financial resources of various countries. Such plantations would provide a centralised supply of wood to consumers the world over. The FAO experts believe that natural forest would thus be saved and the bioclimatic potential of the regions where trees grow the fastest would thus be put to the best advantage. Experience shows that in favourable conditions, forest plantations can yield seven times more timber than natural forests. In India, the fast timber-production methods are widely employed in Gujarat.

Our planet is a “cosmic” body and all human beings are “cosmonauts” on a prolonged flight around the sun and together with the sun through the boundless universe. And if cosmonauts aboard a small spaceship cut wires, withdraw screws and drill holes in the vehicle, they put a calamitous end to themselves. The present-day technological progress is doing very much the same by destroying the ecological equilibrium of the earth. Therefore, time has come to realise the vital importance of the forests in the life of mankind as a whole. △

Schistosomiasis is one of the most widespread of all human parasitic diseases. It ranks second in terms of socio-economic and public health importance in tropical and sub-tropical areas, immediately behind malaria. The disease is caused by people not snails. People contaminate the environment by their insanitary habits.

SCHISTOSOMIASIS

—A Human Parasitic Disease

SCHISTOSOMIASIS, sometimes called bilharziasis, is one of the most widespread of all human parasitic diseases. It ranks second in terms of socio-economic and public health importance in tropical and subtropical areas, immediately behind malaria. In terms of prevalence, it takes first place among the water-borne diseases, representing one of the major health risks in the rural areas of developing countries.

Schistosomiasis is now endemic in 74 tropical developing countries. Over 200 million people residing in rural and agricultural areas are estimated to be infected already, while 500-600 million more run the risk of becoming infected, living as they do amidst poverty, ignorance and substandard hygiene in poor housing, and with few, if any, sanitary facilities.

It is mainly a rural, occupational disease, affecting people engaged in agriculture or fishing; and in many areas a large proportion of the children are infected by the age of 14. Increased population movements help to propagate the infection. Occasionally tourists also contract schistosomiasis, sometimes with severe results, including paralysis of the legs.

Although most people in the endemic areas have light infections with no symptoms, the economic and health-effects of schistosomiasis cannot be underestimated. In the north-east of Brazil, in Egypt, and in Sudan, the rural inhabitants claim that their ability to work is severely reduced due to the weakness and lethargy caused by the disease.

Three parasitic worms

The major forms of human schistosomiasis are caused by three species of flatworms, or blood flukes, called schistosomes.

Intestinal schistosomiasis caused by the *Schistosoma mansoni* worm occurs in 52 countries in Africa, the Eastern Mediterranean, the Caribbean and South America. Oriental or Asiatic intestinal schistosomiasis, caused by the *S. japonicum* group of parasites, is endemic in eight countries in South-East Asia and in the Western Pacific region. (Another form of intestinal schistosomiasis caused by *S. intercalatum* has been reported from six central African countries).

Urinary schistosomiasis, caused by *S. haematobium*, is endemic in 53 countries in Africa and the Eastern Mediterranean.

Life history of a worm

Eggs excreted from an infected person's body break open on reaching water, releasing a tiny parasite (a miracidium) which swims frantically through the water by means of the fine hairs (cilia) covering its body, in search of a freshwater snail in which it can develop further. The parasite must find a snail "host" within 8-12 hours, otherwise it perishes.

Once it has penetrated the snail, the parasite divides many times until thousands of new forms (cercariae) break out of the snail into the water. This phase of development takes 4-7 weeks or longer, depending on

the type of parasite. Outside the snail, the cercariae, which have a long forked tail, can live for 48 hours at the longest. They must penetrate a person's skin within that time in order to continue their growth cycle.

The saga of the travels of the parasite inside the human body is fascinating. As the cercaria penetrates the skin using secretions from its special glands, its tail falls off and within 48 hours it has wriggled its way completely through the skin into the blood vessels. Sometimes this process causes itching, but most people never notice it.

Within weeks, the young parasite transforms itself into a long worm—either a male or a female. The female can produce eggs only when a male worm is present. In fact, male and female adult worms remain joined together for life (less than five years on average, though they can live for up to 40 years): the more slender female is held permanently in a groove in the front of the male's body. Once eggs are produced, the cycle starts again.

In intestinal schistosomiasis, the worms attach themselves to the walls of the blood vessels lining the intestines. In urinary schistosomiasis, they live in blood vessels of the bladder. Only about half of the eggs leave the body in the faeces (intestinal schistosomiasis) or in the urine (urinary schistosomiasis); the rest remain embedded in the body, damaging important organs.

The worms were discovered in 1851 by a young German pathologist, Theodor Bilharz, at Kasr El Aini Hospital in Cairo. Bilharziasis was the older scientific name for the disease.

WHO's Control Strategy

The World Health Organization's schistosomiasis control strategy now aims to reduce the amount of disease caused by schistosomiasis, rather than halting transmission entirely. This major change of approach is based on two principles:

1. Schistosomiasis is caused by *people*—not snails. People contaminate the environment by their insanitary habits; they acquire the infection through repeated daily contact with fresh water during fishing, farming, swimming, bathing, washing and recreational activities.

2. *Heavy* infections with schistosome parasites, occurring mainly in children, cause the actual disease. The eggs laid by the female parasitic worm—not the worms themselves—damage the bladder, intestines or other organs.

The new approach to control of the disease caused by schistosomiasis makes use of rapid and efficient diagnostic techniques to identify infected persons, and safe, effective oral drugs to treat the infection. A high proportion of cases are cured: in the rest, the infection (number of worms) is substantially reduced.

Diagnosis is simple and inexpensive

Today's techniques for detecting schistosome eggs under the microscope are simple and low-cost. For diagnosis of urinary schistosomiasis, a simple syringe filtration technique is now recommended, using filter paper, or polycarbonate or nylon filters, which makes it possible to estimate the severity of the infection by counting the number of eggs in each 10 millilitres of urine filtered. A team of five can examine up to 200 children in an hour and a half.

Researchers using this technique in Ghana, Kenya, Liberia, Niger, Tanzania and Zambia report that children with more than 50 *S. haematobium* parasite eggs per 10 ml. of urine nearly always have blood in their sample (haematuria). This sign, evidence of bladder disease caused by urinary schistosomiasis, can be used by primary health care workers to identify children needing treatment. The diagnosis of intestinal schistosomiasis by counting the eggs in faecal specimens has also been simplified. A small amount of faeces, pressed through a fine nylon or steel screen to remove large debris, can be quickly examined by trained microscopists, under a piece of cellophane soaked in glycerine, or between glass slides.

The hard currency cost of each of these tests is now US \$ 0.01 or less.

Treatment is safe and effective

Three safe, effective drugs are now available for schistosomiasis and all can be taken by mouth. Praziquantel, oxamniquine and metrifonate are all included in the WHO Model List of Essential Drugs. Their discovery has revolutionized treatment of this disease.

Praziquantel, effective against all forms of schistosomiasis, became available thanks to a unique form of collaboration between the WHO Parasitic Diseases Programme and the manufacturer. The drug was thoroughly tested in laboratories collaborating with the WHO International Agency for Research on Cancer. No mutagenic changes occurred in human or animal cells, bacteria or yeasts exposed to the drug, and no cancer developed in experimental animals which received it constantly throughout their lives. Over 1 million people have been treated with praziquantel so far.

Oxamiquine is used exclusively to treat intestinal schistosomiasis in Africa and South America. *Metrifonate*, originally developed as an insecticide, has now proved to be safe and effective for the treatment of urinary schistosomiasis.

Many doctors feared that reinfection would quickly eliminate any benefit from treatment, but their fears proved groundless. On the contrary, rapid identification of infected people and prompt treatment of all cases immediately reduce environmental contamination with parasite eggs. In most areas, a reduction in the overall number of cases is maintained for one-and-a-half to two years without further intervention. During this period other measures can be taken, and patients who remain infected can be re-treated.

