ANNUAL REPORT OF THE REGIONAL DIRECTOR

1977-1978

WORLD HEALTH ORGANIZATION

REGIONAL OFFICE FOR SOUTH-EAST ASIA

SEA/RC31/2

WORLD HEALTH ORGANIZATION

REGIONAL OFFICE FOR SOUTH-EAST ASIA

THIRTIETH ANNUAL REPORT

OF

THE REGIONAL DIRECTOR

TO THE

REGIONAL COMMITTEE FOR SOUTH-EAST ASIA

1 JULY 1977—30 JUNE 1978

CONTENTS

		Page
	INTRODUCTION	vii
	PART I - GENERAL REVIEW OF ACTIVITIES	
1	STRENGTHENING OF HEALTH SERVICES	1
1.1	Planning and Development of Health Services	1
1.1.1	Health planning, programme formulation and evaluation	1
1.1.2	Health service information	5
1.1.3	Operational studies	7
1.1.4	Organization of basic health services	9
1.2	Primary Health Care	14
1.3	Family Health	18
1.4	Nursing	20
1.5	Health Education	24
1.6	Nutrition	27
1.7	Medical Care	29
1.8	Rehabilitation	30
1.9	Traditional Medicine	30
1.10	Oral Health	31
1.11	Mental Health	32
1.12	Drug Dependence	34
1.13	Medical Stores Management	34
2	DISEASE PREVENTION AND CONTROL - COMMUNICABLE DISEASES	35
2.1	Epidemiological Surveillance	36
2.2	Malaria	38
2.3	Tuberculosis	44
2.4	Diseases Subject to the International Health Regulations	46
2.4.1	Smallpox eradication	47
2.4.2	Cholera and other enteric diseases	47
2.4.3	Plague	49
2.5	Bacterial Diseases	49
2.5.1	Leprosy	49
2.5.2	Sexually-transmitted diseases	51
2.5.3	Diphtheria, pertussis and tetanus	52
2.5.4	Meningococcal meningitis	52
2.6	Viral, Chlamydial, Rickettsial and Related Diseases	52
2.6.1	Trachoma	52
2.6.2	Poliomyelitis	52
2.6.3	Dengue haemorrhagic fever	52
2.6.4	Viral hepatitis	53
2.7	Expanded Programme on Immunization	54
2.8	Parasitic Diseases	56
2.8.1	Schistosomiasis	56

		Page
2.8.2	Filariasis	56
2.8.3	Leishmaniasis (kala-azar)	57
2.9	Veterinary Public Health	57
2.10	Immunology	58
2.11	Vector Biology and Control	58
3	DISEASE PREVENTION AND CONTROL - NON-COMMUNICABLE DISEASES	61
3.1	Cancer	62
3.2	Cardiovascular Diseases	64
3.3	Blindness	65
4	HEALTH LABORATORY SERVICES	67
4.1	Appropriate Technology for Health	67
4.2	Standardization	67
4.3	Microbiology of Cross Infections in Hospitals	68
4.4	Laboratory Animals	69
4.5	Research	69
4.6	Quality Control of Pharmaceutical and Biological Products	69
4.7	Vaccines for EPI	70
5	PROMOTION OF ENVIRONMENTAL HEALTH	71
5.1	Environmental Health	72
5.2	Occupational Health	75
5.3	Radiation Health	76
5.4	Hazards to Man from Pesticides	78
5.5	Food Safety Programmes	78
6	HEALTH STATISTICS	79
7	DEVELOPMENT OF HEALTH MANPOWER	80
7.1	Medical Education	81
7.2	Paediatric and Obstetric Education	84
7.3	Teaching of Human Reproduction, Family Planning and Population Dynamics	85
7.4	Education and Training in Sanitary Engineering	86
7.5	Training of Auxiliaries	87
7.6	Group Educational Activities	89
7.7	Fellowships	89
7.8	Regional Office Library	93
8	RESEARCH PROMOTION AND DEVELOPMENT	94
9	TECHNICAL INFORMATION AND REFERENCE SERVICES	96

Page

PART II - ORGANIZATIONAL AND ADMINISTRATIVE MATTERS

1	THE REGIONAL COMMITTEE	99
2	REGIONAL PROGRAMME PLANNING AND DIRECTION	101
3	ADMINISTRATION	103
3.1	General	103
3.2	Organizational Structure	104
3.3	Personnel	104
3.3.1	Staffing	104
3.3.2	Briefing	105
3.3.3	Staff training	105
3.3.4	Employment conditions	106
3.4	Budget, Finance and Accounts	106
3.5	The Regional Office Building	106
4	PROCUREMENT OF SUPPLIES AND EQUIPMENT	107
5	COLLABORATION WITH OTHER AGENCIES	109
5.1	United Nations	109
5.1.1	United Nations Development Programme (UNDP)	110
5.1.2	United Nations Children's Fund (UNICEF)	112
5.1.3	United Nations Fund for Population Activities (UNFPA)	113
5.1.4	International Atomic Energy Agency (IAEA)	113
5.2	Specialized Agencies	114
5.2.1	Food and Agriculture Organization (FAO)/World Food Programme (WFP)	114
5.2.2	International Labour Organisation (ILO)	114
5.2.3	United Nations Educational, Scientific and Cultural Organization (UNESCO)	115
5.2.4	International Bank for Reconstruction and Development (IBRD)	115
5.3	Inter-Governmental and Non-Governmental Organizations in Official Relations with WHO	115
5.4	Bilateral and Other Agencies	115
6	PUBLIC INFORMATION	117

PART III - ACTIVITIES UNDERTAKEN BY GOVERNMENTS WITH THE HELP OF WHO

	PROJECT LIST	119
1	Bangladesh	121
2	Bhutan	126
3	Burma	128
4	Democratic People's Republic of Korea	132
5	India	134
6	Indonesia	141
7	Maldives	146
8	Mongolia	148
9	Nepal	151
10	Sri Lanka	154

		Page
11	Thailand	158
12	Inter-country	162
13	Inter-regional Activities Outside the Region with Participants from the South-East Asia Region	165

ANNEXES

1	Organizational Structure	167
2	Geographical Distribution of International Staff Assigned to the South-East Asia Region as of 31 May 1978	168
3	Meetings and Courses Organized by WHO and Held in the South-East Asia Region	169
4	Conferences and Meetings in the South-East Asia Region Called by the United Nations and Its Related Specialized Agencies at which WHO was Represented	175
5	Conferences and Meetings of Governmental, Non-Governmental and Other Organizations Held in the South-East Asia Region at which WHO was Represented	176
6	Fellowship Tables	177
7	List of Technical Reports Issued by the Regional Office	182
8	Statement Showing the Implementation of 1977 Programmes Under the Regular Budget in the South-East Asia Region	204

FIGURES

1 Incidence of Malaria and *P. falciparum* Infections

2 Obligations Incurred on Field Activities in the South-East Asia Region

Abbreviations used in the Annual Report include the following:

ASEAN	-	Association of South-East Asian Nations
CARE	-	Cooperative for American Relief Everywhere
CIDA	-	Canadian International Development Agency
DANIDA	-	Danish International Development Agency
ESCAP	-	Economic and Social Commission for Asia and the Pacific
FAO	-	Food and Agriculture Organization of the United Nations
IAEA	-	International Atomic Energy Agency
IARC	-	International Agency for Research on Cancer
IBRD	-	International Bank for Reconstruction and Development
ILO	-	International Labour Organisation
SEAMEC	-	South-East Asian Ministers of Education Council
SEAMEO	-	South-East Asia Ministers of Education Organization
SIDA	-	Swedish International Development Authority
UNDP	-	United Nations Development Programme
UNEP	-	United Nations Environment Programme
UNFDAC	-	United Nations Fund for Drug Abuse Control
UNFPA	-	United Nations Fund for Population Activities
UNICEF	-	United Nations Children's Fund
UNIDO	-	United Nations Industrial Development Organization
US AID	-	United States Agency for International Development
WFP	-	World Food Programme

INTRODUCTION

The most important achievement during the period under review was the official declaration of the eradication of smallpox from the entire South-East Asia Region. The curtain has thus been finally rung down on this dreaded scourge, marking a major breakthrough in the annals of medicine. The eradication of smallpox, a most challenging undertaking in its enormity, in its technical and managerial complexity and in its requirements for financial support and trained manpower, was the culmination of a great human endeavour. The goal of eradication was achieved as a result of the indomitable will and ceaseless effort of the people and the governments of the countries of the Region, combined with unprecedented international and bilateral support. It signifies a landmark in the history of human collaboration. This unique victory against one of the most feared diseases has aroused further hopes and aspirations among the people for better health. To meet these aspirations national health authorities and the Organization must increase the pace of development of health programmes in areas of priority concern.

Health Planning and Management

With the adoption, by the Thirtieth World Health Assembly, of the goal of health services for all by the year 2000, governments have intensified their efforts to rationalize their health development activities. This they are doing by the better planning and management of the programmes in the health sector so as to make the maximum use of scarce resources. Health planning in all the countries of the Region is now an integral part of socio-economic planning. Country health programming (CHP) is being practised in Bangladesh, Burma, Nepal and Thailand, and Sri Lanka is going to undertake CHP this year. India has already introduced rolling plan techniques to suit her changing needs. Using a method similar to CHP, Indonesia is engaged in drawing up its third five-year health plan as a part of the third national socio-economic plan. Nepal has progressed well in its mid-term review of the current five-year health plan - an effort which is unique in this region. Burma has taken steps to develop a built-in system of evaluation and feed-back in its plan to implement health development activities. Bangladesh has just completed a review of the primary health care programme and reformulated it on the basis of past experience. WHO has provided technical support in these efforts whenever requested.

While the health planning processes in the countries have been improving perceptibly, the Organization, in an attempt to rationalize its own programmes in order to support national efforts in the best possible manner, has been developing medium-term programmes (MTP) in all the major programme areas of its collaborative activities. The main basis of WHO's medium-term programme has been the needs and priorities identified by the national health plans. This has resulted in the health development activities of the governments and of WHO being more socially relevant than heretofore. During the past few years Member States have been increasingly emphasizing the importance of developing adequate managerial capabilities among their health personnel. In order to meet this need, a number of national, inter-country and inter-regional

seminars and courses have been organized. WHO has also provided support to the development of appropriate management courses in existing health institutions, for example, in Indonesia, for training health personnel in management in the context of the national situation.

Information Systems

For any systematic planning process the information base must be adequate, dependable and readily available. WHO collaborated with the governments of Bangladesh, Burma, Indonesia, Mongolia, Nepal and Thailand in accelerating the development of national health information systems according to the specific needs and situation of each country. In its efforts to develop an information system for programme planning and management, the Organization initiated the establishment of project, programme and country profiles in 1976. On the basis of the experience gained since then and as a result of the introduction of the new programme budget policy replacing the narrower project concept by a broader perspective of programmes, the information system has also undergone a basic change. It now lays greater emphasis on country health profiles and country programme profiles focusing on the totality of the national health development effort and its interfaces with WHO's collaborative activities. Thus these profiles have truly become management tools, both for the countries and for the Organization. Country profiles in respect of Indonesia, Nepal and Thailand have already been prepared, and before the end of this year those relating to Mongolia and Sri Lanka will be completed.

Development of Health Services

In the efforts of Member States to develop health services, the central aim is the establishment of primary health care (PHC) as quickly as possible. It is now fully recognized that the best way to provide health care to the vast majority of the underserved rural people and urban poor is to develop effective primary health care services supported by an appropriate referral system. Primary health care has therefore become the core of the strategy for achieving the objective of health services for all by the year 2000. In the national and regional seminars on primary health care, held recently in preparation for the forthcoming international conference at Alma Ata, the countries of the Region reaffirmed their strong resolve to develop primary health care with maximum possible coverage within the available resources. It is heartening to see that in most countries of this region considerable resources, from both the public as well as the private sectors, are being mobilized for developing PHC. In these activities the Organization has been providing technical support, especially in the development of the variety of manpower needed for the delivery of primary health care services.

In preparations for extending the coverage of primary health care, the importance of using traditional systems of medicine as complementary to modern medicine has become evident. In most countries of the Region, practitioners of traditional systems of medicine represent a vast source of health manpower, especially in the rural areas. These practitioners may be used with advantage for the delivery of primary health care services after appropriate

retraining and reorientation. The merit of traditional medicine lies in its being comparatively less expensive, its simple and non-toxic remedies, useful in some ailments and, above all, its wide acceptability among the communities. What is needed is to organize such systems of medicine in a more scientific manner and to standardize the methods of their use and practice. Bangladesh, Burma, India, Indonesia, Nepal and Sri Lanka have already taken steps to stimulate and systematize the use of traditional medicine in the existing health services.

In order to develop an effective primary health care service it is essential to link it with a sound referral system within the total framework of the national health services. The countries of the Region have therefore been developing or strengthening a number of projects in order to provide appropriate referral support to their primary health care programmes. The Organization has been collaborating in these efforts at technical level. In the field of rehabilitation, for example, most countries have now shifted the emphasis from hospital-based rehabilitative services to the prevention of disabilities.

Health laboratory services are being developed as an integral part of the general health services for providing support not only for diagnostic purposes but also for epidemiological surveillance. WHO is collaborating in these efforts, particularly in training laboratory personnel, in developing manuals and guidelines, and in standardizing methods, techniques and reagents. The Organization continues its active support to the development and functioning of a number of reference laboratories in the Region.

The family health programme in the Region has been developed around the basic services for maternal and child health care. A high fertility rate, coupled with its economic implications, continues to be one of the significant causes of morbidity among mothers and children. Hence in most countries of the Region family planning is an important component of the family health programme in addition to maternal and child health care. Most of the projects in the field of family health in which WHO has been working with governments are funded by UNFPA. A very useful contribution has also been made by UNICEF to support these projects through consultation and the provision of appropriate supplies and equipment.

Although the problem of malnutrition can be effectively solved only through multisectoral efforts, the importance of the role of the health sector has been recognized by governments. The Regional Committee at its twenty-ninth session has provided guidelines for strengthening the nutrition activities in the Region. In pursuance of this directive, the Organization has been collaborating with the governments in programme planning with a view to directing the major thrust of the activities towards the vulnerable groups of the population, namely children and pregnant and lactating mothers. Special efforts have also been made to develop trained manpower by introducing a nutrition component in training courses for field-level health workers and to strengthen nutrition activities such as nutrition education and child feeding, as integral components of the maternal and child health programme. A number of organizations, such as UNDP, UNICEF, IBRD, WFP and US AID, came

forward with increasing support for nutrition programmes in the Region, and WHO played a coordinating role in order to guide these efforts in a coherent manner to solve the priority nutritional problems of each country.

Health education has been recognized as an integral part of all health programmes in this region. The Organization has been collaborating with governments in organizing and strengthening national health education units and in providing continuing education and training in this field for all categories of health personnel. In addition, steps have been taken to introduce appropriate components of health education in the curricula of general education.

Communicable Diseases

In contrast to the phenomenal success in eradicating smallpox, a number of communicable diseases continue to remain priority problems. In spite of increased efforts to control malaria, the morbidity and mortality due to the disease appear to be on the increase in most of the countries. In order to remedy this serious situation, the entire strategy for malaria control has been under constant review. Careful epidemiological, entomological, clinical and immunological investigations have been continued with a view to formulating a more effective strategy for control. The Regional Advisory Committee on Medical Research (RACMR) has paid special attention to the problem of malaria and has developed problem-oriented research protocols both in the laboratories and in the field. Special efforts have also been made to develop sufficient numbers of trained manpower to carry out anti-malaria work. WHO has been extending technical collaboration to governments in these activities. In addition, the Organization has endeavoured to mobilize external resources in order to strengthen the national programmes and has been coordinating the anti-malaria activities in the Region.

Programmes for the control of tuberculosis and leprosy continue on the basis of case-finding and treatment. While, in the case of tuberculosis, BCG vaccination has been an important component of the control programme, the problem of finding an effective vaccine against leprosy still eludes us. In the meantime, research projects to cultivate the organism in various experimental animals continue. In order to solve the problem of drug-resistant cases of leprosy, field trials have been taken up with different anti-leprosy drugs for developing a more effective treatment regimen.

Dengue haemorrhagic fever showed fluctuations in its incidence and prevalence during the period under review. Although the disease is still confined to Burma, Indonesia and Thailand, because of the presence of favourable epidemiological and ecological factors in the neighbouring countries, the potential threat of its spread always exists. A strong epidemiological surveillance system, supported by a programme for prompt identification and treatment, has therefore been developed in the affected countries. Recently a vaccine against DHF has been developed in the USA and the Regional ACMR is considering its field trial. Research in different problem areas of the disease has also been taken up in Indonesia and Thailand with WHO support, under the guidance of the Regional ACMR.

The Region has developed a well-planned expanded programme of immunization against those diseases for which effective immunizing agents are available. The first phase of the programme has already been started in Bangladesh, Burma, Indonesia, Mongolia, Nepal, Sri Lanka and Thailand. The activities have been carefully worked out, depending on the capacity of the infrastructure of the health services to absorb the programme as a continuous activity and the availability of a potent vaccine, a cold chain and logistic support in each country. WHO has been providing technical support to governments in planning the programme, in developing the cold chain and logistic system and in coordinating inputs from other agencies. In addition, the Organization has provided assistance in training personnel for the programme. Efforts have also been made by the Organization to explore the possibility of devising means for attaining self-reliance, at least at the regional level, in respect of the production of adequate quantities of potent vaccines

In the field of veterinary public health, WHO has been collaborating with governments in the Region to control zoonoses such as rabies and brucellosis. While rabies is endemic in a number of countries in South-East Asia, the Organization continues to support routine control measures, especially in Nepal and Sri Lanka. Brucellosis is an important public health problem in Mongolia with both economic and health implications, and the Government has launched a large-scale control programme. The Organization has been collaborating with the Government in the production of brucella vaccine. The target of 3.5 million doses of vaccine per year is one of the highest in the world and the progress made so far in this regard is extremely satisfactory.

The vector control programme is assuming increasing importance owing to the prevalence of a number of vector-borne diseases such as malaria, filariasis, dengue haemorrhagic fever and Japanese encephalitis. The Regional Office has therefore been collaborating with governments in studying the biology and ecosystems related to the various vectors responsible for the transmission of these diseases in order to develop appropriate measures for control suited to each country. CIDA has come forward with substantial financial assistance for a control programme which has been developed in Burma. In Sri Lanka the second phase of the vector control programme is being supported by UNDP.

One of the essential tools for the effective control of communicable diseases is epidemiological surveillance, which helps not only to institute prompt control measures through the early identification and reporting of cases, but also to understand the natural history of the disease and its trends so as to plan short-term and long-term measures more effectively. Governments are well aware of the importance of epidemiological surveillance and are making efforts, with technical support from WHO, to strengthen their national epidemiological surveillance services backed by appropriate health information systems.

Non-communicable Diseases

Although non-communicable diseases are not considered as priority problems in the Region at present, except in DPRK, cardiovascular diseases, cancer, drug

dependence, mental diseases and radiological hazards are emerging as significant health problems requiring measures to prevent their further increase in future.

Most of the activities in which the Organization is collaborating with governments are based on surveillance, prevention and control. Technical cooperation has been directed towards improving the existing facilities, and fellowships have been provided to train manpower for the programmes. In the field of mental health, two activities of considerable interest in which WHO has been collaborating with the Government of India are the development of a Collaborating Centre for Research and Training in Mental Health in Chandigarh and an experimental project near Bangalore for the integration of mental health services with the health services at the local level. Efforts have also been directed towards improving mental health services, especially in Bangladesh, Sri Lanka and Thailand.

The urgency of implementing programmes for the control and prevention of blindness and visual impairment has been stressed by the Regional Committee repeatedly. The governments of Bangladesh, Burma, India and Indonesia have given priority to this problem by developing large-scale programmes to which WHO is providing technical support. The Organization is also coordinating the efforts to mobilize resources from international, bilateral and voluntary agencies to support these programmes. An inter-country project to stimulate national activities for the control of blindness has been incorporated in the Regional Director's development programme for the years 1978-1979. For the education of the public a film on the prevention of visual impairment through the appropriate use of green leafy vegetables was prepared by the Regional Office in collaboration with the Royal Commonwealth Society for the Blind, and has been received by the public enthusiastically. The International Agency for the Prevention of Blindness, the American Society for the Blind, UNICEF and DANIDA have all made significant contributions to the development of large anti-blindness programmes in Bangladesh, India, Indonesia and Sri Lanka. A consultative meeting attended by national participants to work out a strategy for further developing the regional programme for the control of blindness took place during the year and provided guidelines for expanding the national programmes for training manpower so as to achieve maximum possible coverage.

Environmental Health

The major emphasis in national programmes for environmental health has been on basic sanitation, including safe drinking water supply. Large-scale water supply programmes, especially for rural areas, are being implemented in Bangladesh, Burma, India, Indonesia, Nepal and Thailand. While WHO is providing support at the technical level, particularly in programme planning through sector studies, other collaborating agencies such as IBRD, UNDP, UNICEF and US AID are providing considerable material assistance for implementing these programmes. WHO has been coordinating the inputs of these agencies in order to achieve the national objectives. An important development in this region is the agreement between IBRD and WHO whereby, as a part of the WHO/IBRD cooperative programme, the technical responsibility for IBRD's

sectoral studies and pre-investment planning has been handed over to the Regional Office. The Regional Office has successfully undertaken this responsibility since the middle of last year. The various efforts made by the governments, WHO and the collaborating agencies have, nevertheless, touched only the fringe, as the size of the problems and the resources needed in this area are enormous. There is no doubt that any further investment in this programme will not only help solve the problems of basic sanitation but will also pay much greater dividends in terms of the control of water-borne diseases and in providing a better quality of life for the people of the Region.

Health Manpower Development

The entire efforts in the field of health manpower development in the Region have been directed towards making the manpower relevant to the needs of the health services, which are themselves being reoriented to provide wider coverage to the rural people and the underserved urban poor. Necessarily, therefore, programmes for health manpower development are striving towards the production of various categories of health workers of the right quality and quantity. Towards this end, the curricula for medical and nursing education are being reoriented to meet problems actually prevalent in the field with a view to equipping the trainees with the appropriate expertise and attitudes for solving them. Thus training programmes are being formulated to make them need-based, task-oriented and relevant to specific situations where the trainees will work and apply their skills. The Organization is collaborating in these programmes by providing technical support for developing curricula, teaching and training manuals and materials. Wherever appropriate, WHO has also provided subsidies as seed money for organizing the training programmes. The beneficial effects of these innovative efforts can now be seen in the development of programmes for training medical assistants in Bangladesh, experimental physicians in Thailand, community physicians in Nepal, the compulsory internship of medical graduates in rural health centres in India, the training of traditional midwives in Bangladesh, the increasing use of village volunteers in Bangladesh, Thailand, Nepal, India and Sri Lanka, and the employment of practitioners of traditional systems of medicine to support primary health care, after appropriate training, in Nepal, Sri Lanka and India. These are all encouraging trends. Much more effort needs to be made, however, to produce the necessary health manpower with training relevant to the needs of the health services that are being developed in the entire Region.

Research Promotion and Development

Since its inception in 1976 the Regional ACMR has identified the regional priorities, organized in-depth studies in the areas of these priorities, developed and scrutinized research protocols, and developed guidelines for coordinating the implementation of priority research programmes in the Region. The Regional Office is now fully engaged in implementing the guidelines provided by the Regional ACMR in order to coordinate all research activities to meet priority goals. The national research coordinating bodies of the countries of the Region are in close contact with each other's research programmes, and a remarkable sense of cooperation and collaboration has been established

among them through the coordinating efforts of the RACMR and the Regional Office. The national authorities have responded to the principle put forward by the RACMR and the Regional Office that research capabilities must be generated at country level to solve specific health problems and that a strong mechanism has to be developed to pool the knowledge derived from research programmes and ensure its actual application for the improvement of health services.

The Organization has been collaborating with governments in the priority research activities by providing grants for training research personnel, for actual research work, to support the strengthening of research facilities, for inter-change of workers among research institutions, for the exchange of research information and for the organization of research meetings. The allocation for research has been maintained at some five per cent of the total regional regular budget as desired by the Regional Committee at its twenty-ninth session. It is imperative, however, that much greater resources are mobilized from national, international and bilateral sources to support research activities, which now involve a number of priorities identified by the RACMR, namely, malaria, leprosy, dengue haemorrhagic fever, chronic liver diseases including liver cancer, diarrhoeal diseases and health services research.

Resource Allocation

In February this year the Regional Office, in pursuance of the wishes of Member States as expressed at the twenty-ninth and the thirtieth sessions of the Regional Committee, convened a meeting of a working group consisting of representatives from all the ten Member States in order to review the parameters and criteria for the allocation of WHO's regular budgetary resources for 1980-1981 among the countries of the Region. The meeting was attended by representatives from nine countries (except DPRK) who were drawn from high decision-making levels of the ministries of health, finance and planning. It is gratifying to be able to state that, after a thorough discussion, the group unanimously endorsed the parameters and criteria for 1980-1981 as had been applied for allocating resources for the 1978-1979 biennium. This is a unique achievement, as South-East Asia is the only Region where it has been possible to develop such parameters and criteria for resource allocation - an indication of the high degree of understanding and cooperation that exists among the Member States in this region.

Health Charter

Early in March this year, a meeting of senior officials from ministries of health, planning and finance was held in order to discuss the progress made in the development of the Charter for Health Development and to finalize the draft of the Charter. After a detailed discussion on the various aspects of the Charter, the group produced a final draft. During the discussions in the meeting, it was clear that governments strongly believed that the establishment of the Charter would be helpful for mobilizing both internal and external resources for health development in the Region, thereby facilitating the expeditious implementation of priority programmes of the health sector. The Charter will also provide a mechanism for further

promoting the principle of technical cooperation among developing countries. It has in it a seed that could grow into a mighty movement for the health and prosperity of all the people of Asia.

Collaboration with Other Agencies

WHO continued to play its coordinating role in international health work, as enshrined in its Constitution. During the period under review, the Organization has further strengthened its close relationship with other international, bilateral and voluntary agencies involved in health and health-related activities.

During 1977, it was possible to reach a delivery rate of 97.6 per cent in respect of UNDP-funded programmes, as compared to 92.2 per cent in 1976. It is gratifying that UNDP has now been able to tide over the liquidity crisis faced during 1975 and, as a result, the funds for the total approved projects for countries of the South-East Asia Region have increased from US$2.8 million in 1977 to $5.1 million in 1978.

Cooperation and coordination between WHO and UNICEF continue to be extremely fruitful. Close liaison between the regional offices of UNICEF in Delhi and Bangkok with our Regional Office has been maintained in common areas of interest such as primary health care, maternal and child health services, family planning, applied nutrition and water supply. WHO's collaboration with UNICEF at the country level is even closer, where WHO participates in UNICEF's programmes and vice-versa, and UNICEF takes part with WHO in CHP exercises.

WHO is collaborating with UNFPA in implementing a number of inter-country and country projects in the field of family health. The largest country programme is in Bangladesh amounting to $2.6 million, followed by that in Sri Lanka amounting to about one million dollars. In accordance with the UNDP Governing Council's decision, UNFPA is increasingly diverting its funds to support country projects with a view to developing self-reliance in the countries in respect of maternal and child health and family planning. The funds mobilized from UNFPA in this region have increased from $2.1 million in 1977 to $4.4 million in 1978.

WHO has been maintaining very close collaboration and cooperation with other international agencies such as ILO, FAO and ESCAP and bilateral agencies such as CIDA, DANIDA, ODM, NORAD, SIDA and US AID. In addition, the Organization is also working closely with IBRD and the Asian Development Bank in a number of countries of the Region. The Regional Office recognizes the importance of their cooperation and highly values their contribution to the efforts at health development in the Region.

* * *

In summary the year under review has been yet another gratifying period for the development of health in the countries of the Region. While we are acutely conscious of the fact that the Organization is being called upon to

respond as never before, to face the growing challenges in the field of health development, it is heartening to see the evergrowing commitment of governments to bring better health to their peoples.

* * *

During the year I visited Bangladesh, Nepal, Sri Lanka and Thailand, and had the opportunity to have discussions with the national authorities on problems of mutual concern. I accompanied the Director-General to Bangladesh to participate in the ceremony marking the official declaration of the eradication of smallpox from that country.

I am grateful to the Governments for the courtesies shown to me and am deeply appreciative of the unfailing cooperation extended to me during the year by all the countries of this region, without which we would not have been able to make the progress we have made in our common voyage towards health.

This year the Regional Office completes three decades of service to the countries of South-East Asia. Thirty years is an appropriate time to take stock and to look forward to the future. In an attempt to make WHO's collaborative programmes in the Region better known to the people, the Regional Office has brought out a publication, entitled "A Decade of Health Development", *which describes these activities, particularly during the last ten years. I hope that the book will contribute, albeit in a small way, to a greater appreciation of the efforts being made at both national and international levels for improving the health of the people of the Region.*

V.T.H. Gunaratne, F.R.C.P., D.P.H., D.T.M. & H.
Regional Director

PART I

GENERAL REVIEW OF ACTIVITIES

1. STRENGTHENING OF HEALTH SERVICES

1.1 Planning and Development of Health Services

Governments in the Region have been formulating annual, medium-term and/or long-term plans for overall socio-economic development, including health. WHO continues to collaborate in the formulation of these health plans through the application of systematic planning, which aims at maximizing the efficiency, effectiveness and coverage of the health services within the usually meagre resources made available to the health sector. The low priority being given to the social sector, including health, continues, however, to be a major constraint in most countries.

Country health programming (CHP), which recognizes this and other constraints and which involves other sectors in the formulation of health plans, is increasingly accepted and applied and thus is continually evolving and being improved. Organizations of the United Nations system such as UNICEF and UNDP, and bilateral and multilateral agencies which also contribute to the development of health, have taken part, with WHO, in these exercises.

Despite continued governmental efforts to strengthen and expand rural health services, the infrastructure of the services in rural areas and their coverage of the rural population in the Region (which totals about 770 million) remain very limited. It is now recognized, as a result of country health programming, that this major problem is due mainly to the depletion of meagre manpower and capital resources by services which were built on the pattern of those in developed countries, which are usually urban-based and mostly oriented towards curative medicine. All governments in the Region now acknowledge that the only way to overcome this lack of manpower and resources is through the primary health care approach. At the same time as primary health care is being developed, it is felt that the infrastructure of the health services should be strengthened and expanded to provide the necessary support in training, logistics, referral and supervision, so that every citizen can enjoy the right to the full range of promotive, preventive, curative and rehabilitative health services. In this connexion, the growing trend of integrating these services and their vertical programmes at the community level is gaining momentum in most countries.

1.1.1 *Health Planning, Programme Formulation and Evaluation*

In all countries of the Region, steady progress continued to be made in the fields of health planning, programme formulation and evaluation. Earlier promotive efforts had resulted in the setting up of health planning cells or units in national health administrations, the development of planning and management capabilities and the establishment of national health information systems or sub-systems for planning, management, monitoring and evaluation. The Regional Office

has provided the necessary expertise, on a long-term or short-term basis, as well as fellowships and supplies and equipment through country and inter-country projects. It is satisfying to note that the countries of the Region recognize the importance of evaluating their programmes; some are now conducting evaluation exercises which, in general, follow the guidelines developed by WHO, adapted to the local situation.

Bangladesh, which in 1973, was the first country in this region to conduct a country health programming (CHP) exercise, undertook the second cycle of CHP in 1977. A comprehensive country health profile was completed. This exercise was most timely, as the Government was preparing a two-year consolidated programme for 1978 and 1979 and the Second Five-Year Plan (1980-1985) as well as long-term plans up to the year 2000. The CHP exercise identified ten priority areas for inclusion in the Second Five-Year Plan, among which are primary health care, institutional health care, environmental health, control of communicable diseases, population control, and health manpower development. The formulation of the primary health care programme, including the expanded programme on immunization, was expected to be completed by June 1978, to be followed by that of the environmental health and other programmes. WHO provided assistance in these efforts to formulate programmes.

Assistance continued to be provided to *Bhutan* through the joint UNDP/WHO project, for which the Government designated a national project director. Progress was made in implementing the 1977/1978 annual health plan within the framework of the Fourth Five-Year Development Plan, which started in 1976. The emphasis is on expanding the coverage of integrated rural health services and developing health manpower for these services. With WHO's collaboration the Government formulated proposals for assistance from UNICEF and the World Food Programme, and these have been accepted and are being implemented.

In *Burma*, a "People's Health Programme" has been developed on the basis of the country health programming exercise carried out in 1975, and its implementation started in April 1978. Intensive preparatory activities took place during the period under review and included orientation courses on the programmes formulated and their phased implementation. These courses were attended by programme managers, state/divisional health directors and township health officials and and their staff. Training was given to trainers and rural health centre staff. Training manuals were also developed. As the implementation of the programmes necessitated the application of systematic management techniques for monitoring, control and evaluation, assistance was given to two workshops on evaluation methods. These workshops were attended by all senior health officials at the central and state/division levels and resulted in the development of a method of evaluation based on the guidelines developed by WHO.

In *India*, technical cooperation continued to be extended to the National Institute of Health and Family Welfare, one of the main

activities being the study of the Multi-purpose Health Workers' Scheme. In collaboration with an inter-country project (ICP PPS 002) a case study was completed in the State of Haryana and is being used by the Institute for training in health planning. Assistance was given in the planning, implementation and evaluation of rural health services and the development of the health information system. A plan of operation for rural health units and the implementation of other planned activities has been prepared. These activities are expected to contribute significantly to the strengthening of rural health services, and especially the multi-purpose health worker and community health worker schemes. The latter scheme was launched in October 1977 in 28 districts and is being systematically evaluated by the Government prior to its extension to cover the whole country (see also sub-section 1.1.4).

In *Indonesia*, the core project, "Strengthening of National Health Services" (INO HSD 001), has a team consisting of a senior public health administrator, a statistician and a health economist. Under the health planning and evaluation component of the project, intensive health planning activities continued for formulating the health plan of PELITA III (the Third Five-Year Development Plan). These included the following: situation analysis, definition of health problems, setting of objectives for health improvement, strategy design, problem planning, organization of a workshop on health planning, and the submission of a programme proposal. The project formulation phase is scheduled to start in August 1978. Assistance was provided in preparing the annual plan of the Ministry of Health, in strengthening the collection and processing of data on requirements for manpower and physical facilities, and in improving the health planning and evaluation methods. Project staff assisted in reviewing and updating the country profile and in formulating a draft plan of action for health planning and evaluation. The Bureau of Planning in the Ministry of Health, which has four sub-divisions and has a staff of 12 professionals and a large number of support staff, contributed greatly to these activities. In addition, planning cells were established in the different Directorates General. The PELITA III programme plan for the period 1979-1983 was submitted to the Annual Health Conference in January 1978. US AID assistance for the training of selected provincial health planning personnel is envisaged.

In *Mongolia*, which has a long experience in health planning, an annual plan, a medium-term plan (within the Sixth Five-Year Development Plan) and a long-term plan (1976-1990) have been formulated. There is growing interest in the application of country health programming for formulating medium-term plans. Two staff members - one from the Regional Office and the other from WHO Headquarters - visited Mongolia and advised on the development of a national health information system at all levels.

In *Nepal*, following the Government's approval of the long-term health plan (1975-1990) for upgrading the health facilities and services in

the country, the plan of operation of the project for establishing planning and programming systems at the central, regional and district levels of the health services administration was signed in 1977. This project, which, among other things, will carry out policy analysis and strategic and tactical planning and evaluation, receives assistance from a WHO team consisting of a health planner and a statistician; US AID assigned a management officer in 1977. WHO, UNICEF and US AID provide support for the evaluation or mid-term review of the health plan. Assistance was provided in the organization of plan evaluation. WHO also collaborated in the preparation of a country profile, and this is expected to lead to improved coordination of the inputs of various external sources and among the different departments of the Government. With the help of the project national training courses on health planning for the staff of the Ministry of Health have been developed.

The Government of *Sri Lanka* has formulated its health policy, which includes the provision of a high standard of health care with emphasis on disease prevention and the further upgrading of health services, particularly in the rural areas. Assistance continued to be provided to the health planning unit in the Ministry of Health. The staff of the unit, in collaboration with WHO staff (of the inter-country project ICP PPS 002) held a second course on health planning and medical care administration in December 1977. The Government has decided to conduct a country health programming exercise in collaboration with WHO.

In *Thailand*, the health planning unit continued to play an active and growing role in all matters related to planning, management and information in support of the implementation of health programmes formulated in 1975 during the country health programming exercise. The planning unit as well as senior administrators in the Ministry of Public Health are taking a keen interest in evaluating and further developing the CHP method. The strengthening of health services administration through training in planning and management at central, provincial and district levels is receiving priority attention, and intensive training activities are under way. There are plans for decentralizing health planning to the provincial level, using the CHP method; an initial trial in one of the northern provinces is planned for later 1978. Consequent on such activities and interest, the Government, in collaboration with WHO, is examining the feasibility of establishing a CHP training centre in Thailand. A national intersectoral conference on training in health management involving ministries, universities and institutions concerned with health activities, was held in April 1978 with the participation of WHO staff. With its ever-growing responsibilities and activities, the planning unit needs to be strengthened further so as to avoid delays in and rescheduling of some project milestones.

The inter-country project on the strengthening of health services administration through training in planning, established with UNDP

assistance, aims at further developing national capabilities in health planning and management through training institutions in the countries (for example, schools of public health), and by conducting regional and country group educational activities. Of a total of three regional and 22 country courses planned under the project for the years 1975-1980, two regional and 12 country courses had been organized as of the end of June 1978. Assistance was also provided to the countries of the Region in reviewing the objectives and content of teaching curricula, in formulating educational objectives based on modern educational technology, in developing guidelines for teaching modules and in designing specimen modules. A management officer was recruited, and two short-term consultants visited training institutions in different countries to follow up the progress made since the baseline review undertaken by a consultant in 1975. Another consultant assisted with a Regional Seminar on Health Manpower Studies in Relation to Health Care Delivery, which was attended by 21 participants from seven countries. National courses were held in Indonesia, Sri Lanka and Thailand, involving a total of 118 participants. The inter-country project maintained close links with and support to country projects involved in health planning and management, as well as with training institutions. A mid-term tripartite review of the project, undertaken in March 1978, evaluated the progress made and recommended extension of the project up to 1981, with emphasis on strengthening health planning in four countries and the provision of assistance to the Asian and Pacific Development Institute, Bangkok, in activities of common interest.

1.1.2 *Health Service Information*

The growing awareness that health information and statistics must provide meaningful support in the planning, management, and evaluation of national health services has brought about changes in the health information/health statistics programmes in the Region. Instead of independent projects, the present practice is to provide assistance as a component of more broadly based projects on the planning, management and the strengthening of health services. This is intended to facilitate better integration of health information and statistics into the planning and management of health services and thus reduce the gap between producers and users of information.

"Health information systems with special reference to primary health care and rural development" was the subject of the technical discussions held during the thirtieth session of the Regional Committee in August 1977. The resulting recommendations stressed the importance of the development of health information sub-systems appropriate to the primary health care level. The need to ensure that the data collected at the primary health care level are relevant to management purposes, and the importance of linking PHC with voluntary health workers, village councils or similar organizations, were also stressed.

implementation of the People's Health Programme, which started in April, will accelerate fulfilment of the operational research priorities identified for each programme.

A number of operational research studies are under way in *India*, with WHO collaboration, for example, controlled trials of chemotherapy in tuberculosis, operational studies on malaria resistance, filaria epidemiology and field trials on the control of human fertility. A study of the multi-purpose health worker strategy is progressing and is expected to be completed before September 1978. Various national institutions (health, social, management and statistical) are collaborating with the Ministry of Health and Family Welfare in carrying out a thorough evaluation of the community health workers' scheme.

In *Indonesia*, the Health Services Research and Development Institute in Surabaya was designated as a WHO Collaborating Centre. The research and development component of project INO HSD 001 continued to collaborate with the Research and Development Institutes in Jakarta and Surabaya. A WHO systems analyst continued his assistance to operational research and systems analysis (ORSA) and diverse activities, geared mainly to training and research.

The Regional Office is arranging to print 200 copies of the English version of the management sciences manual which has been developed by the project, for distribution to other countries in the Region. US AID has provided financial assistance for the organization of training courses. The Research and Development Institutes in Jakarta and Surabaya continued to design and conduct a number of operational studies relevant to upgrading the effectiveness and efficiency of the health services and the development of primary health care.

In *Maldives*, operational research activities are in progress. Work on mass tuberculosis and leprosy case-finding and immunization continued with assistance from a consultant, and data on sanitation were being collected from the outer atolls.

The Institute of Hygiene, Microbiology and Epidemiology in *Mongolia* continued its operational studies, epidemiological surveys and field trials for strengthening epidemiological surveillance. UNFPA is assisting in the epidemiological studies of population growth, which include studies on infant and child mortality, maternal morbidity, infant nutrition, perinatal mortality and fertility patterns. A national committee was appointed to prepare a study of the state of health of the population. This study, to be undertaken jointly with the USSR, is planned to start in 1979, coinciding with the country's census, and will continue for several years.

In *Nepal*, a Demographic Sample Survey has provided reliable estimates of the population structure and dynamics, including crude and specific vital statistics. The nutrition survey conducted under project

NEP NUT 003 in 1976, and the earlier "Nepal Nutritional Status Survey", carried out with US AID assistance in 1975, provided the basis for a multi-sectoral nutrition programme in collaboration with WHO, UNICEF, FAO, WFP and US AID. The current CHP mid-term evaluation using the country profile as an overall information/evaluation base, will contribute to the evaluation method being worked out for developing countries at WHO Headquarters. The Institute of Medicine carried out an operational study on rural health needs entitled "Study in a Primary Health Care Unit, District of Tanahu", the findings of which are of great interest and operational value. The national family planning/maternal and child health project completed or is conducting the following studies: a four-district KAP/fertility survey, a Nepal fertility survey, the testing and organization of a simplified reporting system, the fourth round of the KAP/fertility survey in six districts, a fertility, morbidity and mortality survey, a laparoscopic follow-up survey, a maternal nutrition survey and a study of nutrition education for mothers.

In *Sri Lanka*, a national inventory of research studies on health services was developed. A proposal for "Field Research and Management Studies in Family Health" was designed and is under consideration. The Nutrition Department of the Medical Research Institute continued with its operational studies, in order to develop nutritional activities within the framework of basic health services.