In Brazil, over 7 million doses of oxamiquine have been administered for intestinal schistosomiasis since 1975. Prevalence of the infection has dropped remarkably in the north-east of the country. More importantly, independent evaluation by Brazilian tropical medicine specialists has confirmed a reduction in the rate of liver and spleen enlargement, a symptom often found in children with heavy infections.

Water, food and schistosomiasis

In many developing countries schistosomiasis and fresh water seem inseparable. Some 71 per cent of

the earth's surface is covered with water; only 1.9 per cent of it is fresh water; less than a quarter of that occurs in the form of ground water, lakes or swamps. The world's expanding population is increasingly concentrated in places where surface and ground water are available.

Agricultural development must accelerate to keep pace with the expanding food requirements of our world population of over 4,000 million. Two-thirds of the world's potentially cultivable land is located in the developing regions of Africa, Asia and the Americas.

Symptoms of Schistosomiasis

The symptoms of schistosomiasis include rash, coughing and chest pains, cramps, diarrhoea, fever, blood in the urine, and an enlargement of the spleen and liver. With reinfections over a period of years, it can become a very debilitating and sometimes fatal disease. A specific form of bladder cancer occurring in endemic areas is also linked with long-term schistosomiasis infection.

The increasing number of water resource projects vitally needed in developing countries for industrial and agricultural expansion is a matter of great concern to schistosomiasis experts. Water impoundments of all sizes, including "man-made" lakes and irrigation systems, provide the intermediate host of schistosomiasis—the freshwater snail—with excellent habitats, and encourage close and frequent contacts between people and infected water.

Disease-free development

Schistosomiasis and other water-borne diseases, whether introduced by development projects or spread by them, can also hold up the completion of projects when the construction workers, or people living nearby, become infected.

With the new advances, however, it is possible to control schistosomiasis effectively from the moment a water development project is planned. Diagnosis and treatment of the indigenous population in the project area, of all employees of the development project and their families, and of potential migrant populations, reduce the risk that schistosomiasis will become a major public health problem.

Health education and water supplies

It is difficult for people to understand that their own habits can cause disease in themselves, their children, their relatives or their friends and neighbours. With the new strategy of controlling the amount of disease in the community, the part played by people in the disease has become all-important. The strategy depends heavily on health education activities in school and community, designed to bring about a change in behavioural patterns.

To control schistosomiasis, it is essential to reduce people's contacts with infected water, and to provide a potable water supply as a public health amenity if necessary. The allocation of resources for water supplies in the endemic areas has traditionally been ruled by developmental considerations, rather than by health priorities. (However, in 1983, the budget for water supply programmes in the north-east of Brazil was administered for the first time by the Ministry of Health).

Snail control—a supplementary measure

Only one efficient chemical for destroying molluscs is in regular use against the snail. As a sole control measure, molluscicides have many disadvantages: a mollusciciding programme is a long-term commitment, a fact not always appreciated; molluscicides are costly and require hard currency; they require special apparatus and trained personnel; and they may have adverse effects on non-target fauna and flora. However, used in combination with drug treatment, mollusciciding can be effective in reducing the risk of infections.

Schistosomiasis-linked bladder cancer

A specific type of bladder cancer occurs in countries where urinary schistosomiasis is endemic, and there is a clear link between the two.

A Healthier Environment

For several decades schistosomiasis control focused heavily on mass campaigns to eliminate snails through chemical spraying. Yet although snails are part of the disease cycle, spraying has several disadvantages, including its high cost. However, snail control by chemical or environmental methods still has its place in control programmes, although more permanent results are expected from health education in future.

Agricultural and other water resource development schemes are essential to the economies of the endemic countries. Effective schistosomiasis control calls for national intersectoral bodies to coordinate all development activities which may promote or influence the spread of the disease. The WHO Expert Committee commended effective national examples of such collaboration in Ethiopia, Kenya and the Philippines.

Schistosomiasis has plagued humanity since ancient times—visible traces of it in China date back 2,000 years, and in Egypt more than 3,000 years. Theodor Bilharz identified the parasitic worm in Egypt in 1851, giving his name to the older scientific name for the disease, bilharziasis. With the new possibilities open today, WHO believes that prospects for success in schistosomiasis control are now better than they have ever been before.

Patients with bladder cancer linked with urinary schistosomiasis are usually about 40 years old, predominantly farmworkers, in a ratio of five men to one woman. Cases of bladder cancer without schistosomiasis, occurring generally in the industrialised countries, are usually industrial workers aged about 65, in a ratio of two men to one woman.

In some areas of Africa where *S. haematobium* is endemic, the incidence of bladder cancer linked with schistosomiasis is 32 times higher than the incidence of simple bladder cancer in the United States.

—W. H. O.

ABDUL GHAFOR
Minister of Works & Housing

EXTENDING BASIC SERVICES TO THE URBAN POOR

Government endeavours: a historical perspective

RAMESH CHANDRA
Secretary, Govt. of India
Ministry of Works & Housing

THE provision of basic services is essential to the raising of the quality of life of the people living in urban and semi-urban areas. During Seventh Five Year Plan, it is proposed to spread out the urban infra-structural facilities judiciously and equitably among the metropolitan cities and medium and small towns as also in other centres of growing urbanisation. The creation of infra-structure in small and medium towns and new centres would not only make the life reasonably attractive in these places, this would also help in slowing down the growth of metropolitan cities by retaining the population in these areas.

The concern for urban poor in the national planning effort is reflected by the inclusion of the Scheme for Environmental Improvement of Slums as one of the points in the 20-Point Programme which forms the charter for the economic development of the country. The programme in this sector includes the Scheme for Environmental Improvement of Urban Slums and Integrated Development of Small and Medium Towns. The urban community development programme with participation of UNICEF is also among the main schemes in this sector.

The problem of deteriorating standard of life of the urban poor and lack of basic minimum amenities for them is a phenomenon in the developing countries which is assuming serious proportions. In this context its gratifying to learn about the keen interest of the UNICEF in the programme for improving the lot of the urban poor. UNICEF has been actively engaged in the urban development programme for the benefit of women and children. During the Master Plan of Operations (1981-84), UNICEF's cooperation with India has been extended to cover 40 projects spread over in different cities. This assistance is extended to urban community development, small and medium towns development and low cost sanitation programmes. With a view to enable intensification of the programme and sharper focus to the problem of the urban poor, especially women and children, the UNICEF programmes have been merged into a single integrated programme known as the Programme for Urban Basic Services under the new Master Plan of Operations (1985-89). This is a significant change in the structure of the programme as also in its focus and in the strategy of operations. △

A HABITAT becomes a slum because of its environment and insanitation. Crowded houses or huts, open sewers, uncollected garbage, poor sanitation, flies, stagnant water and poor lighting are some of its characteristics. Money is always scarce amongst the urban poor. As a result, children remain undernourished and underweight, with their growth stunted from insufficient food. Diarrhoea, gastro-enteritis and respiratory ailments are illnesses which many children suffer chronically and succumb to during the first year of life.

The first attempts at tackling the problems related to slum areas were started in 1956. The emphasis has, however, shifted from the policy of slum clearance to that of environmental improvement of existing slums.

The scheme of Environmental Improvement of Urban Slums—originally introduced in the Central Sector in 1972 but subsequently transferred to the State Sector—provides for certain minimum facilities, like water taps, storm-water drains, sewers, community baths-and-latrines, paved roads and street lighting for the urban poor in slums. The scheme was originally meant to cover slums in 20 cities, but the scope was later extended: first, to cover all cities with a population of 3 lakhs and above and at least one town in each of those States which do not have any city of this size; and later, to cover all urban areas in the country. The scheme is a part of the Minimum-Needs-Programme and has been included in the Revised 20-Point Programme.