In *Thailand*, several operational projects have been evolved applying innovative alternative strategies for the development of primary health care, for example, the Sarapee, Korat, DEIDS, and Songkhla projects, the projects using malaria collaborating volunteers and the community-based family planning workers. In this connexion the following research studies or projects are in progress: preliminary evaluation of village health volunteer work for primary health care (jointly by WHO project THA HED 001 and the Institute of Social Studies); an experimental study of the impact of the age and sex of village leaders on the implementation of health programmes in Korat Province (WHO project THA HED 001); cost-analysis and evaluation studies of the Lampang DEIDS project (US AID and the American Public Health Association); the nutrition-integrated primary health care project, Samerng District (WHO/IPPF); primary health care supervision and supply systems (Royal Thai Government/WHO Coordinating Committee); the role of the Buddhist monk in rural socio-economic development, including primary health care (RTG/WHO Coordinating Committee), the education of village volunteers in selected communities (RTG/WHO Coordinating Committee), and the Songkhla integrated model of rural development (UNICEF).

1.1.4 *Organization of Basic Health Services*

Governments in the Region continued to strengthen and expand the infrastructure of their basic health services, especially in rural areas, with the aim of increasing the coverage and improving the

quality of these services. A trend towards reformulating national policies in line with these objectives has been evident. Recognizing the limited services available to the rural population and those living in urban slums, all governments have now accepted it as a policy to support primary health care programmes by increasing the numbers and services of health centres and sub-centres. The aim is to provide promotive, preventive, curative, and rehabilitative services in a balanced manner and to integrate specialized vertical programmes gradually into these health services. Technical cooperation was extended to these efforts through country and inter-country projects.

Assistance was provided for the development of task and action-oriented job descriptions for the members of the health team staffing the infrastructure of basic health services. It was also given for the development of training curricula, the provision of continuing education and the imparting of the necessary knowledge, skills and attitudes to health workers,the development of teaching and operational manuals, and the retraining of uni-purpose personnel for multi-purpose health work. In collaboration with UNICEF, supplies and equipment were provided. These activities were intended to support the current changing roles of the various categories of workers in the health team in order to improve the effectiveness and efficiency of the health services. Further, support was given to the promotion and development of a two-way referral system and the strengthening of supervisory activities to ensure proper utilization of resources - both financial and manpower - at all levels.

In *Bangladesh*, the strengthening and expansion of the infrastructure of rural health services continued. The programming phase of the second country health programming exercise, completed in 1977, identified a "Static Health Care Programme" in support of primary health care as a priority for programme formulation. The static health care programme includes all services delivered by institutions at the thana and more local levels, primarily the thana health complexes and union sub-centres, together with all other government health institutions, such as under-five clinics, eye camps, medical care, maternal and child health and other health and nutrition education activities. The programme proposal envisages an increase in the number of thana health complexes from the present 150 to 356 by 1985 and of union health centres from the present 400 to 2000.

In *Bhutan*, the WHO/UNDP project has been cooperating with the Government in expanding the coverage of integrated rural health services. Progress was made in converting dispensaries into integrated basic health units - out of the total of 61 dispensaries, 21 have thus been converted. Several sections of the operational manual for the basic health units were finalized and tested. Following the success of the field test, the use of the manual is being extended to all basic health units and to maternal and child health activities in hospitals. Zonal health supervisory systems were established in

three out of the country's seven zones, and the supervision of communicable-disease surveillance and control activities strengthened. The Health School continued to receive support in the training of health assistants, basic health workers and auxiliary nurse-midwives; 45 of these workers graduated during the reporting period, bringing the total number of graduates to 67. The school health programme was strengthened and a post of school health officer was established. In collaboration with WFP and UNICEF, the project took part in the planning, conduct and evaluation of a multi-disciplinary training course in nutrition in May 1978 (see also Section 1.6).

In *Burma*, the People's Health Programme, which was formulated through the country health programming exercise in 1976, gives first priority to primary health care and the basic health services. In order to develop primary health care, the infrastructure of the basic health services needs to be strengthened and increased so as to provide the necessary support to and cope with the additional workload expected to result from the implementation of primary health care and other service programmes. Accordingly, the present infrastructure of rural basic health services, which includes 5235 units (169 station hospitals, 1077 rural health centres and 3989 sub-centres) will be increased by about 18% by 1982 (to about 6180 units). A number of preparatory activities were carried out during the year, including the training of trainers and trainees at various levels. This involved training all categories of basic health service staff in order to prepare them for their changing roles as supervisors and trainers and/or to become multi-purpose health workers. A manual was developed and distributed to all basic health workers in the townships selected for the implementation of the programme. UNICEF and WHO provided the necessary supplies and equipment. As the programme also involves the phased integration of specialized vertical campaigns at the local level, unipurpose workers in such programmes were retrained for multi-purpose work.

In *India*, the Government accords the highest priority to integrated development in rural areas, where 80% of the population lives. With this end in view, the Ministry of Health and Family Welfare launched a rural health scheme in October 1977 with the aim of bringing simple health care within the reach of every citizen by organizing cadres of medical, paramedical and community health workers. The emphasis is on the promotive and preventive aspects of health. Since 1974, the Government has been operating the multi-purpose health workers' scheme with assistance from UNFPA, UNICEF and WHO. Under this scheme, unipurpose health personnel of vertical programmes such as smallpox vaccinators, malaria surveillance workers, family welfare health assistants and tuberculosis workers are trained to become multi-purpose workers so as to provide integrated health services to the rural community. The backbone of the scheme is constituted by teams each consisting of one male and one female multi-purpose worker supported by the staff in the sub-centres and the primary health centres.

The National Institute of Health and Family Welfare continued with its operational study of the scheme to assess the effectiveness of the reorientation training programme, to identify the problems associated with retraining for multi-purpose work and its field operation, and to develop an appropriate health information system geared to the decision-making process. Since 1977, the implementation of the scheme has been accelerated following the launching of the community health workers' scheme, to which the multi-purpose workers are to provide the necessary support. WHO and UNICEF collaborate with the Government in achieving the objectives of the study. Technical cooperation was also provided in the planning, implementation and evaluation of the rural health services. A further project (IND PPS 001) was started in 1978 with the objective of promoting the understanding of health economics and its important contribution to improved health planning and management. These projects are expected to contribute significantly to the success of the rural health scheme.

In *Indonesia*, the infrastructure of the basic health services in rural areas continued to be expanded and strengthened according to the PELITA II Plan. It is anticipated that the target of establishing at least one health centre in each district will be reached by 1978/1979. The President's special developmental "INPRES" funds supplemented the Government's budget for health, the funds being used for establishing new health centres and improving the quality of service in existing ones, for providing supplies and drugs, and for improving rural sanitation. Foreign assistance in support of this governmental effort is intended mainly for the improvement of rural water supply facilities and the development of hospitals and nutrition and community health services. The strengthened infrastructure of the rural health services is expected to contribute greatly to the development of primary health care. The component of the umbrella project INO HSD 001 dealing with the health care delivery system continued to provide assistance to the Directorate General of Community Health and its four directorates responsible respectively for community health services, health education, family planning and nutrition. The WHO team consisting of a public health administrator and a public health nurse is cooperating in carrying out a variety of activities such as: the quarterly monitoring of the INPRES development programme in rural areas, the assessment of health centre functions, the strengthening of the primary health nurse (PK) training programme, the evaluation of the family health programme in relation to primary health care, the maternal mortality study, and the review of the referral system.

In *Nepal*, where 96% of the population lives in rural areas, the majority in the northern hilly and mountainous regions, successive development plans have given priority to the provision of health care to the maximum possible number of people. The health services, which were mainly in urban areas and the terai region, delivered mostly curative medical care, rendered through hospitals and other institutions. By the end of 1977, and within the framework of the Fifth Development Plan (1975-1980), the infrastructure of the health

services had been increased to 177 medical care institutions (61 allopathic hospitals, 31 health centres, 1 ayurvedic hospital,82 ayurvedic dispensaries, 1 homoeopathic hospital, and 1 unani dispensary) and 433 health posts delivering preventive and curative care to the rural population. Within a period of seven years there has been a 77% increase in medical institutions and a 183% increase in rural health facilities. Most of the expansion in the latter has been directed to the un-served rural population, thus significantly rectifying the earlier geographical imbalance in the distribution of health services. A further considerable expansion of the health services is expected in the next two years, as the Fifth Development Plan envisages the infrastructure of the health services in rural areas to consist of 810 health posts effectively supervised by 48 district health offices, with a referral system to hospitals or health centres (one in each of the 75 districts), and administered by the four regional health offices supported at the national level by the Ministry of Health. The WHO team consisting of a public health administrator, a public health officer, a medical stores management officer, a public health nurse, a laboratory specialist and a medical records officer continues to assist in these efforts, in close collaboration with a US AID team. A wide range of activities is expected to be accomplished by mid-1978, including the construction or conversion of more health posts; in-service training of personnel in health posts and district health offices; training of community leaders; assessment of the nutritional state of children under five, and expansion of the immunization programme.

Bearing in mind the constraints posed by shortages of capital and manpower resources, the Government has decided to conduct a mid-term situation analysis within the framework of the Fifth Five-Year Development Plan in collaboration with WHO, UNICEF, UNFPA and US AID. This will be a significant achievement, and preparatory work is in progress, including the development of an updated country profile. This evaluative exercise is timely, as it coincides with preparations for implementing a village volunteer primary health care scheme with the support of the basic health services.

In *Thailand*, the integrated rural health services continued to be strengthened and upgraded in support of primary health care. At the end of 1977, the expanding infrastructure of the rural health services consisted of 297 hospitals, 3898 health centres and 1448 midwifery clinics. By 1981, the national plan envisages the expansion of the infrastructure to 350 hospitals, 4533 health centres and 2956 midwifery clinics.

Under the provincial health care development project, the WHO management officer continued to provide assistance to the Rural Health Division. The project assisted in preparing the annual health budget and allocating it to the provinces and in revising the existing reporting procedures. Among other areas of cooperation were the development of task-oriented supervisory systems at all administrative

levels, management of the construction of health facilities in the provinces, and the implementation of the primary health care programme, including its sizable training component. The project has been progressing satisfactorily and was very successful in attracting substantial extra-budgetary funds. The Regional Adviser on Community Health Services visited the project and reviewed its progress with the national authorities. The Royal Thai Government/WHO Coordinating Committee reviewed the project document together with that of the population project in April 1978.

A new project, "Urban Health Care Development" (THA HSD 001) was launched in 1977. The objectives of the project are: (1) to assist in the development of comprehensive health services for the slum population in Bangkok and 126 municipalities as an integral part of town planning and urban management with emphasis on the preventive aspects of health, especially environmental health, family planning and immunization, and (2) to improve the administration and management of urban hospitals. A national temporary adviser was recruited to assist in the group educational and training activities, which are supported by a WHO grant. Two training courses in urban public health administration and planning were organized, attended by health officers from Bangkok and other municipalities. Training courses for school teachers in the provinces are being given. The target is to train 90 public health administrators and 100 000 school teachers by 1980.

1.2 Primary Health Care

The primary health care (PHC) approach is now accepted by all governments and is gaining momentum in South-East Asia. All the countries in the Region are now aiming at better coverage through PHC, with simultaneous expansion of the supporting infrastructure of their health services.

The concensus among the countries in accepting primary health care has been followed by several promotive activities at national level. These measures were directed towards crystallizing the concept and studying the most suitable approaches from each country's point of view. Several countries have made in-depth studies of innovative projects, held national dialogues and exchanged information and experiences both on an intra- and an inter-sectoral basis. They have developed strategies to maximize the coverage in order to reach the under-served rural population as rapidly as possible, through the PHC approach, supported by the infrastructure of the basic health services. WHO and UNICEF have assisted in these efforts. The determination of the countries to accept and implement the primary health care approach was reiterated during the WHO/UNICEF Regional Meeting on Primary Health Care, which was held in the Regional Office in November 1977 in preparation for the global meeting on the subject, scheduled to take place in the USSR in September.

END OF A SCOURGE

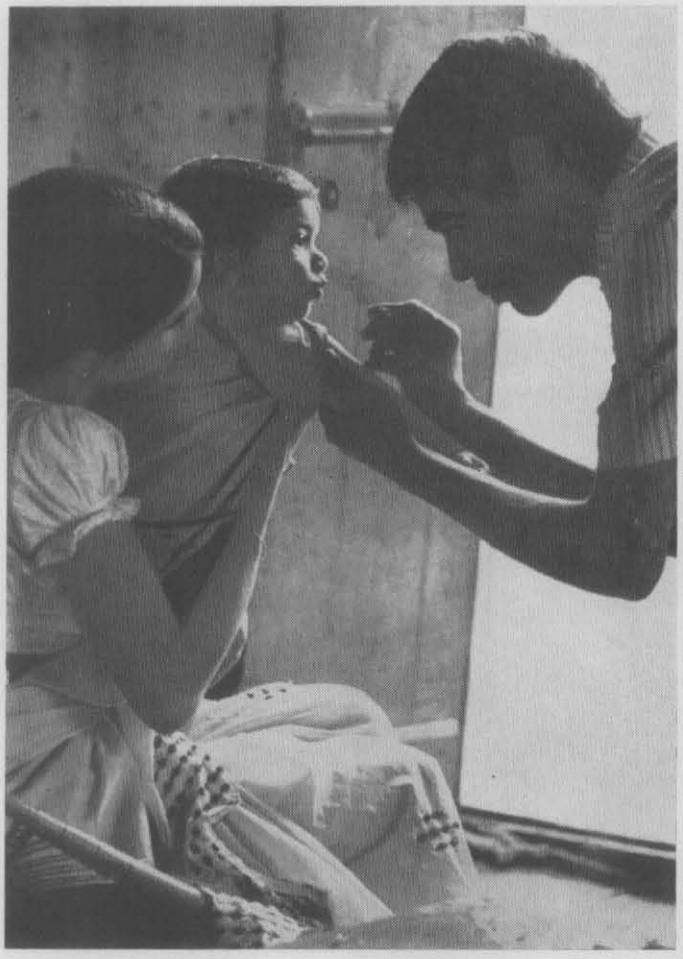
Freedom from smallpox was declared in Asia on 14 December 1977 when a WHO International Commission officially certified the eradication of this ancient scourge *from Bangladesh.*

The Director-General of WHO, *Dr Halfdan Mahler, and the* Regional Director, Dr V. T. H. Gunaratne, look on while the Chairman of the International Commission, Dr A. D. Langmuir, presents the final report of certification to the President of Bangladesh, His Excellency Major-General Ziaur Rahman.

After addressing the field staff at the Smallpox-Zero headquarters in Dacca (right), Dr. Mahler personally congratulates them (right, below).

Vehicles, which played such a vital role, stand like proud soldiers, lined up after the hard-won victory.
(Photos : WHO/A.S. Kochar)

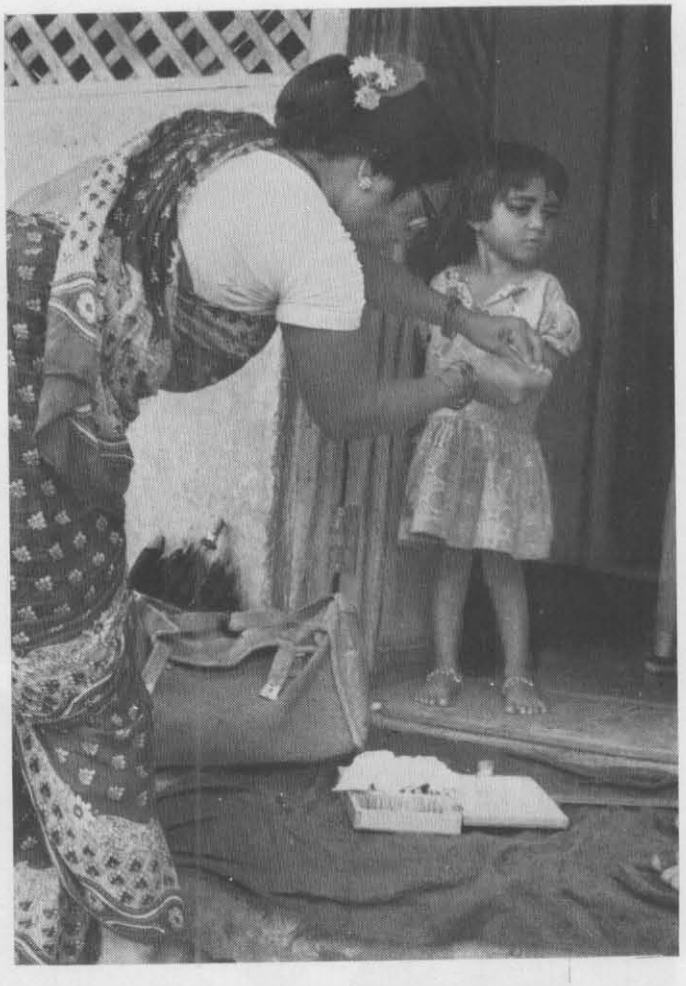
Left: An auxiliary nurse-midwife helps a community health worker examine a pregnant woman as part of prenatal care. They find her anaemic and (above) give her iron and vitamin tablets. Left, below: Immunizing against childhood diseases is also part of a health worker's functions.
(Photos on this and opposite page: WHO/ A.S. Kochar)



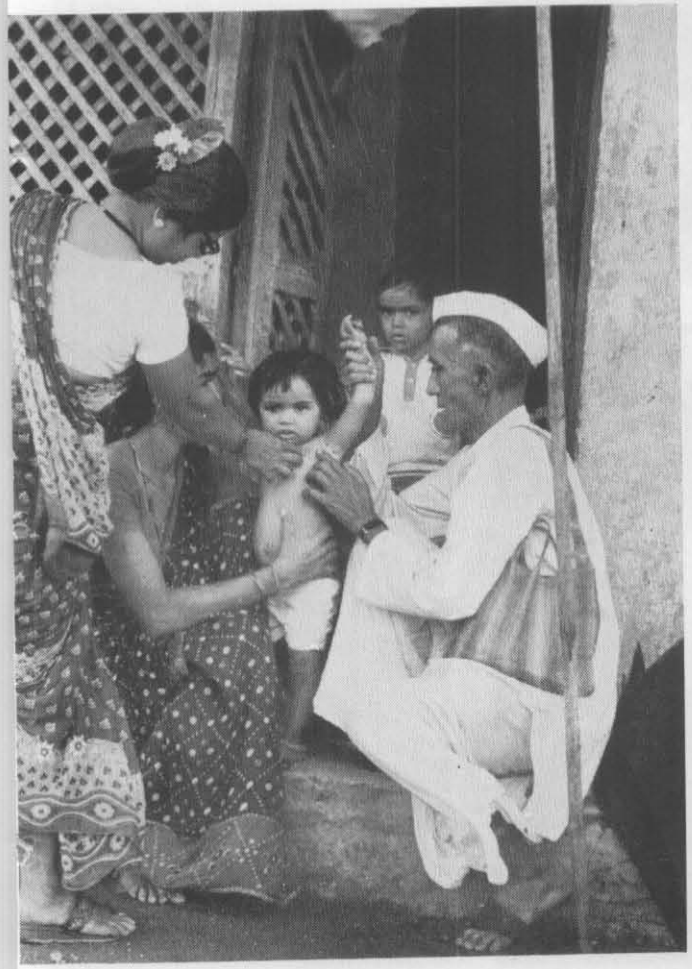
PHC IN ACTION — INDIA

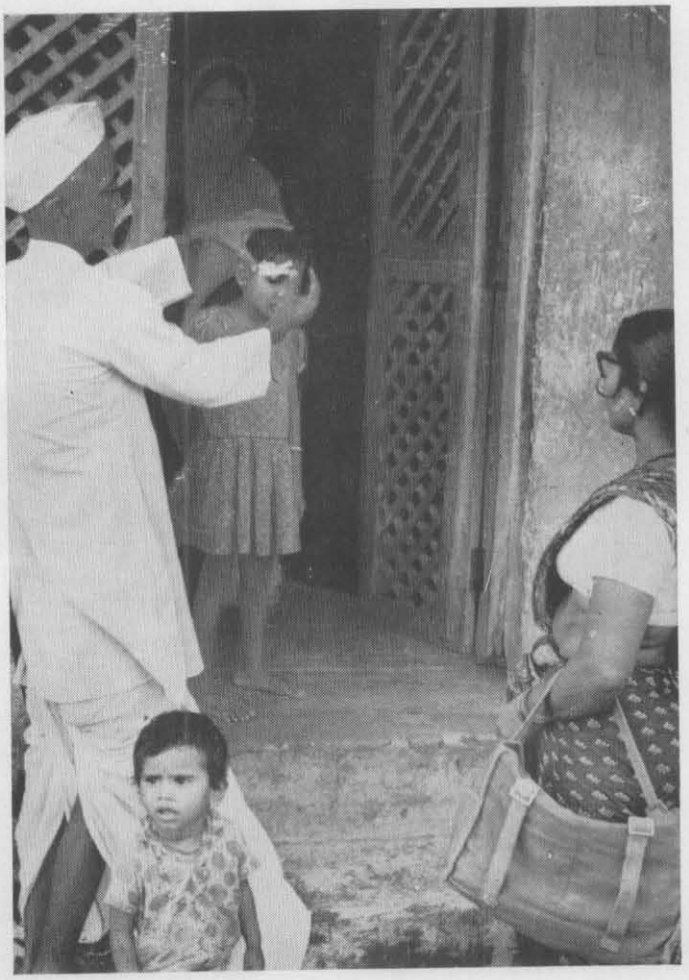
To tackle the health problems in its half-a-million villages, the Indian Government, like others in the Region, has accepted that a programme of primary health care is the most feasible strategy.

A scheme using community health workers (CHWs) was launched in October 1977. By February 1978, the first batch of more than 15000 such workers had returned to their villages after three months' basic training in health care. Chosen by their own communities, they are helping to build self-reliance in matters of health in rural areas. The scheme aims to have one male and one female multipurpose health worker for every 5000 of the population.



Above : Community health workers collect health data and take blood samples to detect malaria (right). They are qualified to examine and cope with minor ailments (below) and are equipped to give first-aid (below, right).

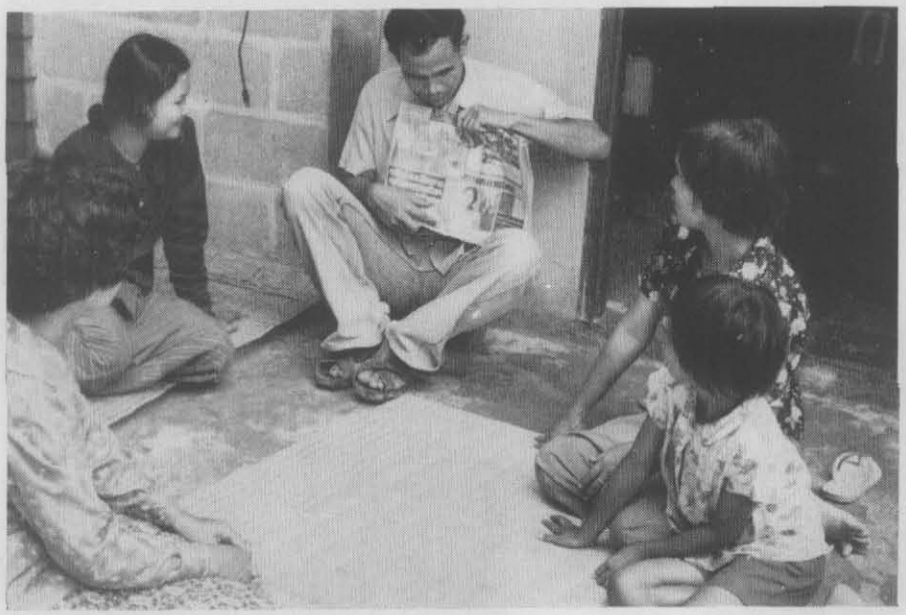




PHC IN ACTION— THAILAND

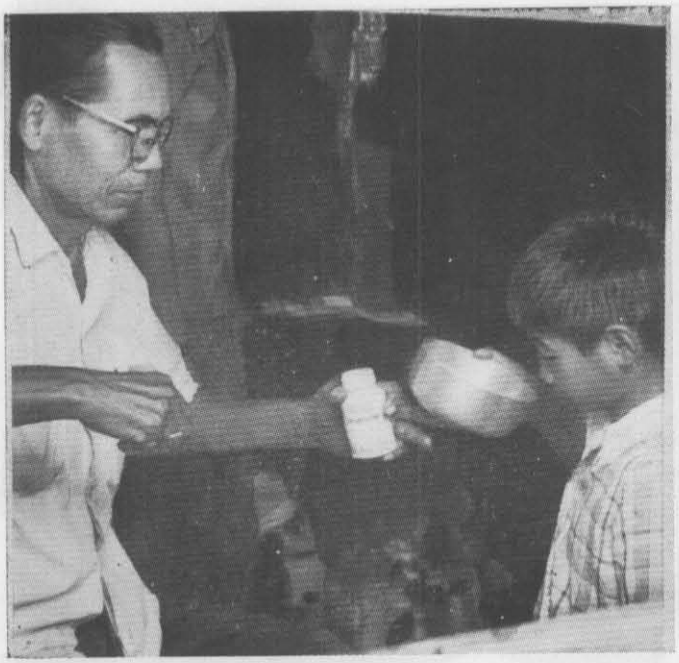
In Thailand, as in other countries of the Region, community involvement plays an important role in primary health care. Village leaders, traditional healers and monks have all been involved in the PHC programme to make it more broadbased and effective. (Photos on this and opposite page : WHO/A.S. Kochar)

A village health volunteer checks vaccination marks in children at a day-care school.

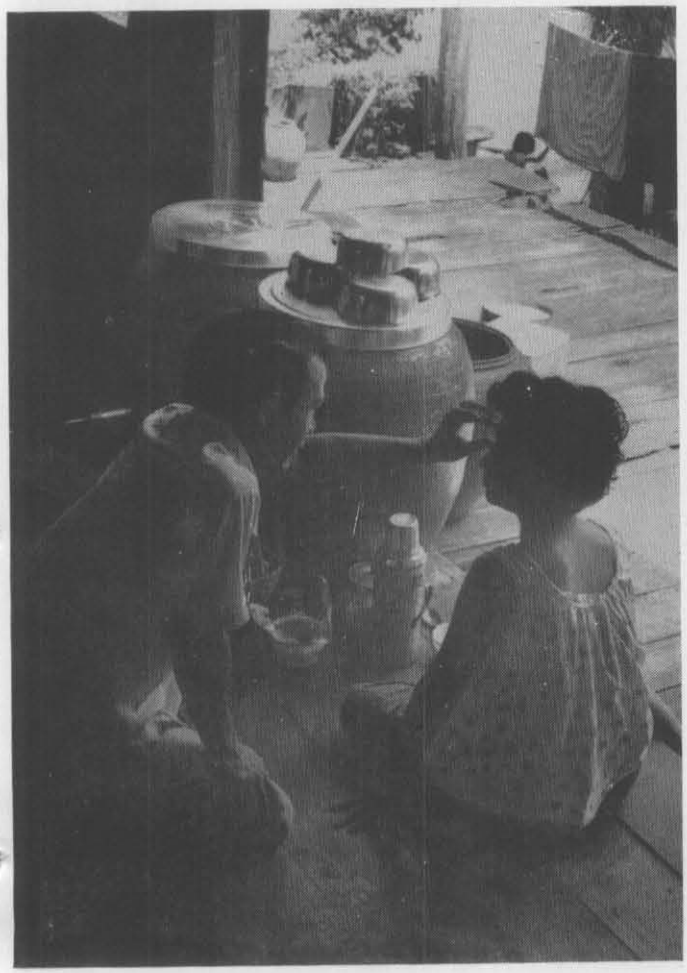


He also visits homes regularly to give guidance on health and hygiene.

The whole village is involved in the construction of a storage tank for drinking water. While the villagers provide the land and labour, materials are supplied by the Government.



Above : Traditional practitioners work closely with the health services in providing primary health care; they may even prescribe simple allopathic medicines.
Right : A village monk guides young children in dental care at a day-care school,
Below : The village health volunteer makes regular visits to homes and attends to sickness. He also runs a first-aid post at his house, attending to minor injuries (below, right).



WOMEN IN WHITE AT WORK

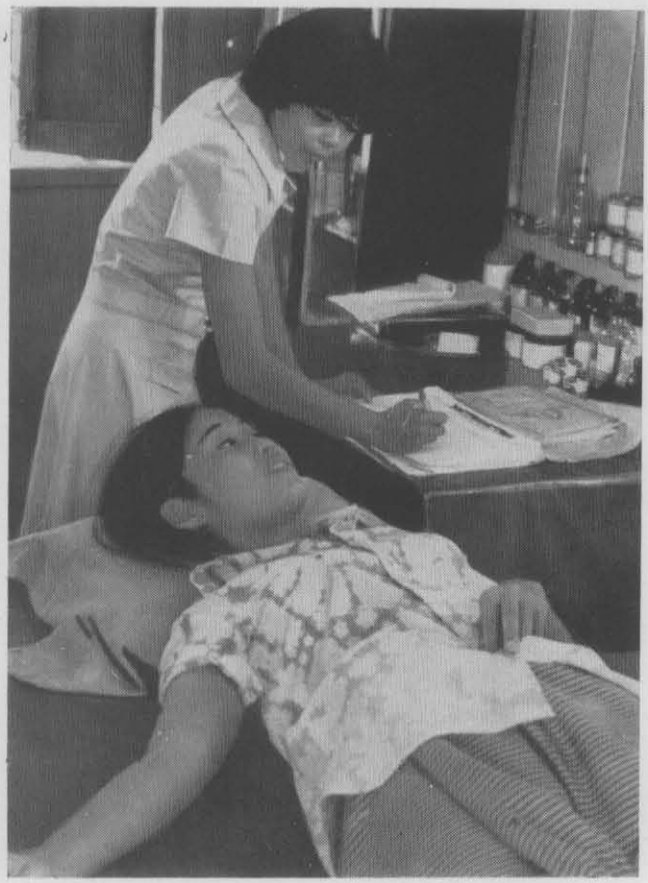
Nursing personnel form the backbone of health services, especially for family health. Their impact on rural health and primary health care is not only through direct nursing care but also as trainers of various types of village health workers and traditional birth attendants.

Above : Nursing students being instructed in child care in Mongolia.

Below : Auxiliary nurse-midwives run the rural health centres in Thailand. (Photo : WHO/A.S. Kochar)

Right : Burmese nurses explain to a mother how to prepare a bottle feed for her twins.

Right, below : A public health nurse on her daily rounds in Sri Lanka.



Two out of the Region's ten countries are at present considered to have achieved almost full coverage with a reasonable level of service, four have launched national programmes and another four are in the preparatory stage of planning national schemes. It is to be noted that the promotive effort, when followed by a systematic national health planning process such as country health programming, has resulted in the development of rational programmes. These systematic planning efforts have thus strengthened and accelerated the implementation of PHC in the countries concerned.

In some countries primary health care has developed as an expansion of the government's basic health services, in some as a part of community-initiated action, and in yet others as a combination of both. Within each of these broad types there are shades of variation which are specific to each country. Wherever primary health care has been initiated by community leadership as an integral part of the community's activities, the government's basic health services are being expanded to provide the necessary support in training, referral, logistics, technical guidance and supervision.

PHC is also recognized as an evolving, dynamic approach, and as a stage in the process of continuing evolution which can thus be adapted to the changing needs and varying situations of the community. In the initial stages of developing PHC, priority is given to achieving better quantitative coverage through the provision of a package of simple, essential requirements within available resources. With the passage of time, increase of resources and the accumulation of practical experience, qualitative improvements could follow.

One important feature in the development of PHC in some countries is the involvement of other sectors in the promotive and preparatory phase and the planning and implementation of the programmes at all levels.

In *Bangladesh*, intensive promotional efforts in 1977 culminated in the formulation of the primary health care programme (including the expanded programme on immunization) in June 1978. This programme, which followed the second cycle of the country health programming exercise conducted in 1977, includes all services delivered at the village and domiciliary level primarily by the local workers supplemented by village volunteers (village health squads) and more central level workers. The activities will cover appropriate medical care, maternal and child health and family planning, nutrition, control and surveillance of communicable diseases, health education and environmental sanitation. The programme, to be supported by the institutional health services, envisages the active involvement of the family welfare worker (one for every 4000 population) and the family welfare assistant (three per union) for monthly house-to-house visits. In addition to the village health squads in each village, the requirements for manpower are estimated at 15 358 family welfare workers and 16 224 family welfare assistants.

In *Burma*, the implementation of the PHC programme, which had been formulated during the country health programming exercise in 1976, started in April 1978 in 15 townships. The programme aims to cover 147 townships - about 50% of those in rural areas - and will involve the training of 5240 community health workers by 1982. Further, 670 community health workers were selected and given three weeks' training in the rural health centres in their townships. WHO and UNICEF have, in coordination, helped to meet the cost of the necessary supplies and equipment including kits, the production of manuals, and the training. This initial phase of implementation will be monitored and evaluated in order to apply the findings in improving the programme further.

In *India*, the primary health care programme was launched in October 1977 as the "community health worker scheme". It was preceded by promotional activities, including a national conference on primary health care. In the first phase, the scheme has been implemented in 28 districts. The training of multi-purpose workers has been completed in these districts and in one primary health centre in each of the remaining 364 districts in the country. There are 777 primary health centres involved in this phase. During the current five-year plan it is envisaged that the scheme will be extended to 4584 primary health centres in a phased manner over a period of three years. Future extension will, however, be subject to an evaluation, scheduled to be carried out in June 1978. By the end of 1978, it is planned to train 90 000 community health workers, who will serve a population of 80-90 million in about 80 000 villages. The rural health scheme also involves the training of one *dai* per village who will be provided with a suitable kit. The necessary training manuals were prepared, tested and distributed. WHO, in collaboration with UNICEF, provided technical cooperation in these efforts.

In *Indonesia*, preparations for the launching of the primary health care programme included considerable promotion, planning and research. The WHO project INO HSD 001 was involved in the above efforts, which were marked by a pragmatic and multi-sectoral approach. Following the organization of a task force on PHC, a national conference and a workshop on the implementation of PHC were held. The trainers of primary health care (kabupaten) workers were trained in the six provinces in which inter-sectoral pilot projects on PHC were launched. PHC workshops are planned for September 1978 in four other provinces.

Maldives, where the basic health services are developing, will benefit from the planned community-based PHC programme for each of the inhabited islands. WHO and UNICEF participated in a national meeting on PHC.

Mongolia, which has now achieved almost 100% health coverage of the population, has vast experience in developing primary health care. The "bag-nurse", or the primary health worker, with three months' training, was the backbone of rural health services during 1921-1940. Over the next 20 years this category of worker was replaced by the feldsher, whose training lasted four years. The feldsher programme

was expanded to every brigade, and in the 1960s was further supported, at the somon, aimak and national levels, by a strong structure of institutions and mobile teams consisting of physicians, specialists and auxiliaries and providing both preventive and curative care. A national symposium on PHC was held in August 1977 with 50 participants drawn from all categories of health professionals, as well as Red Cross officials.

In *Nepal*, despite a significant expansion in the basic health services, it is realized that functional coverage through house-to-house visiting has not been achieved, especially in the hilly and mountainous regions where 61% of the population lives. Accordingly, a primary health care approach through village-based volunteers has been conceived. A scheme to train trainers who in turn would train 3600 community leaders and motivate them in community participation in health development, was initiated by the integrated community health project. Another approach which is being considered for implementation in three districts envisages the training of village volunteers to deliver simple medical care, first-aid, basic preventive and promotive measures and lay reporting. The basic health services will provide the necessary support and the voluntary organizations will be involved in these efforts. Initially, the pilot projects in Jumla, Nuwakot and Bhanke will provide the necessary experience for developing a national scheme. A multi-sectoral national conference on PHC was held in 1977.

In *Sri Lanka*, too, in spite of a relatively good infrastructure of basic health services coupled with a fairly high literacy rate and good communications, there is much scope for improvement in the functional coverage. There is significant under-utilization of local services and over-use of more central institutions, reflecting on the quality of service. The problem is aggravated by the shortage of manpower caused by the "brain drain" among health professionals, and the paucity of financial resources. To remedy this situation, the Government plans to recruit 1500 non-transferable community health aides, who will be trained for multi-purpose health work consistent with community-based primary health care and with emphasis on preventive and promotive measures. The training curriculum will include communicable-disease control, health education, family health, school health, environmental sanitation, nutrition, elementary medical care, accident prevention, first-aid and rehabilitation. The Sarvodaya Movement, which is a self-help multi-sectoral socio-economic developmental effort and which has a PHC approach, now covers more than 900 villages.

In *Thailand*, as referred to earlier under sub-section 1.1.3, "Operational Studies", several innovative models of PHC have been evolved. Following the country health programming exercise, the provincial health care project (THA PHC 001), which was formulated in 1976, includes a country-wide primary health care component. The project's targets for 1977-1981 include the selection, training and deployment of 22 400 village health volunteers, about 200 000

village health communicators, 2800 "tambon doctors" and 8400 "granny midwives". To provide the necessary support and supervision to these personnel, about 6130 basic health workers, 7450 midwives and 2100 nurse practitioners will receive in-service reorientation training. Implementation of the PHC component started in 1977 following the finalization of the basic document. The achievements of the project include: training of trainers at provincial and district levels, preparation of guidelines on the community approach to village level planning and project management, training of 500 village health volunteers and 2500 village health communicators and the preparation of a PHC monitoring system. WHO and UNICEF are providing the necessary technical cooperation in the form of subsidies for training and the provision of kits and supplies. US AID is supporting the training of "granny midwives". The American Public Health Association is supporting the Lampang project. UNICEF and UNDP are supporting the Songkhla model. The population project, which has been finalized, is supported by IBRD/IDA, Australia, Canada, Norway and US AID.

Two inter-country projects were launched in 1978, that is, "Organization and Administration of PHC" (ICP PHC 002), and "Development of Appropriate Technology in relation to Primary Health Care" (ICP PHC 003). These two projects, which have replaced the earlier project "Organization and Administration of Primay Health Care" (ICP PHC 001), will support the country projects.

1.3 Family Health

In the South-East Asia Region, family health is identified as an integral part of primary health care. Greater stress is laid on the maternal and child care component, including family planning, also known as family welfare. In collaborating with governments in carrying out these programmes, WHO has been giving technical support to the United Nations Fund for Population Activities (UNFPA) and UNICEF.

In *Bangladesh*, in line with the importance attached to child health care in the country's family health programme, WHO supports UNICEF in running clinics for the under-fives. Cooperation with the World Food Programme has continued. A Tripartite Review of UNFPA-funded projects was held in April.

In *Burma*, field work on the collaborative study of pregnancy and its outcome, including low birth-weight, was completed in February. A proposal for an *ad hoc* survey on infant and early childhood mortality, which was scheduled to start after the completion of the WHO-assisted perinatal study (see below), has been under the Government's consideration. Support is being given to the development of health manpower for maternal and child health and school health.

In *India*, the first draft of a handbook on maternal and child health was completed. A seminar for state-level maternal and child health officers was organized early in November to highlight the Government's

new programme for the delivery of rural health services through community-level workers and the problems and needs of maternal and child health. WHO participated in a tripartite review of the UNFPA-funded programme for the supply of contraceptives. Promotion of the family health programme was the subject of regular and periodic discussions with the national authorities.

The perinatal study was started in August 1977 in collaboration with B.J. Medical College, Poona, and is making progress.

Collaboration was extended to *Indonesia* in designing the perinatal mortality study, which started in March. It is proposed to provide the services of a short-term consultant to assist with the school health programme.

With WHO collaboration, the Government of *Maldives* has drawn up a programme for improving family health. A short-term consultant has been assigned to assist with maternal and child health care activities. The MCH programme in the islands was reviewed and assessed. The services of a consultant were provided from time to time to conduct a child health clinic.

A WHO medical officer was assigned to *Mongolia* in June 1977 to help in promoting, improving and expanding the maternal and child health services as an integral part of the general health services. WHO has been collaborating with UNICEF in the expansion of the maternal and child welfare programme. Short-term consultants were provided in the fields of child haematology, nephrology and perinatology. The development of health manpower in maternal and child health continues to receive assistance. Further technical support was provided to the national authorities in the planning, monitoring and evaluation of the first phase of the programme of epidemiological studies of population growth.

In *Nepal*, the UNFPA-assisted project for the development of the family health aspects of integrated health services was revised in order to re-phase the activities. A consultant was provided to assist in training district medical officers in the "minilap" technique of sterilization. Fellowships were awarded to strengthen the family planning programme further.

A new WHO-supported project was started during the year with the aim of strengthening the maternal and child health aspects of the family health programme within the integrated health services. Support was provided in training manpower for maternal and child health through the award of regional fellowships.

In *Sri Lanka*, where the family health programme was extended by a further year, two new projects were started. One of them aims at strengthening the hospital-based services funded by UNFPA as well as

increasing the sterilization services and mobile sterilization teams. The other project, which is under the WHO Headquarters Special Programme of Research, Development and Research Training in Human Reproduction, will test the field research study on the family planning services. The Government has appointed a national coordinator for this project. During the year Sri Lanka also started the collaborative study on perinatal mortality.

In *Thailand*, the three new UNFPA-funded family health projects started last year were continuing satisfactorily. The project "Accelerated Development of MCH and Family Planning Services" (THA MCH 002) is due to be completed this year.

The collection of data for the community phase of the collaborative study on perinatal mortality was completed in the first quarter of 1978. Action is in hand to process and analyse the data. The hospital phase of the study is making progress,

The Regional Team on Family Health continued to assist governments in the implementation, monitoring and evaluation of their family health programmes. The team leader of the project took up her duties in June 1977.

As already mentioned, the year saw progress in regard to the WHO collaborative study on perinatal mortality. Indonesia and Sri Lanka initiated the study during the period under review. It was making progress in India and Thailand, and in Burma, the study was completed and the data were being analysed.