Prior to the Sixth Plan, about 6-8 million slum dwellers were covered under the scheme. The Sixth Plan envisaged to cover 10 million slum dwellers during the Plan period and by December 1984, 8.46 million slum dwellers had benefited.

Some of the other schemes for the urban poor launched by the Government of India are:

1. Housing for the Economically Weaker Sections
2. Sites and Services Programme
3. Squatters' Settlement Upgradation Scheme
4. Integrated Development of Small and Medium Towns (IDSMT)
5. Urban Community Development Programme (UCD)

The UCD is an excellent example of programmes for extending basic services to the urban poor, which are not restricted to housing alone. The success achieved under this programme, shows that a housing programme as an integrated part of other welfare-development activity has a much greater chance of success. UCD has been designed as an effective institutional arrangement to solicit community participation in the improvement of the quality of life of the urban poor, with emphasis on women and children. The overall anti-poverty package that it offers for the urban poor includes the provision of minimum needs in the areas of health, nutrition, education, safe drinking water, housing and income-generation training.

The delivery of services to the urban poor is a continuing process. An analysis of the various dimensions of problems faced by the urban poor, suggests that the cause of slum formation is not industrialisation but urban poverty. Programmes aimed at poverty alleviation have been given the necessary priority but poverty eradication is incomplete without the provision of minimum needs and levels of satisfaction in the areas of health, nutrition, education, sanitation and other basic services to the urban poor. A greater emphasis will be given to the social and environmental needs of the urban poor under the Government's Urban Basic Services strategy during 1985-89.

—UNICEF

DURING the last two decades the growth of urban population in the developing countries has shown a fastly increasing trend. The fast and unregulated urbanisation is leading to the growth of large slums and squatter settlements in urban areas. This phenomenon has created social tensions and inter-regional imbalances and is also leading to environmental degradation and deprivation of a large section of population from basic services. Hence, the need for programmes for extending basic minimum services and infrastructural facilities to the urban poor. The need for devoting attention to this aspect of development has been recognised in the Sixth Plan and the programme of the Environmental Improvement of Slums has been included as one of the essential elements of the 20-Point Programme. It has been felt that the programme would need greater support and intensification during Seventh Plan Period in view of the increasing magnitude of the problem.

It is encouraging to note that the UNICEF has been cooperating and assisting in the programme for urban poor. The programme of Urban Community Development with UNICEF assistance was started in 1979 in the area of Municipal Corporation of Hyderabad. The programme was further extended to other major cities during the period of the Master Plan of Operations (1981-84) and 40 projects were initiated in different cities in the country. During 1985-89, the programme will be extended to a total of 52 districts. A significant change proposed for the operations during Seventh Plan is combining of the three main UNICEF supported programmes into a single programme to be known as Urban Basic Services. This is in conformity with the concept of viewing the life in urban areas as a whole. The thrust of the programme would be towards extending the basic services to the urban poor, particularly the most vulnerable sections e.g. women and children of the population living in the slum areas. The programme would cover some of the basic services such as water, health facilities, education, nutrition, environmental sanitation and shelter improvement. In view of the magnitude of the problem this is a colossal task and the need for evolving cost effective methods is supreme. We have to evolve solutions which would produce optimal results by best possible and maximum utilisation of available resources.

No programme would succeed without the participation of beneficiaries. It is essential to create an abiding interest and awareness in the community as a whole so that the system of delivery of basic services succeeds and is maintained and carried forward on a stable basis. This would require efforts on the part of local bodies as also the individuals and voluntary agencies. △

Asian Governments Respond to Environment Challenge

MODERN governments exercise power in the present often in response to problems that have already occurred. Yet if they are to have greater chance of success, they must look 15-20 year ahead to anticipate major problems that can be acted upon now.

There are scores of examples. A large power station can take up to 10 years to plan, design and build so that a Government should know, a decade in advance, how much power will be needed, where and for what main purposes. Or in education, if children not yet of school age today are to be assured of finding jobs in future, then decisions must be made now as to what kind of education they will require so that appropriate teacher training can begin and courses and facilities made available by the time these children reach the secondary school level.

As participants in a Ministerial-level Conference on the Environment in Asia, organised by the United Nations Economic and Social Commission for Asia and the Pacific (ESCAP), are already aware, the environment is one area where future thinking is essential. Not only is environmental degradation generally a gradual process but it also takes time to restore. Improvements can only begin after an entirely new dimension in national awareness, and often in a country's laws, has been created.

Most environmentalists agree there is little time. Only 15 years from now, for example, Asia will, if development goals are to be met, have to produce roughly twice as much food and other needs as at present from the same, sometimes dwindling, resources. The challenge is how to improve the environment and, hence, its basic productivity to the point where it can supply what will be needed.

The main thrust of the meeting can be summed up in the slogan "Development with environmental enhancement". What are the strategies needed to ensure that, as economic development takes place the environment can be accorded protection?

Since population pressure is the root cause of virtually all pollution and environmental damage, an essential preliminary will be to develop a realistic national time-table for population stabilisation. That time-table will automatically delineate the size and scope of the basic environmental problem. It must then be discovered how this could be tackled.

One partial solution could lie, according to ESCAP's Environmental Co-ordinating Unit, in trying to integrate environmental and national accounts. Thus, if substantive values could be assigned to various environmental indicators, the general state of the environment—What in effect would be a country's resource capability to support development plans and goals—would show up in the balance sheet each year.

Exploding asian cities

The recent environmental disaster at Bhopal shocked the World. But in less dramatic guises, many a Bhopal have been happening all the time.

The poisonous gas leak at a Bhopal fertilizer Plant killed some 2,500 people and seriously maimed thousand more. Unfolding so quickly and unexpectedly, the Bhopal drama caught world-wide attention and eventual condemnation.

If statistics are available, it can be seen that as many people, if not more, die or are maimed each year in any large city through what are considered ordinary and acceptable events.



Environment around us
— public indifference

Courtesy : PARYAVARAN, October 1984

Traffic fatalities, for instance, are in the hundreds per year in many large Asian cities. Injuries are in the thousands. Yet, per head of population, they are far less prevalent in small towns and villages. Polluted city air from congested traffic and industry can shorten life and does cause serious illness. Nervous disorders are far more prevalent in cities than in smaller communities. Most slum dwellers suffer from the crowded and unsanitary conditions obtaining in their habitat.

One of the significant medical trends in developing Asia is the increasing incidence of heretofore "Western" diseases such as heart disease, stroke, and other stress-related ailments. Their prime cause is now widely recognised as high pressure city living among the affluent.

Environmentalists cannot, of course, be held responsible for the prevalent heart disease among wealthy urbanites. On the other hand, as participants to a Ministerial level Conference on the Environment in Asia held from 6-12 February, 1985, have realized, that there was urgent need for improving the urban environment, if only because Asia was becoming an increasingly urban-oriented society.

Organised by the United Nations' Economic and Social Commission for Asia and the Pacific (ESCAP), the Conference was told that by 2000, close to 40 per cent of the region's population would live in cities. That the cities themselves, to accommodate both natural growth and migration, must grow by 3-4 per cent per year.

Alarming, much of the new population will have to live in slum and squatter settlements which ESCAP predicts, will grow twice as fast as the rest of the cities. In the meantime, the more wealthy sectors of the population are expected to double urban automobile population.

City governments are faced with the problem of augmenting municipal water supply, sanitation and electricity services at a fast enough pace to maintain even present often inadequate services. Twice the number of cars would require double the number of roads merely to contain congestion at its current already critical state.

—U.N. Weekly Newsletter 15 February, 1985

ASIAN JOURNALISTS SET UP FORUM ON ENVIRONMENT

As part of a stepped-up effort to promote environmental awareness, media representatives from nine Asian countries have agreed to establish a forum aimed at disseminating extensively information on the environment.

The move to set up the Asian Forum of Environmental Journalists (AFEJ) by India, China, Malaysia, Bangladesh, Indonesia, Nepal, Philippines, Sri Lanka and Thailand followed a suggestion by Minister of State for Information and Broadcasting, Shri V.N. Gadgil, at a three-day Regional Mass Media Conference on Environment and Development, held in New Delhi in February 1985.

At the New Delhi meeting, several recommendations and suggestions were put forward, among them, the use of traditional media such as mime, puppetry, street theatre, etc., which are rooted in the cultures of various countries and that could be developed as powerful communication tools for environmental messages. In

this regard, ESCAP could play a catalytic role in propagating such ideas and programmes at the regional level.

Nation's ecology 'imbalanced'

Rampant poverty and the population explosion are the two greatest "pollutants" which have upset the ecological balance between man and nature, said Shri V.N. Gadgil, Minister of State for Information and Broadcasting in New Delhi on 18 February, 1985, while inaugurating the 'Regional Mass Media Conference on Environment and development'. The Conference was organised by the Department of Environment, the United Nations Economic and Social Commission for Asia and Pacific and the Indian Environmental Society. Delegates from nine countries attended the Conference.

The Minister said that though the crisis was grave, an approach in which development was fostered without destruction could still save the situation. Environmental management calls for an inter-disciplinary approach and for global co-operation. △

ENVIRONMENTAL EDUCATION

ENVIRONMENTAL Education (EE) has an important part to play in general university education as well as in the training of specialists whose professional activities after graduation are likely to have an impact on the environment and its associated problems, their prevention and solution.

In view of this the UNESCO-UNEP International Environmental Education Programme (IEEP) will be giving new emphasis to environmental education at the university level, particularly in general university education, over the next few years. The activities envisaged include a survey as well as studies of the current situation, regional seminars, experimental projects and training workshops. This aspect of the Programme will be conducted in the light of recommendations and conclusions of the Tbilisi Intergovernmental EE Conference of 1977. In this connection participants at the Conference stressed the importance of EE at the university level and especially its implementation on the part of university administrators and teaching staff.

Recommendation 13 specifically states that "the Conference, considering that environmental education in colleges and universities will become increasingly different from traditional education and will teach students basic knowledge for work in their future profession, which will benefit their environment, recommends to Member States (Inter alia)".

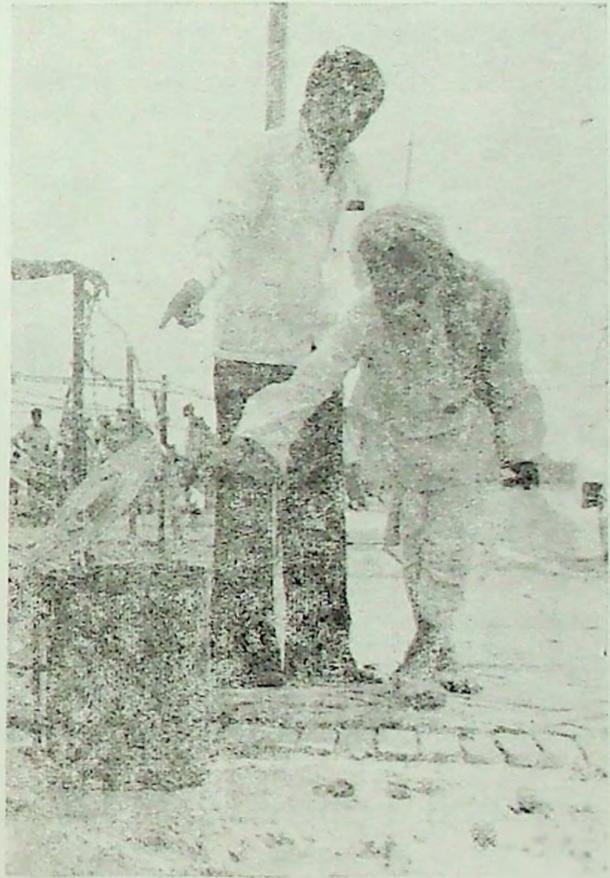
To encourage acceptance of the fact that, besides subject-oriented environmental education, interdisciplinary treatment of the basic problems of the interrelationships between people and their environment is necessary for students in all fields, not only natural and technical sciences but also social sciences and arts, because the relationships between nature, technology and society mark and determine the development of a society:

To develop different teaching aids and text-books on the theoretical bases of environmental protection for all special fields to be written by leading scientists as soon as possible:

To develop close co-operation between different university institutions (departments, faculties, etc.) with the specific objective of training experts in environmental education:

Such co-operation might assume different form in line with the structure of university education in each

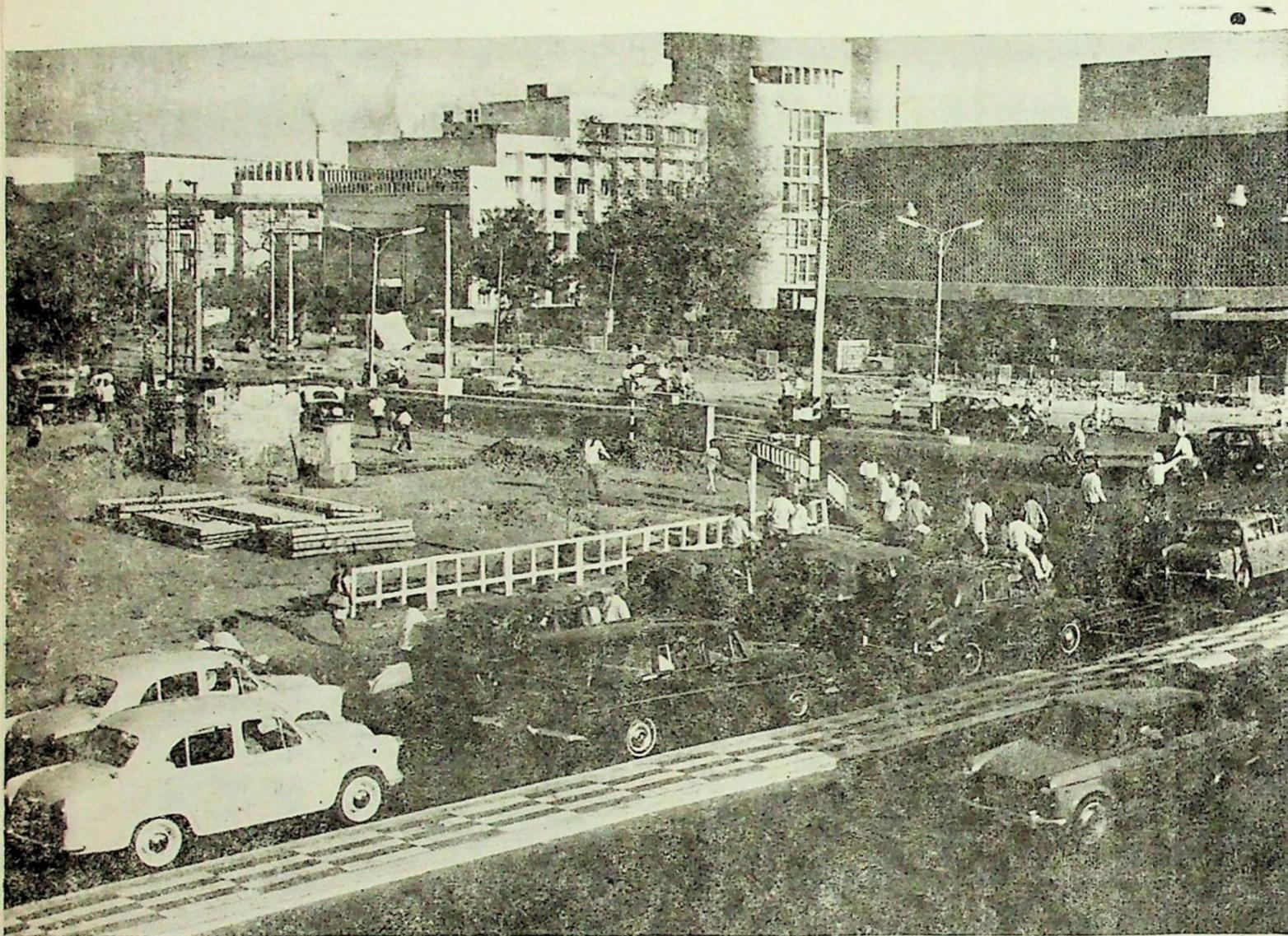
country, but should combine contributions from physics, chemistry, biology, ecology, geography, socio-economic studies, ethics, education sciences, and aesthetic education, etc.