Activities under the WHO Headquarters' Special Programme of Research, Development and Research Training in Human Reproduction are being undertaken in Bangladesh, India, Indonesia, Sri Lanka and Thailand. Two scientists from the Region, one from India and the other from Sri Lanka, are on the 12-member Headquarters Advisory Committee for this programme. The Regional Office and the WHO Representatives at country level are increasingly involved in identifying priority research problems, scientists and institutions. The All-India Institute of Medical Sciences, New Delhi, is the Research Training Centre for this region. In October 1977, Regional Office staff participated in a meeting of the Advisory Committee which reviewed the Programme and discussed the formulation of its strategy. In order to strengthen coordination, it is planned to establish a post of special officer for this programme in the Regional Office.

1.4 Nursing

The resources in nursing and midwifery manpower have increased steadily in all countries of the Region. This increase includes professional level nurses and midwives and various categories of auxiliary level personnel. There is, however, the problem of uneven distribution of staff, with a tendency towards concentration in urban areas. In some

countries, emigration continues to deplete the ranks of professional level staff. Although new approaches are needed to solve the problem of maldistribution of nurses and other health workers, it must be noted that nursing personnel form the bulwark of family health services in rural areas, with the numbers increasing along with the expansion of the infrastructure of rural health services. The major impact of nurses and midwives in rural areas is on the health of mothers and children, and they must be given a good share of the credit for the reduction in maternal and child mortality and morbidity. Their contributions are through direct nursing care and health education, referrals to health centres and hospitals, and through the training and supervision of auxiliary workers, village health workers and traditional birth attendants.

A further impact nurses have made on rural health and primary health care is through their role as trainers of various types of village health workers and traditional birth attendants. The World Health Assembly in a resolution (WHA30.48) called for a comprehensive review of the roles and functions of health personnel within the context of national health programmes, emphasizing the utilization of nursing/ midwifery personnel in the planning and management of primary health care and vaccination programmes and as teachers and supervisors of primary health care workers. The resolution was reaffirmed by the Regional Committee at its thirtieth session.

In *Bangladesh*, the College of Nursing reached its goal of training 75 trainers for the family welfare visitors (FWV) programme. More than 400 FWVs were trained and the enrolment of new intakes is under way. The training programme for family welfare assistants and family planning assistants reached 90% of its goal, with 15 297 workers trained by the end of July 1977.

The midwifery training programme in *Burma* is being revised to strengthen the community health aspects, and a new curriculum has been designed for training traditional birth attendants.

Two states in *India*, Maharashtra and West Bengal, continued with surveys and assessments of community health nursing services. An advisory committee was formed in West Bengal for the purpose of directing surveys on community health needs as a basis for planning staffing patterns, for improving the organization and management of services in health centres, and for developing in-service programmes. In Maharashtra, progress was made in strengthening supervisory and logistic support for auxiliary nurse-midwives who are posted in rural areas. Courses in community health were conducted for tutors of ANMs in several states in the country in order that they may in turn place greater emphasis on community health nursing in the ANM training programme.

The scheme for restructuring the total nursing system in *Indonesia* made outstanding progress during the year. The main focus continues

to be on the primary health nurse (PK) training programme, which will eventually replace a multitude of specialty training programmes. The PK training programme is comprehensive in nature, including basic hospital nursing and a strong component in community health. In the national development scheme, the primary health nurse is the designated worker responsible for basic health services at community level. During the year, 18 schools of nursing were converted to PK training, making a total of 28, and 23 more are in the process of conversion. Retraining of nurses and midwives and teacher training continued, with the emphasis in all the programmes on active learning experiences in the villages. A unique feature of these new training programmes is the focus on student self-reliance in identifying and analysing the needs of village populations and developing appropriate nursing services in response to these needs. These activities are undertaken in full partnership and collaboration with the people, with the result that villagers themselves have assumed various responsibilities for improving their environment, establishing facilities for clinics and other measures for the promotion of health.

Nurses in the *Maldives* have major responsibility for the training of traditional birth attendants, the foolumas, and the community health workers, who serve in the atolls. The training is assisted by WHO.

In *Mongolia*, basic and post-basic nursing education was expanded and upgraded. Full secondary education is now required for admission to basic nursing, and 760 students were admitted to the four schools of nursing in 1977. Physical facilities were improved and additional teaching equipment procured through WHO and UNICEF assistance. Construction of a new building for the school in Ulan Bator is expected to start in 1978. The nursing programme is one component of the total scheme for training middle level health workers. The WHO nurse educator and post-basic students in nursing administration completed a survey of staff functions, working conditions, and opinions of patients, doctors and supervisors in 14 hospitals in Ulan Bator. Annual surveys are conducted on the numbers and distribution of middle-level health workers. Continuing education received major attention, including refresher courses for various categories of middle-level workers, and seminars on educational science for nursing and medical teachers. In-service education for nursing staff in hospitals was designed specifically to improve clinical areas used for student practice. Hospital services were further benefited through the post-basic course on nursing services administration, with 30 graduates consisting of matrons and head nurses. New job specifications for these nursing posts were approved.

In *Nepal*, WHO assisted with the revision of the curriculum of the post-basic midwifery training programme of the Institute of Medicine, Tribhuvan University. Nurses also form part of the health team responsible for training and supervising auxiliaries for the integrated health service scheme.

In *Sri Lanka*, the faculty of the Post-Basic School of Nursing and WHO nurse consultants developed proposals and the curriculum for a B.Sc. programme in nursing which are under consideration by the Government and the University authorities. The development of in-service education for nurses in hospitals was assisted through the assignment of a nurse-educator from an inter-country project.

In *Thailand*, nurses continued to play a major role in the preparation of educational materials and the training of trainers for primary health workers. The entire scope of nursing education has been revised with the objective of preparing nurses for broader functions in patient care and the delivery of services in the community. This change applies to basic nursing education and culminates at a higher level in the nurse practitioner programme and the M.Sc. in Public Health Nursing at Mahidol University. The nurse practitioner is prepared in skills of physical assessment and basic medical care and is to serve primarily in out-patient clinics and in health centres which do not have medical staff.

Throughout the Region, training programmes continue to be hampered by the lack of educational materials. During the period under review, national nurses and WHO nurse-educators have made significant progress in the preparation of manuals, texts and other teaching aids. In Indonesia, instructional modules for the PK programme were revised. In Thailand, modules were prepared for the training manual for village health workers, and, in India, nurses and medical personnel completed major tasks on the preparation of manuals for multi-purpose health workers, community health workers and trainers. In Maldives, educational materials were prepared for the continuing education of community health workers through a correspondence programme.

A WHO nurse consultant who has taken up a number of assignments in the Region completed the writing of a book on "Orthopaedic Nursing in Developing Countries". This was published by the Regional Office and has been well received not only in this region but also in other parts of the world. Another very useful publication written by a WHO nurse-educator, "Guide to Care of the Low Birth-weight Infant", is being revised and expanded before reprinting.

Nurses in Bangladesh have translated manuals from English into the local language; in Thailand, the translation of a second unit of Brunner's Textbook on Medical-Surgical Nursing has been completed. In Mongolia, work started on the translation of some texts into the Mongolian language, and the WHO nurse-educator, national nurse-tutors and students produced a set of slides on the fundamentals of nursing.

Continuing education for all levels of nursing personnel received major impetus during the year. Short courses in clinical subjects included paediatric, neurological, psychiatric and orthopaedic nursing, and rehabilitation. Several short courses and in-service programmes were conducted in the field of community health. A project in India,

designed specifically to prepare nurses for planning continuing education in their own institutions and localities, sponsored several workshops in Delhi and held two national workshops in other parts of the country. Some of the colleges of nursing in India have established departments of continuing education.

The inter-country project on continuing education in nursing conducted short courses and in-service programmes in several countries.

An inter-country workshop on "Community Health-oriented Nursing Education" was held in the Regional Office in October, followed by a Consultative Meeting attended by participants responsible for decision-making in nursing education in their respective countries. The project came to an end in December, to be superseded by a new project on "Continuing Education for Health Workers". This project is designed to prepare health personnel for the planning and implementation of continuing education programmes, especially those related to nursing and midwifery specialties. A major focus will be on the identification and development of training facilities in Member countries with potential usefulness for continuing education in various types of specialized training. These facilities could be used for fellows from other countries as well as for national health workers.

In all countries, there are many long-standing problems which impede progress in nursing education and the delivery of effective nursing services. These problems relate to organization and management, functions and utilization of personnel, development of clinical teaching areas and field practice in community health, establishment of information systems and controls, in the form of legislation, registration and accreditation, and overall planning for the development of resources in nursing manpower.

Aside from a few operational studies, very little has been done in the field of nursing research, but a project in India has made a good beginning in this respect. Several workshops were held for faculty members, nurse administrators and public health nurses, in which participants received guidance in preparing study designs, in carrying out small research projects and in analysing and writing the results.

1.5 Health Education

In most of the countries in this region, increased efforts are being made to strengthen national health education activities as an integral part of the health services. Consequently, there has been a corresponding strengthening of programmes to train health workers for health education and health education specialists to provide professional guidance to them.

In *Bangladesh*, the WHO health education specialist continued to work with groups concerned with primary health care as well as with health education specialists at the centre and in the divisions. Training

programmes in health education for both health personnel as well as health educators were organized to enable them to perform their different health education functions more effectively. A second health education specialist was assigned to this country to assist with the development of the health education aspects of primary health care services and the training of health personnel in health education.

In *Burma*, the health educators assigned to the divisions have been increasingly deployed to assist health workers in planning, implementing and evaluating health education as an integral part of primary health care services. The Assistant Director of the Health Education Bureau has been awarded a WHO fellowship to observe health education services in other countries of the Region so that he could bring to bear these experiences in the development of heatlh education in Burma.

In *India*, health educators at the central, state and district health education bureaux assisted in the health education activities of community health workers and others. In addition, they helped to give training in health education to physicians, nurses and community health workers at these bureaux and in regional training centres.

In *Indonesia*, where health education bureaux have been established in all but two of the provinces, health educators work closely with primary health workers helping the latter to plan, implement and evaluate health education as a part of their work. The Directorate of Health Education in Jakarta, with the assistance of the WHO health education specialist, identified their tasks in relation to health education in the provinces and regions, and developed working procedures and practices to encourage, guide and assist health education in the provinces.

The Government of *Maldives*, recognizing the importance of health education, especially in the outer islands, prepared plans for a country-wide health education service with the assistance of a WHO short-term consultant. Health education has been strengthened in the training of community health workers, nurse-aides and traditional midwives, and it has also been intensified in Male Hospital. Further, steps have been taken to strengthen health education in the curricula of primary and secondary schools and in programmes for the training of primary school teachers. The community education programme of Maldivian Broadcasting Services provides for weekly radio broadcasts on health education.

In *Mongolia*, the State House for Health Education has, in collaboration with a WHO short-term consultant, increased its efforts at assisting the health education bureaux in the aimaks and the somons. Proposals were drawn up for instituting pre-service training in health education in the country's health training schools and health instruction in primary and secondary schools and in teachers' colleges. These training activities are expected to gather momentum later this year.

In *Nepal*, the health education activities initiated last year recorded progress. The acting Chief of Health Education and his assistant have both been sent abroad for further training in health education and, on their return, it is expected that the health education activities, including training, will be intensified.

In *Sri Lanka*, with cooperation from WHO, health education services have been well-established. Health educators are now assigned to each of the Superintendent of Health Services (SHS) areas, and more than 6000 health volunteers have been trained to lend support to local health workers, especially in securing community participation.

In *Thailand*, where a plan of operation for a health education project was prepared and signed by the Government and WHO, health education units in the divisions and the provinces are being established. Health educators assigned to these units are providing increasing assistance to health workers in their health education work in primary health care. A WHO short-term consultant is expected to be assigned to the country later in 1978.

In addition to these activities in community health education going on in various countries, increasing attention was paid to health education in hospitals and other clinical institutions. The year under review saw an expansion of such efforts in India, which organized several national workshops on hospital health education with WHO support and is now increasingly introducing health education as a part of hospital care.

Similar activities also took place in Thailand. A major project to introduce health education as a part of patient care in hospitals in thirty provinces is now under way in that country. Progress in hospital health education is also reported from Bangladesh, Maldives, Mongolia and Sri Lanka. In these countries national workshops were held to train hospital personnel in health education and to plan health education activities in out-door dispensaries, clinics and wards.

India, with assistance from a WHO short-term consultant, made further progress in the field of school health education. Following a review of the textbook on school health education for Grades IX and X which had been prepared last year, a draft teachers' guide to supplement the textbook was completed this year in collaboration with the National Council for Educational Research and Training, the Central Board of Secondary Education, selected teachers' colleges and school teachers. Arrangements are being made to prepare a source book on school health and to design audio-visual aids to supplement the textbook, and for teacher training in school health education. In Thailand, health education in schools is being intensified. A textbook on the subject has been prepared and the Ministry of Education has taken a policy decision to establish a programme majoring in health education in the teachers' colleges and physical education colleges throughout the country. Activities in the field of school health education have made further progress.

At the regional level, the Regional Office carried out a survey of the present state of health and population education in the primary and secondary schools and teachers' colleges in nine countries of the Region. On the basis of the findings of the survey it is proposed to take further action to extend school health education in collaboration with UNESCO.

During the year, four inter-country workshops supported by UNFPA funds were held, two in the Regional Office and two in Sri Lanka. Follow-up activities in respect of each workshop, as well as national workshops, are planned in most of the countries.

In addition to collaborating in the in-service training of health workers in health education in Bangladesh, Burma, India, Indonesia and Mongolia, the Organization stimulated government interest in pre-service training in the subject. During the year, governments continued to strengthen the health education component in the curricula for the basic training of health workers and to develop textbooks and other learning resource materials in national languages. Following the two inter-country workshops held in Sri Lanka, some other countries are taking action to draw up health education curricula for the basic training of physicians, nurses and sanitarians, and to train teachers and prepare textbooks for the teaching of health education. WHO continued to collaborate in these activities.

The Organization's technical cooperation in the post-graduate training of health education specialists continued during the year. In Thailand, the programme of Master of Science in Public Health has started on the basis of the curriculum prepared earlier with the assistance of a WHO short-term consultant. There was further progress with regard to the programme in the other countries, for example, the MPH Programme in Health Education of the University of Indonesia, Jakarta; the diploma programmes of the All-India Institute of Hygiene and Public Health, Calcutta; the Institute of Rural Health and Family Planning, Gandhigram, India, and the Central Health Education Bureau, New Delhi. Assistance was provided to these institutions to strengthen their libraries.

With the expansion of health education as an integral part of health programmes, the need for research in several aspects of health education to secure community participation was increasingly felt. Health education bureaux in India, Indonesia, Sri Lanka and Thailand have undertaken several studies in this regard. In addition, WHO Headquarters-assisted research projects are currently in operation in these four countries. It is expected that these research projects will be completed during this year and the results used for the training of health manpower as well as to modify current health education practices and procedures.

1.6 Nutrition

Following the recommendations made at the twenty-ninth session of the Regional Committee and during the thirtieth World Health Assembly,

the Organization's efforts in the field of nutrition have centred round assistance to the countries of the Region in strengthening the administrative and technical capabilities of their health services in this area. Whenever possible, these activities have been specifically linked to those of other organizations such as FAO/WFP, UNICEF and the World Bank.

A Regional Seminar on the Organization and Delivery of Nutrition Activities in the Health Sector was held in New Delhi in November/December 1977 with participants from all countries of the Region. The conclusions of this seminar were particularly valuable in clarifying the scope of nutrition through health, specifically in relation to the control of protein-energy malnutrition (PEM) in children under five years of age and in defining the type of assistance required from WHO.

In *Bangladesh*, a public health nutritionist was assigned to the Institute of Public Health Nutrition, Dacca, to assist in strengthening the various training programmes for health personnel, in identifying nutritional problems as related to public health, in determining priorities for action, and in undertaking applied research in nutrition.

A WHO guest lecturer delivered lectures at the two nutrition courses organized by the National Institute of Nutrition, Hyderabad, *India*, annually - the three-month certificate course and the one-year degree course.

The Regional Adviser on Nutrition took part in two World Bank appraisal missions to *Indonesia* to evaluate the progress made in the implementation of the Indonesian Nutrition Development Project, a national activity supported by the World Bank.

Technical assistance was provided in designing the nutritional components of UNICEF projects in *Maldives* and in *Mongolia*.

In *Thailand*, two-week training courses for doctors, nurses, midwives and day-care attendants in nutrition and in problems related to the marketing, distribution and safety of foods, especially of high-protein foods, were conducted during November/December 1977 with WHO's financial assistance.

WHO staff participated in missions to evaluate WFP/FAO projects in Bangladesh and India. At the request of the Government of Bhutan, the Regional Adviser on Nutrition assisted with a national seminar on feeding programmes sponsored by WFP/FAO and held in Thimpu from 3 to 6 May 1978.

The Organization took an active part in an International Working Conference on Community-action Family Nutrition Programmes, held in Hyderabad, India, and in elaborating the policy and procedural

guidelines that emanated from the meeting. These guidelines were presented to the participants in the International Congress of Paediatrics, held at New Delhi in October 1977.

1.7 Medical Care

While there has been a gradual shift in emphasis from curative to preventive services in almost all countries of the Region, governments have been concerned about and are making efforts for, the provision of proper medical care, whether through hospitals, or through basic health services including health centres.

In *Bangladesh*, the Government has been promoting community participation in the delivery of medical care and a number of seminars have been held at different levels. The Government of *Burma*, in an attempt to expand medical care services, established 20 new station hospitals, 10 indigenous medicine dispensaries and four social security board dispensaries. In order to improve the management of hospitals so as to provide better medical care, a manual on hospital administration was prepared. In *Bhutan*, medical care is provided through five zonal hospitals and a network of 46 dispensaries covering remote areas. In order to give better care to children, the Government of *Mongolia*, during the year under review, started the construction of a new 120-bed children's hospital; eight new creches have also been opened. The provincial health care project in *Thailand*, which is supported by WHO, is paying as much attention to medical care as to other preventive, promotive and rehabilitative work.

The Organization has been active during the year in providing advisory and material assistance to governments. A workshop on health and hospital administration and management was organized in *Burma* with the help of a WHO consultant. Medical personnel from the *DPRK* were awarded WHO fellowships for advanced training abroad in hospital administration and other specialties related to medical care in order to strengthen these activities in the country. In *Maldives*, a number of patients were operated upon with the help of a surgical team assigned by the Organization. Similarly a team also provided diagnostic surgical services in oto-rhino-laryngology. A WHO skin specialist held clinics and teaching sessions for doctors, nurses and community health workers.

In *Mongolia*, advice was given on planning for the establishment of inter-aimak and inter-somon emergency care stations. The developments in education, training, services and research in regard to medical care in child stomatology were assessed by a WHO consultant (see also Section 1.10, "Oral Health").

An important element of the medical care programmes in the various countries has been case-finding and the treatment of patients suffering from malaria, leprosy and tuberculosis. These activities were carried out on a continuing basis.

1.8 Rehabilitation

Rehabilitation of the disabled is a field that deserves to be given priority attention by governments. During the year attempts were made in several countries to initiate rehabilitation programmes. The Organization has been assisting governments in focusing attention on the problem and in undertaking collaborative activities.

In *India*, with WHO assistance, disability surveys to identify the problems related to rehabilitation were carried out in the states of Maharashtra and Orissa. These were epidemiological studies of disabilities resulting from chronic physical and mental impairments. A WHO specialist in bio-engineering is to be provided to the All-India Institute of Physical Medicine and Rehabilitation in Bombay to assist the Institute in solving problems related to prosthetic and orthotic appliances for patients.

Assistance in the field of medical rehabilitation has been given to *Indonesia* from time to time through an inter-country project. A consultant from WHO Headquarters advised on the development of a research project in rehabilitation.

Consultant services were provided to the Government of *Mongolia* to help evaluate the rehabilitation services in that country and to recommend measures for the strengthening of these programmes. An orthopaedic surgeon was assigned for seven weeks for this purpose. The Orthopaedic and Traumatological Hospital in Ulan Bator has become a rehabilitation centre for disorders of the locomotor system, and the construction of a new orthopaedic workshop is making progress.

In August 1977, a Regional Seminar on Medical Rehabilitation was organized in the Regional Office. Another inter-country activity on this subject is being planned for November 1978 to review the state of national policies, plans and legislation for the prevention of disability and the promotion of the welfare of the disabled.

1.9 Traditional Medicine

Traditional systems of medicine, which play a significant role in the Region, have stood the test of time, are widely accepted by the people and have simple and safe remedies which are useful in day-to-day illnesses. Their usefulness was recognized by the 29th World Health Assembly and also by the Regional Committee at its twenty-ninth session.

Immediately following this recognition, in November 1976, the Regional Office and the Government of India agreed on mutual collaboration in research on the efficacy of ayurvedic treatment of rheumatoid arthritis. A four-year study is being carried out at the Ayurvedic Trust and Research Institute in Coimbatore, through the Indian Council of Medical Research. An interim evaluation has yielded encouraging data based on which the clinical trial will be pursued further. In April 1977, a Regional Seminar on Traditional Medicine was organized in Colombo to exchange information on and experience in the traditional systems of medicine prevalent in the Region.

In March 1978, a research study group met in the Regional Office to evolve a work plan for research and draw up a list of traditional remedies which could be used in primary health care. Most of its recommendations were accepted by the Regional ACMR. This programme will be further strengthened by the compilation of data on the many aspects of these systems.

The programme of promoting traditional systems of medicine has three broad objectives: the use of their simple and safe remedies in primary health care; utilization in primary health care of the considerable manpower represented by the various categories of traditional practitioners, and research in various aspects of traditional medicine.