Environmental education should also become a part of community education

A great deal has been and is being done with regard to environmental education at the university level in a number of countries, both in general university courses and in course for future specialists. It is the hope of the International EE Programme that it can contribute to, and through, the exchange of ideas and experiences among universities in this regard and through the activities of training, research regional seminars, studies, etc., which the IEEP envisages.

Courtesy : Conne June 1984



Road Transport Most Exposed to Occupational Risk

ROAD transport is one of the most crucial occupations in almost all countries because of its key role in economic life, but it is also one of the most exposed to occupational risk because of the frequency and severity of road accidents.

Of every 1,000 persons killed in traffic accidents, between 15 and 20 are occupants of commercial vehicles, a report of the International Labour Officer estimates.

In the United States alone, over 6,500 drivers and passengers of commercial vehicles were killed in road accidents in 1982 and nearly 400,000 were injured.

According to an American survey, trucking has the worst record for both frequency and severity of accident rates, well over the all-industry average.

The proportion of fatal traffic accidents for which commercial vehicles are responsible varies from 25 per cent in Denmark, to 9 per cent in Belgium, according to ILO statistics.

—UN WEEKLY NEWS LETTER
February, 1985

Unprecedented threat posed by drug abuse

THE social and economic fabric of most countries is being threatened by illegal drugs to an unprecedented extent, according to the Annual Report of the International Narcotics Control Board (INCB).

The dimensions of drug abuse are so enormous that governments around the world have launched unparalleled counter-offensives against trafficking. But at the same time some countries' toleration of so-called "soft" drugs in efforts to contain "hard" ones has led to an increase in abuse of both.

Stemming from the Board's review of the global drug situation during its thirty-sixth session last autumn, the Report for 1984 paints a picture of drug abuse spreading rapidly on an international basis. Health hazards are being aggravated by multiple use of opiates, cocaine, cannabis and a variety of psychotropic substances (man-made drugs), as well as by the "increasingly perilous means" they are taken.

Illegal drug production and trafficking financed by organized crime is so pervasive that the economies of entire countries "are disrupted, legal institutions menaced and the very security of some states threatened".

"Whenever illicit cultivation, production and trafficking occur", the Report observes, "abuse among local populations nearly always ensues. This accounts for the spread of drug abuse geographically beyond the few countries which were once the main centres of such abuse. The fact is that very few countries now remain unaffected."

In Western Europe the number of addicts, even among the very young, is rising dramatically together with the number of drug related deaths, expected to exceed at least 1,500 in 1983. Heroin seizures of 1.6 tons for the year were up by 40 per cent over 1982, while cannabis seizures increased a third to an all-time high of 112 tons in 1983. Underlining the growing abuse of cocaine in the region, more than a ton was confiscated in 1983 compared with less than a kilo 15 years ago.

Statistics for the first seven months of 1984 showed some 70 per cent of the heroin seized in Western Europe and more than half of that in North America came from the near and Middle East. In addition, local demand by the more than one million opium and heroin addicts in Iran and Pakistan alone is

estimated to total 500-800 tons of opium annually. Size and frequency of seizures from the region continue to increase, with interceptions now being made in transit countries previously unaffected.

Despite this trend, INCB points out the incongruity that, with the exception of Pakistan, no other country in the region has reported any significant illegal opium-poppy farming. While three and a half tons of heroin, more than a ton of morphine and 35 tons of opium were seized in its eastern border provinces, Iranian authorities, for example, state that no opium cultivation exists in the country. The Board has therefore urged countries concerned to "accord high priority to assessing realistically the situation concerning illegal supply."

India is also identified as fast becoming a major transit country for opiates and cannabis destined for other parts of the world, with New Delhi and Bombay the most important exit points.

Drug experts call for prompt action

Combating the health problems arising from spiralling cocaine abuse must receive the "highest priority", according to drug experts who met at the World Health Organization (WHO) on 8 February, 1985.

Cocaine abuse has reached "epidemic levels" in North and South America and is rapidly spreading in parts of Europe and South-East Asia, the experts noted. The smoking of coca paste by urban youth in coca-producing countries of Latin America has also emerged as a serious and widespread phenomenon.

Calling cocaine "the most dependence-producing drug available", the members of the drug consultation agreed that its abuse now constitutes a major public health concern. The consultation group urged WHO to develop a strategy and action plan to treat the health problems arising from cocaine abuse, and to prevent further abuse of the drug around the world.

The increasing abuse of volatile solvents—the sniffing or inhaling of paints and glues—particularly by children between the ages of 8 and 14, was also highlighted by the drug experts as a priority area for action. WHO will convene an advisory group to discuss the adverse health consequences of abuse of volatile solvents this year.

—W.H.O.

Asthma What is it?

ANY asthma sufferer can tell you the symptoms: difficulty in breathing, a tight, uncomfortable feeling in the chest, shortness of breath, cough and wheezing. (Wheezing describes the highpitched whistling sound sometimes heard during breathing).

It is often obvious that a person has asthma, however, as symptoms of asthma occur with other diseases of the lung or heart, you need to be examined by a doctor. Simple breathing tests are also often done to make a definite diagnosis of asthma.