Traditional systems of medicine are being encouraged in Member countries. In *India*, separate councils for the organization of traditional systems have been formed, and PHC programmes include the use of these systems. *Nepal* encourages the manufacture of ayurvedic preparations at the Baidya Khana, and lays emphasis on the production of other traditional drugs and on appropriate research. In *Indonesia*, clinical evaluation of certain herbal remedies is in progress. In *Sri Lanka*, research on the standardization of ayurvedic drugs is being undertaken.

1.10 Oral Health

Although oral health problems have been on the increase in all the countries of the Region, they have not received priority in the overall context of the health programmes of the governments. WHO assistance has been directed to the development of dental health manpower and the strengthening of stomatological services.

A WHO dental officer has been assigned to *Bangladesh* to help promote the development of comprehensive dental health care services. Assistance is also being provided in a review of the curricula of dental courses and in the organization of training. Epidemiological studies are proposed to be carried out to assess the prevalence of oral and dental conditions in order to develop a programme of preventive dental health.

The WHO dental tutor provided to *Burma* assisted in the conduct of an oral health survey and in teaching. A consultant from WHO Headquarters prepared a plan for a national oral health survey for mapping the fluoride content of drinking water supplies and other water reservoirs in the country. At present there are about 96 dental centres in Burma which provide dental services to the people.

In *Mongolia*, a consultant in stomatology reviewed the situation in the field, assisted in running a course and made recommendations for strengthening the oral health services for children. The Government also received assistance in the preparation of documents on the development of stomatology services in the country.

With assistance from WHO, the Government of *Sri Lanka* undertook the reorganization of dental health care services for children. A curriculum

in pedodontics was prepared and advice provided on the teaching of paediatric stomatology to undergraduate and post-graduate students. A WHO consultant assigned to Sri Lanka in 1977 also assisted in the preparation of a field demonstration/clinical trial project on mouth-rinsing with fluoride solutions. The recommendations of the consultant included enactment of a law on dentistry, the establishment of a Sri Lanka Dental Council, and reorganization of the children's oral health services.

In *Thailand*, the national oral health survey supported by WHO was completed. The results of the survey are expected to constitute a sound basis for the future planning and evaluation of dental public health services. The Government received assistance in implementing the field trial of various caries preventive agents as part of the WHO Oral Disease Prevention Programme, and also in planning for the establishment of an inter-country training and demonstration centre for oral health in the country. A number of water samples were collected during the national survey and analysed for their fluoride content. The results showed that the fluoride content in most areas of Thailand is very low. The teaching of dental public health in the country's three dental schools has been strengthened. Thailand is also involved in a WHO inter-regional project for the prevention of dental caries by fluoride rinsings and fluoride chewing gums.

1.11 Mental Health

Important and practicable recommendations concerning the development and implementation of national and regional programmes of mental health resulted from the first inter-country group meeting on the subject, which was held in the Regional Office in December 1977. Participants from six countries met together with WHO staff from Headquarters and the Regional Office to draw up a programme of activities to promote the mental health programme in the Region. The recommendations, which cover the areas of services, training and research, are being followed up.

In *Bangladesh*, a consultant assigned to the Department of Psychiatry, Post-graduate Medical Institute, Dacca, assisted with the first National Workshop on Mental Health, which was attended by psychiatrists, medical consultants and public health administrators. This workshop made specific recommendations on the development of community mental health and these have been forwarded to the Government. Electro-medical equipment was supplied to a number of medical institutions in the country.

WHO continued to collaborate with *India's* premier national training centre for mental health, the National Institute of Mental Health and Neurosciences at Bangalore. With assistance from a consultant the Institute is developing a diploma course in psychiatric social work. Two consultants were assigned to assist with the administration of the Mental Hospital as an integral component of the Institute and to help

in promoting multi-disciplinary participation in service and training. Technical assistance, including audio-visual equipment for teaching purposes, continued to be given to the Community Psychiatry Unit at the Institute and to its training programme based on a model rural community mental health centre at Sakalavara village near Bangalore. A further consultant was assigned to assist the lecturer in child and family psychiatry at the Institute and to develop appropriate programmes of service and training in community-oriented child and family psychiatric practice.

The WHO Collaborating Centre for Research and Training in Mental Health based in the Department of Psychiatry at the Post-graduate Institute of Medical Education and Research, Chandigarh, made considerable progress in its contribution to the WHO Collaborative Study on Strategies for Extending Mental Health Care. The baseline studies have established *inter alia* that at least 10-15% of all patients currently seeking health care suffer from definite mental disorders.

In *Indonesia*, a consultant was assigned to assist the Directorate of Mental Health in organizing a national workshop on community mental health. The Regional Adviser on Mental Health and the consultant visited centres in Java, Bali and Sumatra where comprehensive community mental health services are being developed.

Planning continued for the training of psychiatrists in epidemiological practice in mental health with the aim of introducing a community epidemiological survey of disability due to mental illness and mental retardation.

Mongolia received assistance for the development of out-patient services for the mentally ill. The consultant assigned for this purpose helped with the development of an epidemiological survey designed to aid the appropriate development of such services as out-patient dispensaries, day hospitals and case-recording for mental health as an integral part of a general health information system.

In *Sri Lanka*, a consultant assigned to the Department of Psychiatry, Peradeniya Campus, Faculty of Medicine, University of Sri Lanka, made a comprehensive report on developing training in clinical psychology in the country. His recommendations were forwarded to the Government.

The Regional Adviser on Mental Health visited the country to discuss with the university authorities and the Director of Health Services the development of the training and service aspects of community-oriented mental health.

In *Thailand*, the principal investigators in a collaborative study on monitoring mental health needs have continued to collect data on the extent to which the mental health services in Khon Kaen Province are utilized by the community. Attempts were also made to measure the needs for mental health services in the same population.

1.12 Drug Dependence

The health activities of the United Nations/Burma Programme for Drug Abuse Control, for which WHO is the executing agency, are multi-sectoral, involving agricultural, educational, law enforcement, health and social welfare components. Under this programme, treatment centres for drug addicts were identified in Rangoon, Mandalay and Taunggyi and are being integrated into the existing mental health care system. In other towns, and in villages, treatment for drug dependence will be integrated into the existing basic health services.

The National Health Laboratory in Rangoon is being developed for forensic and research purposes and to serve as a national reference laboratory. Intermediate laboratories capable of drug detection and recognition are being developed at the main treatment centres and smaller laboratories are being established elsewhere.

Three in-service training courses on the management of drug dependence were held for physicians and nurses at the Rangoon Psychiatric Hospital. Fellowships and foreign study tours are being arranged for various categories of health personnel concerned with the control of drug abuse.

Under the United Nations/Thailand Programme for Drug Abuse Control, surveys were carried out on the nature and extent of the use of opium in the hill tribe population. The rate of opium addiction was found to vary from 6% to 35% of the adult population in the villages. A research programme on the evaluation of the outcome of treatment in different treatment centres in Bangkok and Chiang Mai is being undertaken by the Health Research Institute of Chulalongkorn University, Bangkok.

In *India*, assistance to training in the epidemiology of drug abuse and in methods of prevention, treatment and rehabilitation of drug-dependent patients, is now given under the mental health programme.

1.13 Medical Stores Management

The importance of an efficient supply service as a supporting component in the delivery of health services has been recognized in countries of the Region. Assistance continued to be provided to *Nepal* in the field of medical stores management. An appreciable improvement in these services has been noticed as a result of good supervision and the streamlining of the inventory control system. Model medical stores have been established in three hospitals and are also expected to be set up in a number of health posts in due course. In some of the districts, the organization of stores has been completed. Assistance was provided in preparing and distributing the supplies and stores manual, establishing regional stores, training store-keepers, strengthening the supervision of supply and storage services, organizing stores in integrated districts, improving storage facilities in

districts covered by the expanded programme on immunization and in hospitals, formulating organizational and functional responsibilities in medical stores management, establishing permanent supply files, indenting supplies, evaluating the use of ayurvedic drugs in integrated health posts, and in reviewing supply lists and the specifications of the items ordered.

WHO assisted the Government of *Burma* in drawing up detailed work plans for the Central Medical Stores Depot in order to develop a proper logistics system for the supply, clearance, storage and distribution of drugs.

Sri Lanka is another country in the Region which received WHO support in this area. The services of a consultant, as well as fellowships and supplies and equipment, were provided to help in strengthening and expanding medical stores and supply services in the country.

2. DISEASE PREVENTION AND CONTROL - COMMUNICABLE DISEASES

Communicable diseases continued to constitute the Region's major public health problems, and, accordingly, emphasis was laid on strengthening epidemiological surveillance and control measures, which are vital for prevention and control.

For the second year, South-East Asia remained free from smallpox. Nevertheless, malaria posed serious problems, and human plague is still reported from one country - Burma. WHO continued to collaborate with the countries of the Region in controlling tuberculosis. Leprosy control activities were further intensified, particularly in view of the magnitude of the problem. Research on leprosy was among the subjects considered at a meeting of the Regional Advisory Committee on Medical Research (RACMR) held in April (see Chapter 8).

Cholera and diarrhoeal diseases have been another cause of concern. Maldives reported an epidemic of gastro-enteritis/cholera during January-May 1978, with a large number of cases and deaths. WHO, in active association with UNICEF, cooperated with the Government in undertaking control measures. In September, a meeting of the Regional ACMR's Research Study Group on Diarrhoeal Diseases of Children was held in the Regional Office and reviewed the current research on diarrhoeal diseases. Its report was presented to the fourth session of the RACMR held in April 1978, which approved the specific research topics identified.

Assistance was provided to countries in the Region in expanding their programmes of immunization, with emphasis on programme planning and the training of personnel.

Surveillance of dengue haemorrhagic fever was further strengthened. Research on DHF was discussed at a meeting of the Research Study Group

on the Development of Dengue Vaccine which took place in the Regional Office in February. The WHO Collaborating Centre for Research on the Immunopathology of Dengue Haemorrhagic Fever, Bangkok, continued its studies on various aspects of the disease, in collaboration with other institutions in Thailand.

Sexually-transmitted diseases pose a serious problem in the countries of this region, drug-resistance of gonococcal infections being a matter of particular concern. Surveillance of these diseases is being planned so that effective control measures can be developed in the near future. A WHO-sponsored inter-country Workshop on the Control of Sexually-Transmitted Diseases was held at Bangkok from 19 to 30 June 1978. This workshop helped in the dissemination of the latest knowledge on the control of these diseases and in the development of national control programmes.

Kala-azar (leishmaniasis) emerged as a public health problem of considerable magnitude in the northern districts of Bihar State in India in July-August 1977. WHO cooperated with the Government in planning control measures.

The training of manpower in veterinary public health received attention in many countries. A WHO Inter-regional Seminar on Manpower Development for Veterinary Public Health Services was organized in the Regional Office in February-March.

2.1 Epidemiological Surveillance

Epidemiological surveillance and information systems have been further strengthened in the various countries, with a view to having a wider geographical coverage as well as bringing more diseases under surveillance.

In *Bangladesh*, a national seminar on Epidemiological Surveillance of Filariasis, which was organized with WHO collaboration from 29 July to 1 August 1977 at Thakurgarh (Dinajpur District), was attended by all the thana medical officers of Dinajpur and Rangpur districts and the civil surgeon of Dinajpur. At the Institute of Epidemiology, Disease Control and Research, Dacca, WHO staff - an epidemiologist, an entomologist and a parasitologist - continued to provide technical assistance. A programme of refresher training and orientation for entomologists was organized in April/May. The project staff assisted in controlling an outbreak of suspected Japanese encephalitis in Madhopur forest of Tangail District in August 1977. A protocol was prepared for the establishment of sentinel areas for studies on insects of medical importance in Bangladesh. A national seminar on epidemiological surveillance was held from 31 December 1977 to 4 January 1978 at the Institute, attended by civil surgeons, district epidemiologists, divisional health superintendents and senior officials of the Directorate of Health Services. A training course on parasitological methods was also conducted for the paramedical staff of the Institute.

In *Burma*, WHO cooperated in the extension of epidemiological surveillance of community health services. Two consultants were provided - one on leptospirosis in August 1977, and the other, assigned during October-December 1977, to advise on the preparation of viral antigens and antisera.

In *India*, the National Institute of Communicable Diseases, Delhi, with WHO collaboration, organized the second three-month regional training course on the epidemiology and control of communicable diseases from December 1977 to February 1978.

A WHO consultant assigned to the "Strengthening of Epidemiological Surveillance and Control" project in *Indonesia* assisted in setting up and reorganizing the Infectious Diseases Hospital in Tanjung Priok. Another consultant advised on the assessment of the pilot project on schistosomiasis control in Central Sulawesi and cooperated in the evaluation and preparation of the study on the ecology of human plague in Bojolali.

The epidemiological situation in *Mongolia* was very satisfactory. The numbers of diphtheria, tetanus, pertussis and measles cases showed a drop in 1977 as compared to 1976, as a result of active immunization. Efforts were under way to recruit an epidemiologist to assist in the further development of epidemiological surveillance and the control of communicable diseases.

In *Sri Lanka*, a WHO consultant assisted in assessing the epidemiological situation and advised on the planning of epidemiological services as well as the operation of these services. Advice was also given on the revision of the curriculum for in-service training in the epidemiology and control of communicable diseases.

One of the two consultants assigned under an inter-country project on dengue haemorrhagic fever assisted Bangladesh, Burma, India and Thailand (during July-August 1977) and the other helped Indonesia and Sri Lanka (in September 1977) in assessing the epidemiological surveillance relating to dengue haemorrhagic fever. They also advised the national authorities in these countries on preventive, curative and surveillance problems.

Under the inter-country project on "Epidemiological Surveillance and National Health Information Systems Development", a consultant was provided to the National Institute of Communicable Diseases, Delhi, from 12 to 26 September to advise on filariasis studies. He also visited Sri Lanka (27 September to 10 October), where he assessed the epidemiological situation of filariasis in the endemic belt (see also Sub-section 2.8.2).

2.2 Malaria

The malaria situation in the Region continues to pose a major problem, and Member countries have given it priority attention despite the meagre resources available to the health sector. Some of the encouraging indications in this direction are: the readjustment of programmes towards the achievement of realistic objectives; attempts to diversify methods in an integrated approach to control; a beginning in involving the community in anti-malaria activities, and emphasis on field research studies to find solutions to pressing problems and on training and orientation in control methods.

The main thrust of the Organization has been on training and applied field research in malaria control. A two-week regional seminar on anti-malaria operations was organized at Bombay and Aurangabad, India, in November/December 1977 to give orientation to key personnel in malaria control and evaluation and to demonstrate different methods of vector control. Two consultants were assigned to India for six weeks each to assess the training activities in malariology and the physical facilities available for training. Their recommendations, which extend to training in field research, are generally applicable also to other countries of the Region.

Substantial progress was made towards developing a regional collaborative programme in applied research on malaria. The strengthening of the research capabilities of anti-malaria programmes, considered as indispensable for the development of sound strategies for malaria control, was taken up as a matter of top priority. The outlines of national and regional work plans were developed during a workshop on applied research in malaria control held in the Regional Office in March 1978.

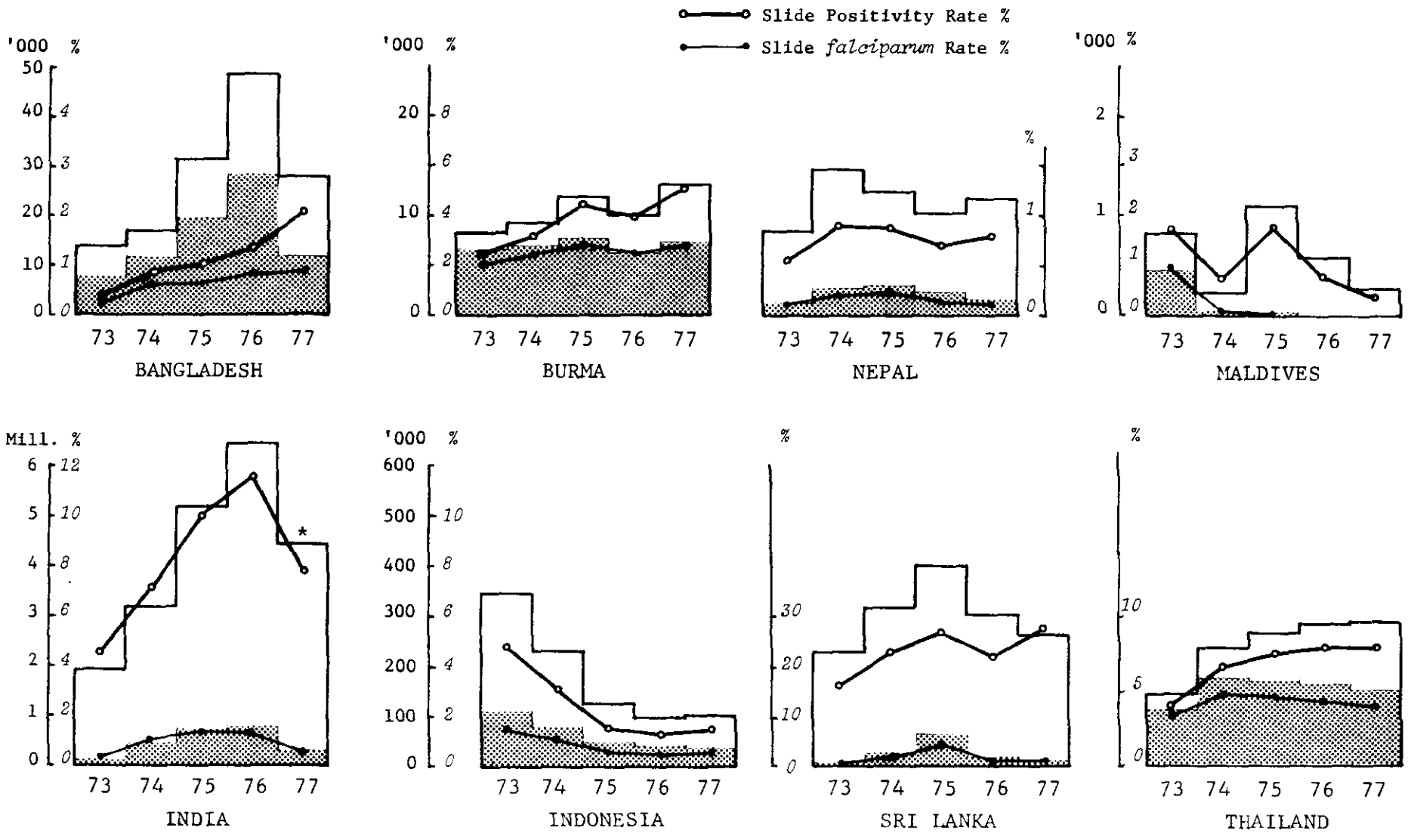
At the same time, the regional collaborative studies on *Plasmodium falciparum* resistance, aimed at the development of measures to prevent, contain and eliminate its spread, were initiated. A workshop on regional collaborative studies on *P. falciparum* sensitivity to 4-aminoquinolines took place in the Regional Office in August 1977, at which national work plans were developed. A three-week regional training course in *in vitro* testing was held in Phrabudhabat, Thailand, in November 1977.

Applied research related to malaria in this region received an impetus in the form of financial support from the WHO Headquarters' Special Programme for Research and Training in Tropical Diseases, for two training courses in *in vitro* continuous cultivation of *P. falciparum* and the assessment of the micro and macro *in vitro* testing techniques for *P. falciparum* sensitivity to 4-aminoquinolines. Both courses were held in Thailand, the first at Mahidol University and the second at the Malaria Eradication Training Centre at Phrabudhabat, in April and May 1978 respectively. Support from the Special Programme also covers the provision of test kits, equipment and other materials for *in vitro*

Figure 1.

SOUTH-EAST ASIA REGION

INCIDENCE OF MALARIA AND *P.FALCIPARUM* INFECTIONS



*Provisional

testing of *P. falciparum* sensitivity. It is expected that governments will intensify these studies. With the increasing importance of training and applied field research, a component for promoting these activities must be built into anti-malaria programmes.

The Organization has assisted in the assessment of programmes in Indonesia and Nepal. Similar help is proposed to be provided to Bangladesh in September 1978 which would ensure long-term assistance to the programme from bilateral sources on a consortium arrangement. In Sri Lanka, WHO coordinated assistance from bilateral sources. In India WHO was actively involved in the organization and implementation of the *P. falciparum* containment programme in the North-Eastern States. SIDA is giving financial assistance for applied research in this field over a five-year period (see also Chapter 5 in Part II).

The Organization played a leading role in the coordination of border meetings on malaria among neighbouring countries. The scope of these meetings, which in the past related to anti-malaria activities in border areas, has now been enlarged to include the exchange of epidemiological information and experiences in diversifying control methods in different ecological situations. They also facilitate the sharing of information on common problems and on the applied research being undertaken to find solutions to these problems. An encouraging outcome of these inter-country meetings has been the frequent getting together of operational staff on either side of the borders. In view of the importance of inter-country coordination, WHO has been sponsoring the participation of country representatives in these meetings in greater numbers. After a lapse of many years, the Indo-Pakistan anti-malaria border coordination meeting was organized at Delhi in June 1977. Other border meetings which took place were the Bangladesh-Burma-India border malaria control coordination meeting, held at Rangoon in February 1978; a malaria control coordination meeting among India, Maldives and Sri Lanka, held at Colombo in April 1978 (organized for the first time), and the Indo-Nepal meeting, which took place at Kathmandu in May 1978.