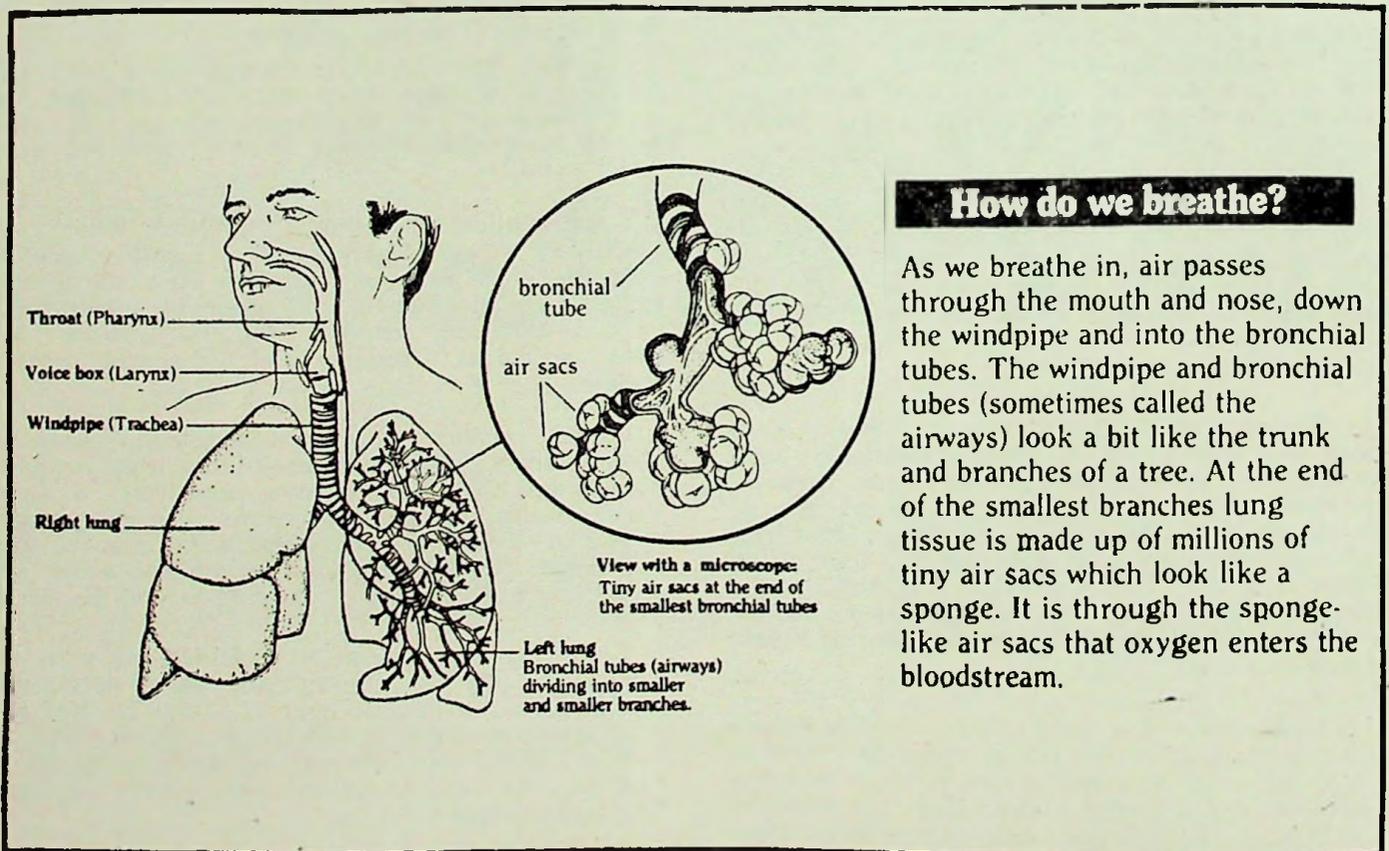
If you have asthma, your bronchial tubes (or airways) are different from normal. They are "twitchy" and sensitive. They over-react to many things: exercise, viral infections and temperature changes. The way

they over-react is by narrowing and this is what produces the symptoms of asthma.

In asthma, three things can narrow the bronchial tubes:

- Bronchial muscle tightening (or bronchospasm).
- Swelling of the tissue which line the inside of the bronchial tubes.
- Mucus (or phlegm) sitting in the airways, blocking them. Probably the most important cause of bronchial tube narrowing is bronchial muscle spasm. Bronchospasm can come on quickly and be relieved quickly with medication. On the other hand, tissue swelling and mucus develop more slowly and once present, they slow down the recovery from an attack.

Courtesy : HEALTH
Spring 1984 New Zealand



Your Ear and Noise Pollution

Of course, people don't always realise when they need hearing protection. But if the noise is so loud that you have to shout to be understood by someone standing less than a metre away, then you're in trouble.

The ear is a very delicate and complex organ. Loud noises can physically damage the sensitive cells in the ear which enable you to hear; repeated loud noise will destroy these cells for ever.

When this happens, you can no longer hear certain sounds, including some of the common speech sounds such as t,s,p,f. You find that speech becomes indistinct and hard to understand, thus making conversation very difficult and causing endless problems in the family, at work and when you go out.

Hearing damage

Damage to hearing can happen very quickly, although of course, it depends on how loud the noise is and how much exposure you have to it. Regular exposure to higher level of noise for longer time can cause damage unless you wear hearing protection.

It's worth your while to bother about hearing conservation:

- To continue to communicate with your friends and family
- To feel less tired and less irritable at the end of the day
- To appreciate the sounds of the birds—your stereo—your TV—Your children's voices.

Courtesy: HEALTH
Spring 1984, New Zealand



Your hearing is one of your most precious possessions for

- ① **LEARNING** --much of our information is gained from listening.
- ② **COMMUNICATIONS** --the most important way of getting along with others is by spoken words.
- ③ **SAFETY** --many warning systems depend on hearing.



--and PLEASURE from music, hobbies and sports is "ear-relevant"

PARTS OF AN EAR

OUTER EAR

directs sound waves to middle and inner ear, protects inner parts.

MIDDLE EAR

protects inner ear from shock--equalises pressure on ear drum.

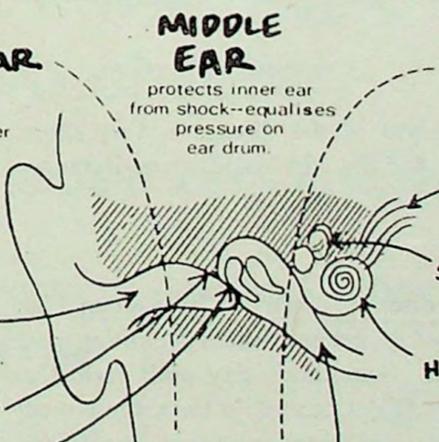
INNER EAR

transmits sound impulses to brain.

EAR HOLE
acts like a megaphone.

EAR DRUM

BONES transmit sound vibrations to nerves in inner ear.



EAR NERVE (auditory nerve) connects to brain.

SEMICIRCULAR CANALS control sense of balance.

HEARING ORGAN changes sound waves to nerve impulses.

TUBE TO MOUTH AND NOSE to equalise pressure on both sides of eardrum.

Meningococcal Meningitis is Curable

MENINGITIS is an inflammation of membranes of the brain and spinal cord. Epidemics of disease are commonly due to "meningococcal meningitis". The disease occurs throughout the year but increases during the period from December to April every year. It usually affects the children and young adults more though all age groups are liable to get it.

Causation

The disease is caused by tiny germs. It is known as "meningococcus". It is the primary cause of the meningitis prevalent during the epidemics.

Mode of spread

Human-being is the only source and reservoir of infection. The disease normally spreads from a patient or carrier by direct contact or by droplet from discharges of nose and throat. It is transmitted more often by a person who carries the germs, than by a patient.

Incubation period

The incubation period of the disease is very short. It varies from 3 to 4 days. In some cases it ranges from 2 to 7 days.

Signs and symptoms

The onset of the disease is marked by sudden high fever, intense headache, nausea, often vomiting and stiffness of the neck. Sometimes tiny pink rash also appears on the body. If not treated in time, the patient may show signs of fall of blood pressure, shock and often coma, which may result in death.

Treatment

The disease is fully curable, if promptly treated. Antibiotics including penicillin are administered toge-

ther with other supportive medicine as per doctor's advice. The patient should not take the treatment by himself but consult doctor in the nearest hospital/health clinic without any delay because after onset of the disease, it affects the brain quickly. Any delay may be fatal.

Prevention and control measures

- Over-crowding leads to the spread of the disease and it should be avoided.
- Proper ventilation of the living and sleeping rooms should be maintained.
- The patient should be isolated and contact with the discharges from nose and throat of the patient should be avoided by covering the mouth and nose either by the attendant or of the patient.
- If there is any suspected case of meningitis, local health authorities should be immediately informed and proper treatment taken.
- Contacts of case can be protected by prophylactic administration of sulphadiazine.
- Seek the advice of medical officer.