With regard to increasing the capacity for manufacturing insecticides and anti-malarials in the Region, a UNIDO consultant will undertake a feasibility study for the contruction of a DDT factory in Indonesia. Negotiations are in progress on the transfer to India of technical know-how for the manufacture of anti-malarials.

Though the overall infection load in 1977, based on microscopically positive cases, was appreciably lower than in 1976, the slide positivity rate had increased in all countries except in India and the Maldives, where the reduction was over 30%. Another interesting feature was the decrease in *P. falciparum* incidence in all the countries, with an overall reduction of more than 25% in the Region. Studies undertaken point to an extension of resistant *P. falciparum* malaria in the border areas of Bangladesh, Burma, and north-eastern India.

No new major vectors resistant to DDT have been detected, but the enlargement of areas of resistant *Anopheles culicifacies*, *A. aconitus* and *A. annularis* is evident from susceptibility tests carried out. The programmes have also been affected by the behavioural characteristics of some vectors.

The overall state of anti-malaria programme in the Region is as follows:

		Millions (mid-1978)
Population in the Region		992.9
Population in originally malarious areas		920.9
Population in areas under anti-malaria operations		864.3
In areas under discovery and treatment of cases with focal spraying	389.1	
In areas under extensive mosquito control measures with case detection	475.2	
Population in areas with no specific anti-malaria operations		56.6

The developments in the different countries are summarized below:

The malaria control programme in *Bangladesh*, implemented through the thana health complex, was merged with the Division of Preventive Services in July 1977. Soon after the merger a series of administrative problems arose which seriously affected the operational programme, particularly the post-monsoon spraying in 1977 and case detection activities. These problems are, however, gradually being surmounted and the programme has been gaining stability, a process which could be speeded up with the delegation of authority to the Deputy Director (Malaria) in the new organization as set forth in the plan of operation. With the development of Chittagong Hill Tracts and the extensive movement of population to these areas, weekly suppressive treatment for migrants was started in September 1977, and this was facilitated by the supply of anti-malaria drugs provided by UNICEF.

The DDT factory in Chittagong has resumed manufacturing the insecticide and the production is picking up, but the capacity needs to be increased three-fold to meet the requirements of the programme. *In vivo* tests for the sensitivity of *P. falciparum* to chloroquine have been carried out in Chittagong Hill Tracts and Comilla. Five teams were trained in *in vitro* testing at a national training course held in Chittagong Hill Tracts, which was assisted by a WHO laboratory specialist. WHO has supplied test kits and other equipment which

should enable the programme to embark on studies on drug-resistant *P. falciparum*. Other research activities planned with WHO assistance include drug trials, pilot studies for the control of *A. balabacensis*-transmitted malaria, and entomological studies.

A two-member team from the Netherlands reviewed the programme in August 1977, and this visit resulted in the bilateral supply of insecticides, anti-malarials and equipment to the programme in 1978. An assessment is planned for September 1978.

In *Burma*, the epidemiological situation remained virtually unchanged, with a noticeable increase in the number of *P. vivax* cases in operational areas. With the intensification of the mapping and monitoring of resistant *P. falciparum* strains there is sufficient evidence that their prevalence and the degree of resistance to 4-aminoquinolines are considerable. Concerted efforts were made to protect vulnerable groups of the population through anti-malarial drugs. UNICEF assistance in supplying drugs has been of great value. The redeployment of the programme staff, particularly in the periphery, with a view to making them available for carrying out limited control of other vector-borne diseases, was completed. Two WHO staff members from Thailand visited Burma in November 1977 to assist in the preparation of the detailed plan of action for 1978. Steps were taken to intensify activities in applied field research.

In *India*, the modified plan of operations was gradually introduced and is being implemented. For the first time in ten years a reduction in malaria incidence was observed, the decrease being as much as 40% in the case of *P. falciparum* infections. About 200 000 drug distribution centres were established, producing a dramatic effect on the morbidity. Assistance from SIDA to the extent of US$ 17.5 million over a five-year period was made available for the *P. falciparum* containment programme and the applied field research activities. Containment action was initiated in October 1977 in the north-eastern states and is being extended to the other areas where there is high *P. falciparum* incidence at present. The applied research activities are being developed on a priority basis. Special organizations within the National Malaria Eradication Programme linked to other institutions engaged in applied field research are being established. Sizeable assistance was made available by UNICEF, which supplied anti-malarials and equipment for the entomological and parasitological components of the programme. Possibilities of securing further bilateral assistance for the programme are being explored.

The Director of the Division of Malaria and Other Parasitic Diseases from WHO Headquarters made an extensive visit to the programme in February 1978, and the Regional Malaria Adviser visited the north-eastern states to participate in the reviews of *P. falciparum* containment activities.

An in-depth technical evaluation of the programme in *Indonesia* was jointly carried out by the Government, WHO and US AID in August 1977.

WHO provided three consultants for the evaluation and another consultant for the panel discussions.

There was no change in the incidence of cases in Java and Bali in 1977, but there were pockets of intensive transmission where additional measures such as thermal fogging had to be instituted with the intensification of surveillance to arrest, if not reduce, the rate of transmission. In the other islands too, there were no major outbreaks of malaria, though transmigration movements of the population had increased. This situation can be largely attributed to advance DDT spraying of houses, and the screening and treatment of migrants through closer and better coordination between the health and transmigration authorities.

A decisive step was taken by the Ministry of Health in convening a meeting which was attended by senior officials of the departments of agriculture, budget and finance, community development, transmigration, health services and the planning commission to review areas of involvement and assistance and to obtain inter-sectoral cooperation for the proper management of the malaria control programme. This meeting has prepared the ground for the formation of a national malaria coordinating committee to ensure close coordination among the appropriate authorities.

The expansion of the programme to other islands beyond Java and Bali, as recommended in the assessment report,would entail strengthening of the central organization as well as those at the provincial and regency levels in the islands. The training of personnel and preparations for planning need to be initiated as soon as possible so that concrete plans can be included in PELITA III.

At the request of the Government, a feasibility study for setting up a DDT manufacturing plant was jointly undertaken by UNIDO/WHO in March 1978. The Organization continues to support the intensive training programme by providing staff, fellowships and financial subsidies.

In *Maldives*, control operations made good progress. No indigenous cases of *P. falciparum* have been detected for the last two years, and few residual foci remain in the northern atolls. Intensive efforts are being made to eliminate these foci by the combination of anti-vector and chemotherapeutic measures. Additional WHO assistance was provided for the establishment of the special epidemiological team in the north with a view to facilitating the expeditious suppression of foci. If the present pace of activities is maintained the chances of eradicating malaria in the near future are very bright.

The annual assessment of the programme in *Nepal* this year was different from those of previous years in that an internal assessment preceded the external review carried out jointly by the Government, WHO and US AID. This review was followed by panel discussions in which the Regional Malaria Adviser took part. The programme showed uneven

responses, with setbacks encountered in the Far Western and Central Regions and the integrated health districts, and marked improvement in the malaria situation in the Eastern Region and to a lesser extent in the Western Region. The overall epidemiological picture was, however, less favourable than during the previous year, with an increase of nearly 1500 cases. Although the setbacks are largely attributed to outbreaks in development projects, resettlement schemes and seasonal migration associated with work, they emphasize the need for close inter-ministerial or departmental cooperation through an expansion in the membership of the Malaria Eradication Board or the establishment of a malaria coordination committee. Imported infections constitute a serious problem, not only because of magnitude - constituting nearly 30% of the total infections - but also on account of the danger of the spread of resistant strains and of indigenous transmission, particularly as a number of such infections have been lost to treatment.

The programme has strong logistic support; its technical capabilities have been enhanced with the return of staff after training.

The managerial capabilities of the programme are reasonably high, but supervision is hampered by inadequate travel entitlements and shortage of transport. These aspects require attention.

The programme, which lays emphasis on training and is planning to undertake applied research studies, is in need of a research and training unit within it in order to accelerate the implementation of these activities. A WHO entomologist has been in position since August 1977 and has assisted in reviewing the entomological activities in developing an intensive programme for implementation in the four regions with special studies to be undertaken in the eastern hills.

In *Sri Lanka*, the implementation of the intensive control programme was delayed by six months, resulting in a substantial rise in incidence in certain areas. Of late, however, a drastic reduction in the number of *P. falciparum* cases has been observed. No evidence of *A. culicifacies* resistance to malathion was found in spite of elaborate monitoring activities. Due cognizance is taken of the need to diversify anti-vector measures in order to reduce the insecticidal pressure on the vector *A. culicifacies*. A national seminar on bio-environmental methods of control was conducted in 1977 with WHO assistance and was followed up by an intensive training programme for local level staff. Field studies were initiated in areas which may prove to be refractory to the routine measures, in order to ascertain the efficacy of other methods for a stable control of the disease in these areas.

In *Thailand*, the epidemiological situation has not changed, as reflected in the incidence of cases, though the decreasing trend of *P. falciparum* infections continues. Financial constraints have hampered the operations, particularly spraying, but with a modest increase in the budget for spraying work this year, it is planned to

spray a larger area. Also, improvement of coverage in the south is envisaged through a change in the insecticide formulation.

The establishment of malaria posts in the sector and zonal offices of the programme has been most valuable to the population in providing on-the-spot microscopic diagnosis and concomitant treatment of malaria. Passive case-detection has considerably improved through these malaria posts and blood-slide collections by voluntary collaborators.

The programme has achieved significant progress in several respects. These include measures to: improve the entomological services through training; solve specific technical and operational problems by identifying the problems and assigning priorities for research studies to find solutions; plan and implement the most economical and effective malaria epidemiological surveillance activities by mapping the degree of receptivity and vulnerability, and secure greater community participation in the training of village volunteers in blood filming, treatment and assistance to the spray teams in residual spraying.

In vitro studies of *P. falciparum* sensitivity to 4-aminoquinolines have been completed in three provinces where 80% of *P. falciparum* infections were resistant in varying degrees.

The WHO project staff have been closely associated with a number of research studies and training activities of the programme.

The training centre at Phrabudhabat has been used for two WHO training courses on the *in vitro* testing of *P. falciparum* sensitivity to 4-aminoquinolines and the assessment of micro and macro *in vitro* testing techniques.

2.3 Tuberculosis

This is yet another important public health problem of considerable magnitude in the Region. During the year, emphasis continued to be laid on case-finding and treatment through the basic health services, and on BCG vaccination, provided by the Expanded Programme on Immunization.

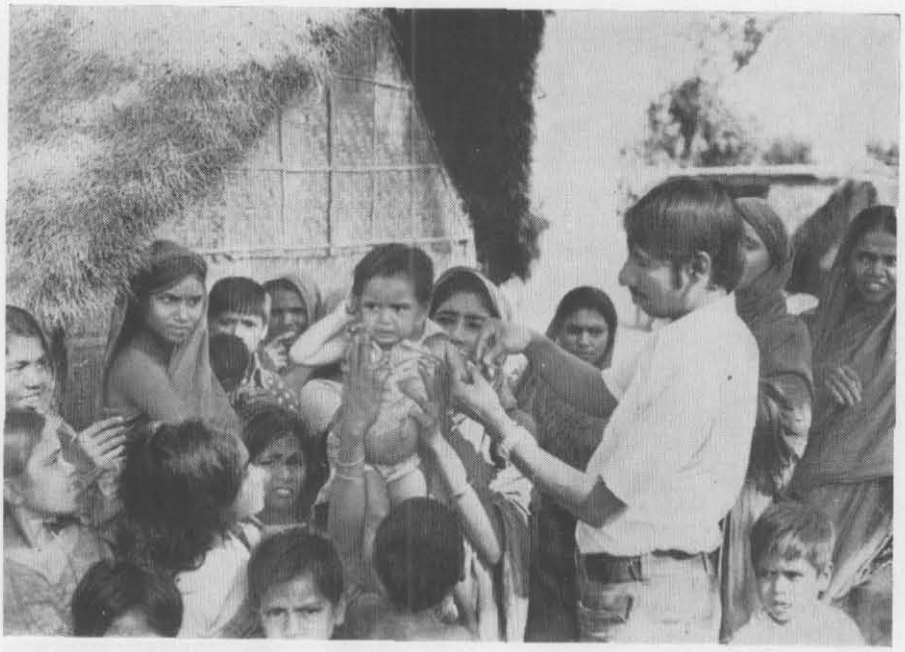
In *Bangladesh*, BCG vaccination was continued through the mycobacterial disease-control project. Training courses were organized for national staff. Services of epidemiological surveillance teams were used for assessing the BCG vaccination campaign. The target of vaccinations was reached.

Assistance is to be provided to *Burma* in training the staff of the reference laboratory at the Union Tuberculosis Institute and those of the laboratories at divisional/state level.

In *India*, the emphasis in tuberculosis control has been on the establishment of fully equipped and staffed tuberculosis centres in each of the

KEEPING A TAB ON TB

In the fight against tuberculosis, a major public health problem in the Region, emphasis is laid on prevention by BCG vaccination, case-finding and treatment.



BCG vaccination in Bangladesh.

Health workers in Bangladesh *collect sputum for tests.*

The BCG vaccination programme in Nepal has recorded good progress during the year. (Photo : UNICEF/Ane Haaland)

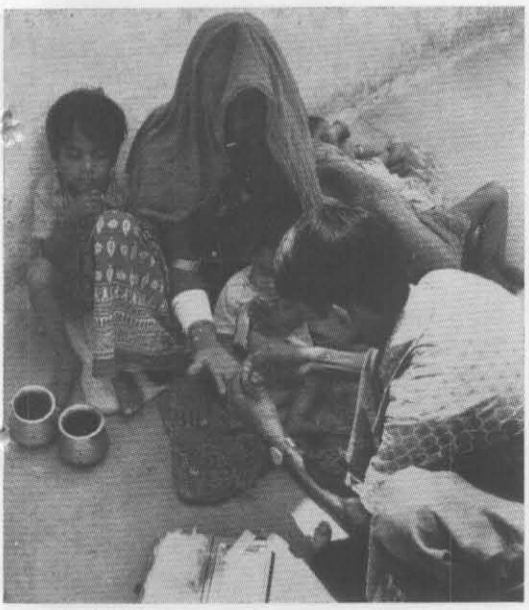
THE MOSQUITO MENACE

The battle against mosquitoes is being stepped up throughout the Region.

A spraying team in Burma uses equipment supplied by WHO.

Continuous spraying and other measures have helped control malaria in Indonesia.

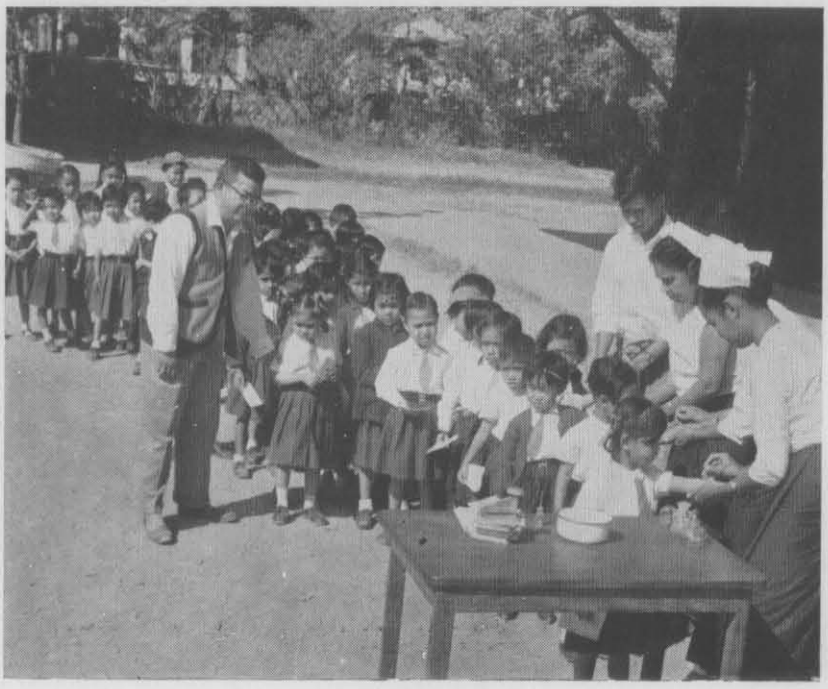
Voluntary health workers have joined the attack on malaria in Sri Lanka. Here, one of them helps a team prepare DDT solution.



While a malaria worker prepares blood slides in a remote village in Rajasthan, India (above), his counterpart in Indonesia (above, right) collects mosquitoes for tests.

Right: A member of the WHO malaria team in Sri Lanka uses his Land-Rover as a "laboratory bench" on which to make an on-the-spot examination of mosquito larvae. Below, right: Giving anti-malaria drugs to a patient in Burma.

Below : Picture of concentration. A young microscopist in Sri Lanka examines a blood slide for malaria parasites.



PROTECTING THE YOUNG

In this region two million children die every year before they are a year old, from diseases that could have been prevented by immunization. Another four million are disabled by these preventable diseases. Less than 10% of the 35 million children born each year receive immunization against childhood diseases such as diphtheria, pertussis, tetanus, tuberculosis, poliomyelitis and measles.

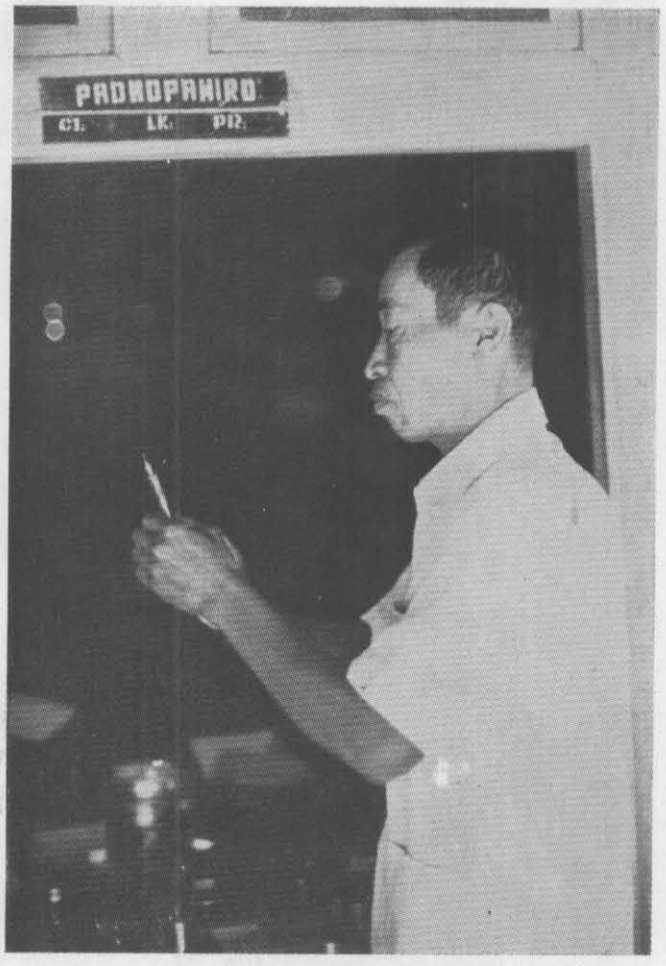
In view of the importance of immunization, most countries have undertaken activities to protect young populations under the global expanded programme on immunization (EPI).

Above: Mongolian children are examined for diphtheria. Several childhood diseases are on the decline in Mongolia as a result of the very good coverage by the programme of immunization against DHT, tuberculosis, smallpox, poliomyelitis, measles and meningococcal meningitis. WHO has supplied vaccines and equipment for this programme.

Above, left : Village children turn out in large numbers to attend an immunization camp in Thailand. Such camps in the Prathai district of Korat Province have achieved a 95% coverage of children with DPT, BCG and smallpox vaccinations. In Korat EPI has been developed as a part of a WHO-assisted provincial health services project. (Photo : WHO/A.S. Kochar)

Left, centre: having achieved herd immunity with DPT, BCG and smallpox vaccines, the administration of oral polio vaccine is added to the work of the health team. (Photo :WHO/A.S. Kochar)

Left, below: A health team immunizing children in a school in the Greater Rangoon area where EPI activities have been started.