Remember

- Meningitis is totally curable, if treated promptly.
- Consult nearest hospital/health centre in case of high fever with headache.
- Delay in treatment may turn fatal and must be avoided in such cases.
- Your health is in your hand. Follow these instructions and take proper treatment immediately as per doctor's advice. △

Steps against Meningitis in Delhi

There are no specific or ascertainable reasons for the spread of the disease during the year. The incidence pattern over the years has been irregular without following any particular mode.

The following measures have been undertaken to check the spread of the disease.

- (i) Constant surveillance is being maintained, especially in the affected and congested localities.
- (ii) Early diagnosis and treatment, even on the basis of presumptive clinical diagnosis, is being undertaken.
- (iii) Arrangements for adequate supply of drugs required to combat the disease have been made. All the hospitals and dispensaries have stocked sufficient quantities of the required antibiotics and supportive drugs.
- (iv) In order to create a general awareness amongst the public and to impress upon them the need

for early diagnosis and treatment the services of AIR and Doordarshan, and also of the Press, are utilised.

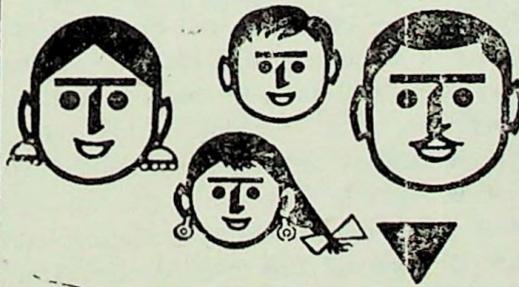
- (v) The Indian Medical Association have initiated action to issue instructions to their members regarding proper management of cases.
- (vi) The WHO, at our behest, has airlifted Sera for proper typing of the causative organisms.
- (vii) The Indian Council of Medical Research has initiated studies on carriers and their management in order to provide information on the epidemiology of the disease for better control.
- (viii) It has been decided to vaccinate the identified high-risk groups.

No forecast regarding the spread of the disease to adjoining states has been made. However, as a precautionary measure the State Health Directorates have been alerted and the situation is being monitored.

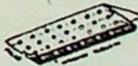
(Information given by Smt. Mohsina Kidwai, Minister for Health and Family Welfare in Lok Sabha on 13 March, 1985.)

Keep a gap of three years between two children

Choose any method



0-7130

Nirodh	Copper T	Oral Pill
		

CONFERENCE ON STRENGTHENING OF STATE HEALTH EDUCATION BUREAUX

THE Union Health and Family Welfare Minister, Shrimati Mohsina Kidwai inaugurated a two-day Conference on "Strengthening of State Health Education Bureaux" organised by the Central Health Education Bureau on 4 March 1985, in New Delhi.

Shrimati Kidwai highlighted the importance of taking the health education activities to the people at the grassroot level in every nook and corner of the country so that the community itself was able to look after its health needs. She added that the life style of the people and their health status could be achieved only when health and media agencies at various levels are mobilized for health education purposes. In this connection she also expressed the need for suitable strengthening of State Health Education Bureaux.

Shrimati Kidwai also stressed the importance of developing health education models designed appropriately to real life situation. She stressed that research in health behaviour should be conducted with a view to developing effective communication media to secure people's participation in health programmes.

Shrimati Serla Grewal, Health Secretary, speaking on the occasion gave comprehensive details about various health programmes being undertaken by the Ministry. She emphasized the importance of the role of Health Guides for health education purposes. She requested the State Governments to have health education teams at Block/Taluka levels for providing the necessary health education/family welfare information to the people or the community as a whole.

Shrimati Grewal also mentioned about the importance of health education and said that 50 per cent of the diseases could not be there if masses had become health-conscious. Secretary, Health and Family Welfare, stressed on clean environmental conditions and said many of the diseases like malaria, filaria, etc., can be prevented if the standing water around the

villages can be filled-up with community efforts. She added, more information and education to public helped in controlling meningitis in the city of Delhi where an unusually large number of cases had been reported this year. Smt. Grewal also mentioned of the important role that the SHEBs could play in providing information and education to masses.

Earlier welcoming the Chief Guest and the participants, Dr M. D. Saigal, Additional Director-General (PH) said that the success of all health programmes including family welfare, MCH or communicable diseases ultimately rested on health education. Clarifying the point further he added that these objectives could be achieved if we strengthen health education component at all levels. Explaining about the need and scope of the Conference, he said that it would provide an opportunity to identify the strengths and weaknesses of the Bureaux in respect of health education services, school health education, production and utilization of media and training programmes, etc. He added that the Conference would suggest ways and means to strengthen the above activities in the context of available resources and also the strategy for monitoring SHEBs programmes in the country and to improve liaison between the Central Health Education Bureau and the State Health Education Bureaux.

While extending thanks to the Union Minister and the Secretary of Health and Family Welfare Dr H. C. Agarwal, Director CHEB assured that their views and suggestions will make the basis for deliberations of the Conference and it would bring out practical recommendations to strengthen State Health Education Bureaux for effective health education to masses through the use of existing media and available resources. Dr Agarwal also thanked other Senior Officers of the Ministry and the Dte. General of Health Services, representatives of WHO, UNICEF, Media Wing of the Ministry of Information & Broadcasting, Planning Commission, participants from States/U.Ts. and other distinguished invitees and officers of CHEB. ●

Making Small Family a Way of Life

—a success story

S.C. JAIN

SEVENTY year old Javitri Devi of Nangla Ganga, a village in *Panchayat Samittee* Kumher of District Bharatpur in Rajasthan was not favourably disposed to the concept of small family. She used to shower abuses on the medical teams visiting her village for family planning. Now this has become a thing of the past. Javitri Devi has turned out to be a strong supporter of small family norm. She has not only got her two daughters-in-law protected against conception, she also feels pleasure in educating eligible couples in and around her village about the advantages of small family. She radiates visible joy when a couple adopts one or the other family planning method.

Shri Maharaj Singh, Sarpanch of village Dhansoti under Kumher *Panchayat Samittee* got himself vasectomised along with four of his brothers and set an example which prompted other residents of the village to accept sterilization or other family planning measures.

Shri Surendra Singh, another Sarpanch of village Panchayat Borabai under the same *Panchayat Samittee* gives his own incentives in addition to the usual incentives being offered by the government. He gives a shawl and three stainless steel utensils to every couple who undergoes sterilization.

Smt. Tanko Bai of village Semlifatak, a village in the tribal region of District Kota, considers sterilization operation for the labour class people most essential. According to her, frequent pregnancies keep the woman away from work resulting in severe strain on her health and financial resources of the family. She is fully convinced that two or three children born at sufficiently long intervals make it easier for the woman to give them proper care and also avoid curtailment in family income.

These are some of the examples from Districts of Bharatpur and Kota of Rajasthan which reveal that persuasion and systematic health education coupled with prompt service delivery can go a long way in making family planning a way of life with the ordinary people.

Bharatpur and Kota districts are among the four districts of Rajasthan where an intensive programme of Family Welfare is being carried out under an area project assisted by UNFFA. Other two districts are Dholpur and Sawai Madhopur where also similar programmes are being implemented.

The imaginative and innovative strategy of community participation has led to the achievement of cent per cent coverage of eligible couples under Family Planning in 89 villages of District Bharatpur and Kota with total 7929 eligible couples in a total population of 47,835. It is reported that similar coverage has been achieved in 50 villages of Distt. Sawai Madhopur where the help of adult literacy centres has been taken for the propagation of this programme.

Intensive training of communication staff through job-related field-based courses, orientation for programme managers in the techniques of communication planning and management, replacement of outdated equipments and provision of appropriate additional equipments and materials, production of need-based communication soft-ware as per local requirements, preparation of local action plans through local activities with the help of local opinion leaders, increasing the frequency and improving the quality of interpersonal communication, formation of Family Welfare groups among local communities and establishing their linkages with other development activities and agencies in the area, organisation of special orientation training camps, active involvement of village

health committees and *Mahila Mandals* in the programme, and arrangements for prompt family planning and follow-up care are the key features of this successful approach.

One of the significant factors responsible for the success of the programme has been the formation of *Mahila Mandals* and village Health Committees which have been set up in most of the villages. A *Mahila Mandal* consists of 10 lady members of the village with some influential lady of the area as chairperson. *Mahila Mandal* meets at least once a month and members review the achievements and monitor the action-plans. Members keep meeting friends, relatives and other women in the village and actively participate in disseminating the message of small family and educating fellow women of the village about the need and importance of adopting any family planning device suiting their circumstances. Members of *Mahila Mandal* also function as Depot-holders for the distribution of contraceptives to the women folk of the village. They are also assigned the responsibilities to ensure that children in each household are provided immunization services. The awakening of women-folk in these areas is evident from the fact that meetings of *Mahila Mandals* are as a rule well-attended and the participants freely discuss use of contraceptives along with subjects like female health, child care, advantages of family limitation, etc. Quite a few members of *Mahila Mandals* have composed folk songs on the theme of small family. These songs are freely sung not only in meetings but also on the occasions of family and community functions like marriage, birth of the child, Holi Mela, Rakhi and Teej, etc.

Besides *Mahila Mandals*, there are health and family welfare special committees in every village. These committees consist of 10-15 members with the sarpanch or some other influential person of the area, as chairman. The Health and Family Welfare Committee is responsible for identifying eligible couples, distribution of contraceptives, preparing village action-plans, requesting authorities for arranging of service facilities like MCH, immunization and family planning, and maintaining case cards and registers for programme planning and monitoring.

Mother and Child Health Care has been found to be a very effective starting point in group meetings and individual contacts by family welfare workers. Pre-

gnant women and children are first covered under immunization services and the nursing mothers are told about various measures to protect their babies from malnutrition and infections. They are educated about the importance of growth monitoring, timely immunization, breast-feeding, oral rehydration therapy and food supplements. This practical concern about the health of mother and children make women quite receptive about family planning devices and facilities.

Last but not the least, commitment and dedication of field workers to the programme has played a very potent role in making this innovative approach a success. Now there is a need to arrange proper follow-up services in the area. This can be done by arranging periodic visits of specialists. Such visits are of great value. Apart from removing the post-sterilization complications which may arise in a very few cases, the visits will reassure the acceptors that they are properly cared for. They also help in curbing the tendency to link any subsequent health problem with sterilization by giving proper advice and treatment to the patients. There is also need to try this approach in bigger villages and to make it more systematic for wider replication in other parts of the country. Δ

GREEN CARD SCHEME FOR ACCEPTORS OF FAMILY PLANNING

SHRI YOGENDRA MAKWANA, MINISTER OF STATE FOR HEALTH AND FAMILY WELFARE, informed the Rajya Sabha on 13 March, 1985, that, "the scheme relating to issue of green cards envisages that such cards may be given to the acceptors of terminal methods of family planning after two children as a mark of recognition and priority attention in areas where preferential treatment is feasible. The Central Government had requested all the States to start this scheme. The scheme is reported to have been introduced in Dadra & Nagar Haveli, Himachal Pradesh, Chandigarh, Tamil Nadu, Punjab, Jammu & Kashmir, Delhi, Arunachal Pradesh, Orissa, Andaman and Nicobar Islands, Gujarat and Karnataka".

MEDICAL OFFICERS' COURSE ON HEALTH EDUCATION

—Participants view

ON 20th of December 1984 we reached CHEB, wondering what we will be taught about health education, which, frankly admitting, to most of us appeared to be something to be practised by the paramedical staff. The doctors, being very busy in their clinical work, would not find time to impart health education. As the course proceeded it gradually dawned upon us that to be more effective as a doctor, one has to impart health education to the patient, his family and the community.

In our country it will be even more rewarding, where a large section of the community believes in superstitions based prejudices; ignorant of principles of hygiene, sanitation and health care. If these can be taken care of and simple measures like washing hands before eating, using sanitary latrines, taking a balanced diet especially by the young children and expecting and nursing mothers, etc., prevalence of many diseases can be brought down significantly.

Unless a physician himself realizes the importance of these simple measures he will not be an effective agent in bringing about the desired change in the health behaviour of an individual, family or a community.

A physician must realize his role as the most effective health educator in the health team and must take every opportunity to educate his patients and attendants who come to him for curative care. World over the health care is becoming more and more community oriented with increasing emphasis on prevention. A physician taking a lot of pain and using all available knowledge and skill to treat a hospitalized severely malnourished child, but not educating the mother about feeding the child at home—surely the child will come again and again with the same problem. He will be saving his time and precious resources if he teaches the mother how to feed the child during the process of treatment.

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Hence the course has enabled us to realize the importance of imparting health education while providing health care. The didactic sessions, group discussions and project work have enabled us to plan and execute a health education programme in hospital, clinic and community situations. Health education activity, which is at present neglected by most of the physicians, can play a tremendous role in improving the health of the people.

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YOUTH POPULATION 922 MILLION IN 1984

A report prepared in connection with this year's observance of International Youth Year States that the major problems facing the youth of the world have a universal dimension. In the 1980, those problems concern development the family, work and culture.

The report, called for by the Economic and Social Council, estimates the World Youth population to be 922 million in 1984, an increase of 79 per cent from 515 million in 1960. It defines a youth as being between 15 and 24 years of age.

The report also states that International Youth Year provides an opportunity for integrating policies and programmes pertaining to youth and for strengthening linkages among the national, regional and international levels at which those policies and programmes operate. It recommends that governments continue efforts to develop integrated Youth policies, and calls for a regional and global exchange of views and experience that are germane to young people everywhere.

—UN WEEKLY NEWSLETTER

15 Feb. 1985

More Shelters for Homeless in the Seventh Plan

THE SCHEMES for shelter and dwelling units for the homeless in the Seventh Plan will receive greater attention in view of the action plans for the United Nations International Year of Shelter for the Homeless (1987). As the task involved is colossal, institutional financing will have to be strengthened and also new technology adopted for low cost construction.

India may have to seek greater involvement of the international organisations and bilateral aids for the purpose.

India stands committed to the goal of providing a shelter to all the homeless by the year A.D. 2000. India is determined to achieve the maximum within its limited resources during the 1987—United Nations International Year of Shelter for the Homeless.

The provision of shelter was a burning problem for the millions of shelterless people living in the developing countries. The shortage of dwelling units in both urban and rural areas is colossal. The situation is worsening by unplanned and unregulated urban growth. India's present housing shortage was that of 24.7 million housing units—18.8 million in rural areas and 5.9 million in urban areas. The removal of this shortage needs attention of Government agencies, the public sector and the individual efforts.

A National Focal Point has been identified and a national Apex Body has started functioning to devise and implement shelter programmes for the IYSH action plans. The State Focal points have also been designated and the process of identification of target groups has started. The schemes for increasing the provision of shelter and improving the neighbourhoods are being implemented. These will be extended and outlays increased during the Seventh Five Year Plan.

Some of the programmes already under implementation include providing house sites to the landless rural families, giving construction assistance, sites and services schemes, improvement in the environment of slums and squatter settlements and construction of more houses for the economically weaker sections.

At least 17 million additional houses would be needed during the Seventh Five Year Plan for the increasing population. Along with that will be needed the growth of infrastructure for providing basic facilities of electricity, water supply, roads, sewerage and garbage collection.

IYSH-1987 was meant for generating consciousness for the need for taking up a massive programme for providing shelter to the homeless. A lot of important work has got to be done before and after the year 1987. △