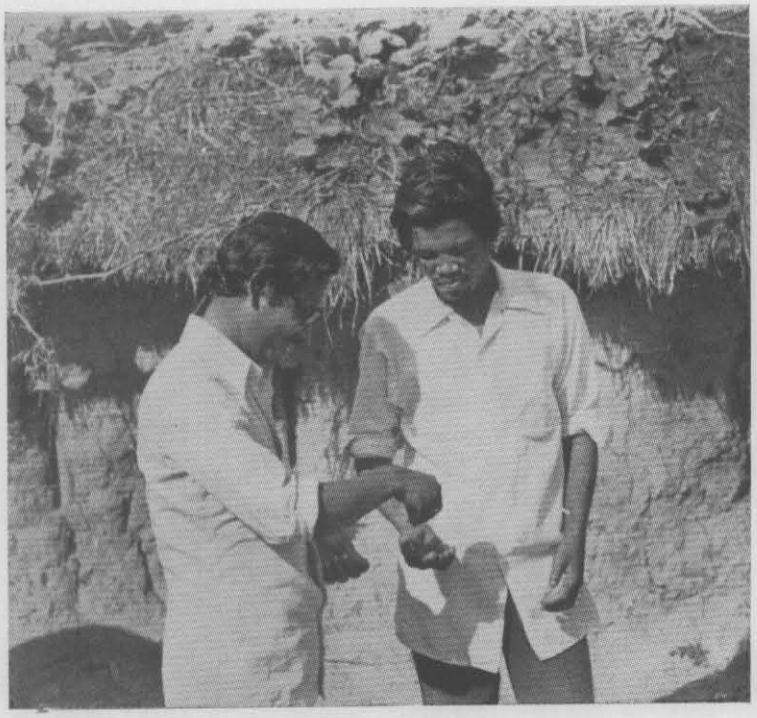


Indonesia has introduced immunization of children against DPT, and tetanus toxoid vaccination of pregnant women living in selected parts of all sub-districts. A health worker prepares his needle (above, right) and vaccinates a child (above, left). (Photos : WHO/D. Tarantola)

Below : School children being vaccinated in their class rooms in Sri Lanka. The country has achieved a substantial increase in coverage under the national programme of immunization.

THE ANCIENT DISEASE

Leprosy remains a major health problem in the Region. Although many countries have very thorough leprosy control programmes which have long received assistance from WHO and support from a number of bilateral organizations, the disease continues to defy solution. It is thus one of the priorities for research set by the Regional Advisory Committee on Medical Research.



Above: A leprosy worker in Thailand, who goes from village to village on a motorcycle, follows-up an old case to make sure she is no longer infective. (Photo : WHO/A.S. Kochar)

Above, left: Looking for early signs of leprosy among children in Indonesia.

Above centre: A leprosy worker in Maldives assesses the progress of the treatment being given to his patients.

Left: A health worker in Bangladesh ensures that a leprosy patient takes his drugs regularly.

districts to undertake case-finding and treatment of active cases, in collaboration with the existing medical and health institutions. A Consultation Meeting on the Tuberculosis Prevention Trial, Madras, was organized by the Indian Council of Medical Research from 17 to 21 October. For this meeting, WHO arranged for the participation of some international specialists and also provided a consultant. A consultant from WHO Headquarters visited the trial project in Madras during February/March 1978 and assisted the project director in preparing scientific documentation and the publication of the early results of the project. Another consultant, provided to the Tuberculosis Chemotherapy Centre in Madras in November-December 1977, reviewed the current research and assisted in the planning of future studies.

At the request of the Government of *Indonesia* for WHO collaboration in developing a plan for tuberculosis control, particularly the application to Indonesian conditions of a research allocation method developed by WHO, a statistician from WHO Headquarters visited the country in July 1977 to assess the situation and to develop the necessary protocols in consultation with the national health authorities. He visited Indonesia again in March 1978 to analyse the results for use in the tuberculosis control project.

In *Maldives*, case-finding surveys were carried out in all 58 inhabited islands.

The tuberculosis control project in *Nepal* made good progress in respect of BCG vaccination. The important shortfalls are in treatment (mainly due to shortage of drugs) and defaulter tracing. The work of integrated health posts in tuberculosis control would seem inadequate according to available information. Two WHO consultants were assigned - one from November 1977 to February 1978 and the other from January to April 1978 - to review the tuberculosis control activities, to assist in training the workers of the tuberculosis control project, to review project formulation on tuberculosis control and to assist the basic integrated health services in implementing tuberculosis control. Both consultants, together with a medical officer from WHO Headquarters and one of the Regional Advisers on Communicable Diseases, assisted in the organization and conduct of the IUAT/WHO-supported national tuberculosis seminar held in Kathmandu from 20 to 23 February 1978. The seminar, which was attended by 100 national participants, recommended full community involvement in tuberculosis control, through primary health care.

In *Thailand*, a review of the activities in 1977 showed that case-detection, especially among the rural population, is very low except in the catchment areas of provincial hospitals. The main reason for the wide disparity in the number of detections is the difficulty of promoting the integrated concept of tuberculosis control.

2.4 Diseases Subject to the International Health Regulations

No case of smallpox was reported in the Region during the year. Cases of cholera and plague, however, continued to be reported from various countries.

Diseases Subject to the International Health Regulations Notified by Countries of the South-East Asia Region, 1975, 1976, 1977

(Information compiled from data made available to WHO Headquarters by Governments)

Country	Year	Smallpox		Cholera		Plague	
		Cases	Deaths	Cases	Deaths	Cases	Deaths
Bangladesh	1975	13 798	2 492	4 888	117	-	-
	1976	-	-	957	62	-	-
	1977	-	-	10 403	354	-	-
Burma	1975	-	-	2 942	172	275	20
	1976	-	-	1 519	173	673	55
	1977	-	-	2 723	210	591	26
India	1975	1 436	176	20 714	2 335	-	-
	1976	-	-	17 492	871	-	-
	1977	-	-	13 850	739	-	-
Indonesia	1975	-	-	45 633	3 066	-	-
	1976	-	-	41 264	2 665	-	-
	1977	-	-	17 112	780	-	-
Nepal	1975	95	15	260	-	-	-
	1976	-	-	185	1	-	-
	1977	-	-	428	4	-	-
Sri Lanka	1975	-	-	1 453	67	-	-
	1976	-	-	728	16	-	-
	1977	-	-	5	-	-	-
Thailand	1975	-	-	1 335	88	-	-
	1976	-	-	6	-	-	-
	1977	-	-	383	5	-	-

2.4.1 *Smallpox Eradication*

After the official declaration of the smallpox-free status of Bhutan, India and Nepal in April 1977, Bangladesh remained the only country in South-East Asia where the programme continued.

The last case of smallpox in that country - and the last known case of variola major in the world - had occurred on Bhola Island, Barisal District, on 16 October 1975. Intensive smallpox surveillance activities continued in Bangladesh from that date up to the end of November 1977; no more cases were, however, detected. An international commission which worked in Bangladesh from 1 to 14 December 1977, certified the eradication of the disease in that country, and the announcement was officially made on 14 December 1977.

The eradication of smallpox was certified during the year also in Burma. In that country, which had been pronounced as free from this disease by a WHO assessment team in 1970, an international commission reviewed the situation from 21 to 30 November 1977 and concluded that there was no evidence of transmission. It certified that smallpox has been eradicated from that country also.

The smallpox eradication activities in *Bangladesh* were completed in March 1978.

In order to meet any emergency requests for smallpox vaccine that might arise from countries of the Region, it has been decided to keep a supply in the Regional Office. A cold store is under construction for this purpose (see also Chapter 4 in Part II).

2.4.2 *Cholera and Other Enteric Diseases*

These continued to be an important cause of sickness and death in the Region, gastro-enteritis being a major killer of children. At present, governments are going ahead with the expansion of oral rehydration therapy in the rural areas. Operational research is being planned in order to find the most effective way of distributing oral rehydration electrolytes.

The highest number of cholera cases was reported from Indonesia, followed by India, Bangladesh, Burma, Nepal, Thailand and Sri Lanka. The number of cases reported in the calendar year 1977 from the countries of the Region was 44 904 with 5.1% mortality, as compared to 62 151 cases with 6.09% mortality in 1976. The case fatality rate varied from 0% in Sri Lanka and 0.9% in Nepal to 7.7% in Burma.

In *Maldives*, an epidemic of gastro-enteritis broke out in January 1978 and was reported to WHO in March. Immediately on receipt of the information, the Regional Office despatched a team of three temporary advisers consisting of an epidemiologist, a bacteriologist and a laboratory technician. A fourth temporary adviser was assigned for

two weeks in April-May. UNICEF and WHO collaborated in supplying the necessary reagents, media and drugs for controlling the disease. The cause was identified as cholera vibrio El tor Ogawa with other endemic diarrhoeas. UNICEF also sent a team to assist in the control operations. In addition, US AID, CDC, Atlanta, USA, and the Governments of Sri Lanka and Libya provided personnel and material. As on 5 June 1978, 11 230 cases with 219 deaths had been reported. The epidemic has been brought under control. No positive case has been detected in Male since 18 May and the last such case was found on 27 May in Seenu Atoll.

In *Thailand*, epidemics of cholera were reported in Bangkok and neighbouring provinces early in 1978. The total number of cases from July 1977 to March 1978 was 2102 with 74 deaths.

In accordance with the recommendations of the Regional Advisory Committee on Medical Research, a meeting of the Research Study Group on Diarrhoeal Diseases of Children was organized in the Regional Office from 12 to 16 September 1977. This meeting reviewed current research on diarrhoeal diseases and identified priority topics for further research, with emphasis on oral rehydration and epidemiological studies. Out of a total of 20 studies identified, the group selected eight priority topics, and developed guidelines for protocols in respect of four of them. These were:

- The feasibility, acceptability and effectiveness of oral fluid therapy at the local level for promoting its implementation through primary health care. (These studies will be undertaken in combination with those on the effect of oral fluid therapy on the nutritional state of children.)

- To determine whether sucrose can be used as an effective alternative to glucose in oral fluid and, if so, in what concentration.

- Comparative study of the effect of oral fluid therapy in breast-fed versus bottle-fed children, including clinical and biochemical response to treatment.

- Survey of the etiology of acute diarrhoea in children under five years.

Oral rehydration is being increasingly used in the Region, and many countries have already started producing electrolytes. An Inter-country Seminar on the Management of Diarrhoeal Diseases of Children as an Integral Part of Community Health Services was held in Thailand from 13 to 18 March.

In *Bangladesh*, the process of conversion of the Cholera Research Laboratory, Dacca, into an "International Centre for Diarrhoeal Diseases Research" is under way. An interim commission has been

meeting under the chairmanship of UNDP in Dacca to discuss plans for the Laboratory's future.

A WHO grant was provided for a National Symposium on Cholera and Acute Diarrhoeal Diseases, organized from 20 to 25 March 1978 by the Cholera Research Centre, Calcutta, which is the WHO Collaborating Centre for Enteric Infections.

2.4.3 *Plague*

Burma continued to report cases of human plague. There were 591 cases with 26 deaths reported in 1977 as compared to 673 cases with 55 deaths in the previous year.

2.5 Bacterial Diseases

2.5.1 *Leprosy*

Leprosy continues to be a major public health problem. It is one of the important areas of research identified by the Regional Advisory Committee on Medical Research.

Combined leprosy and tuberculosis control programmes are under way in Bangladesh and Maldives. In *Bangladesh*, health personnel were trained in the operation of integrated field programmes in mycobacterial disease control. Two WHO medical officers - one in leprosy and the other in tuberculosis - are in position. A representative of Emmaus Suisse (Leprosy Relief Work, Switzerland) visited Bangladesh and discussed with the national authorities and WHO staff possible assistance for the control of leprosy in that country.

Maldives continued with a multi-purpose survey of the total population to define the leprosy and tuberculosis problems with the ultimate aim of developing primary health care. Under the leprosy and tuberculosis control project, the plan of operation for which was concluded during the year, a WHO consultant has been in position since October 1977. During the period September 1977 - February 1978, case-finding surveys for leprosy and tuberculosis were carried out in 58 islands. So far a total of 153 out of 202 inhabited islands has been surveyed. A representative of the Danish Scouts Fund (which is financing the project) visited Maldives in January 1978.

In *Burma*, the long-term results of the WHO-sponsored Trial on BCG vaccination of children against leprosy were being evaluated with the help of a WHO statistician. A clinical trial of rifampicin is in progress, for which a WHO consultant cooperated in establishing a clinical baseline for the field trial. He visited the project from July to September 1977 and again in March 1978. The field work for the BCG/rifampicin programme has proceeded smoothly. The major

activity has been the mass survey of the BCG area, and the coverage has been higher than that of the previous surveys. The WHO statistician mentioned above also assisted in organizing and analysing the mass survey data of the 1976/1977 rifampicin trial.

In *India*, the national leprosy control programme is being expanded, with the target of total coverage by the establishment of new units and centres in uncovered endemic areas where the rate of prevalence is more than 2 per 1000. A WHO-assisted advanced course in immunology with special reference to leprosy was organized at the All-India Institute of Medical Sciences, New Delhi, from 31 October to 12 November 1977. This was followed by a symposium on recent progress in the immunology of leprosy, held from 12 to 15 November, which took stock of the current knowledge in this area. A statistician from WHO Headquarters visited India from 14 December 1977 to 7 January 1978 to assist in formulating proposals for research to be carried out at the Institute of Medical Statistics on the application of systems methodology to health problems, to structure a research allocation model for leprosy control and to develop an evaluation method for primary health care.

CIBA-GEIGY donated Rimactan capsules (15 000) and Lamprene capsules (2000) for the leprosy research activities under way at the Central Leprosy Teaching and Research Institute, Chingleput.

In *Indonesia*, an integrated programme for leprosy control is being developed with the cooperation of a WHO short-term consultant, who is also providing assistance to the national training centre for health staff with a view to strengthening case-finding and case-management throughout the country. A national workshop for health personnel involved in leprosy control was held in Jakarta on 25 and 26 November 1977, with financial support from the Sasakawa Memorial Health Foundation of Japan. This was followed by an international workshop on leprosy control in Asia, which was the third of the international gatherings on leprosy jointly sponsored by the Sasakawa Foundation and the host country in Asia and held from 28 November to 6 December 1977 in Jakarta. At this workshop, which discussed mainly the role of private organizations in the eradication of leprosy, WHO was represented by a consultant from Headquarters and a medical officer from the Western Pacific Regional Office. For the leprosy control programme in South Sulawesi two vehicles were supplied by the International Fund - Hungry Child, Yugoslavia.

In *Nepal*, where a WHO leprosy control officer is in position, the project has developed satisfactorily as regards child and adult surveys and health education. The training of new staff of the leprosy control project is being strengthened. During November 1977 - January 1978, a WHO consultant carried out an assessment of the control programme and assisted with in-service training. A contribution from the Sasakawa Foundation is proposed to be utilized for an intensive survey of leprosy in Nawalprashi District followed by induction therapy as a field trial.

In *Thailand*, efforts are being made to strengthen case-detection and the follow-up and surveillance of registered and released cases. The dual treatment is applied in cases of multi-bacillary leprosy as well as those resistant to dapsone. In-service training and refresher courses are conducted for both leprosy personnel and the local health workers. During the year, the Mahasarakham Leprosy Project, in which the alternative integration scheme of leprosy control is being implemented, was evaluated. The survey included follow-up examinations of old cases and detection of new ones. The study data are being analysed and the report is under preparation. This study was supported by the Sasakawa Memorial Foundation and technical cooperation was provided by a WHO consultant.

In Burma and Thailand, operational studies are being conducted to ascertain the best way of integrating leprosy control activities into the general health services.

A Fact-Finding Mission on Leprosy, consisting of a WHO consultant and a representative of the International Leprosy Association (ILEP), visited India, Indonesia and Thailand in September-October 1977 to assess the needs of the countries for the training of national manpower for leprosy control.

The problem of drug resistance to *Mycobacterium leprae* is emerging in the Region. WHO collaborative research in the various countries is concerned with the chemotherapy, immunology and epidemiology of the disease with a view to finding a combined therapy for leprosy and tuberculosis. It is hoped that this research programme will pay dividends so that effective control programmes against these diseases can be developed. The Regional Advisory Committee on Medical Research at its fourth session in April 1978 considered and endorsed the recommendations of its research study group on leprosy.

Scientists from the Region participated in two meetings of the Steering Committee of the Scientific Working Group on the Chemotherapy of Leprosy (THELEP), held in Geneva in December 1977 and April 1978. One scientist, in addition, attended the meetings of the Steering Committee of the Scientific Working Group on the Immunology of Leprosy (IMMLEP) and that of Dapsone Resistance Surveys, which were also held in Geneva.

2.5.2 *Sexually-Transmitted Diseases*

Sexually-transmitted diseases (STD) are increasingly becoming major public health problems in the countries of the Region. This fact is borne out in countries where surveillance has been good, such as Sri Lanka. The most important constraint is the resistance of gonococcal infections to drugs. Surveillance of sexually-transmitted diseases is being planned so that control activities can be developed in the near future. At present, however, reliable information on their prevalence in the various countries is not available.

In order to stimulate awareness of the problem among the countries of the Region and obtain from them an assessment of the situation, a WHO-sponsored inter-country Workshop on STD Control was organized in Bangkok from 19 to 30 June 1978. The main purpose of this activity, which is in pursuance of a resolution of the 28th World Health Assembly, is to disseminate the latest knowledge on STD control and to develop national control programmes. A total of 23 participants from the countries of the Region were expected to attend this workshop.

Yaws

A WHO consultant made an assessment of the activities for the eradication of yaws foci in the maintenance phase of yaws control in *Indonesia*, in July-August 1977.

2.5.3 *Diphtheria, Pertussis and Tetanus*

The surveillance of these diseases is not yet adequate in the countries of the Region. In *Bangladesh*, a feasibility study for the surveillance and control of neonatal and puerperal tetanus is being planned. Two consultants are scheduled to be assigned to *Burma* and *Thailand* to determine the incidence of these diseases and to improve the surveillance systems. In *Mongolia*, there was a decline in the number of cases of these diseases reported in 1977 as compared to 1976.

2.5.4 *Meningococcal Meningitis*

This disease continues to be a serious problem in *Mongolia*. The Chief of the Bacterial and Viral Infections Unit from WHO Headquarters visited the country in August 1977 to help assess the epidemiological situation of the disease and advise on control measures.

2.6 Viral, Chlamydial, Rickettsial and Related Diseases

2.6.1 *Trachoma*

National control programmes continue in *Burma* and *India*. The objectives of these programmes are being gradually expanded so as to integrate them into blindness prevention activities.

2.6.2 *Poliomyelitis*

This disease continues to affect children in the countries of the Region. *Mongolia* reported a decrease in the number of cases of poliomyelitis in 1977 as compared to 1976; elsewhere the reporting is, however, still inadequate.

2.6.3 *Dengue Haemorrhagic Fever*

DHF continues to be endemic in *Burma*, *Indonesia* and *Thailand*. The incidence in Thailand in 1977 was the highest in history, i.e., over

38 000 cases as compared with the previously highest figure of 23 786 cases in 1972. Sri Lanka reported 4 cases of DHF this year. In 1977 the number of cases reported in Burma was 5339 with 246 deaths; Indonesia reported 7388 cases with 301 deaths.

Research grants were awarded to workers in Burma, Indonesia and Thailand to undertake therapeutic trials as recommended by the Research Study Group on DHF.

With regard to research on the development of dengue vaccine in the Region, a preliminary steering committee meeting was held in Singapore in October 1977, following a seminar on new developments and future research in DHF (organized by the University of Singapore), to review advances in all aspects of the disease and make plans for the Research Study Group Meeting on Dengue Vaccine.

The development of dengue vaccines was considered by a Research Study Group consisting of ten international and regional specialists and a team of senior staff from WHO, which met in the Regional Office from 6 to 8 February 1978. The specific objectives of the meeting were to review the existing knowledge on dengue vaccines, the feasibility of developing dengue vaccines in the South-East Asia Region, and the strategies for the development and organization of research, as well as to prepare outlines of research protocols.

The Study Group Meeting was immediately followed by a Workshop on Research on Characterization of Arbovirus Infections, which was held in the Regional Office in February. The specific problems considered were the standardization of classical laboratory techniques and reagents; the promotion of research for the development and use of simpler and more accurate methods of rapid diagnosis of dengue infection, and inter-laboratory quality control.

The WHO Collaborating Centre for Research on the Immunopathology of DHF, Bangkok, continued its studies on the morphology and morphogenesis of dengue virus in the different host systems, and on the immunopathology and immunochemistry of DHF. The Centre, which continued to collaborate with other institutions in Thailand, organized a workshop on the production and standardization of dengue antigens and anti-dengue antibodies on 6 and 7 December.

During the year, WHO funds were provided for research fellowships and the purchase of supplies and equipment.

2.6.4 *Viral Hepatitis*

This is an important health problem in the countries of this region. An inter-regional seminar on viral hepatitis was held in Kuala Lumpur from 28 November to 1 December under the sponsorship of WHO Headquarters and the Regional Offices for the Western Pacific, Africa, Eastern Mediterranean, and South-East Asia. The seminar examined

current problems relating to the diagnosis, epidemiology and control of the disease and stressed the need for collaboration among countries and among the regions. Eight participants from this region (representing Burma, India, Indonesia, Sri Lanka and Thailand) attended the seminar, in which the Regional Director and one of the Regional Advisers on Communicable Diseases also took part.

Plans are under way for organizing a workshop on arboviruses in Bangkok later in 1978. There is a need for improving the surveillance of viral diseases in general in the countries of this region.

2.7 Expanded Programme on Immunization

By the end of the year under review, nine out of the ten countries of the Region will have undertaken activities related to the global Expanded Programme on Immunization (EPI).

In *Bangladesh*, which was certified as smallpox-free by an international commission in December 1977, a feasibility study on tetanus toxoid immunization is being planned, and will be conducted in selected thanas in 1978/1979. The vertical programme of BCG immunization is in progress in 16 out of the country's 19 districts. In 1977, the total reported number of BCG vaccinations among children and adolescents was 5.1 million. The expansion of the immunization component of primary health care was being planned in May/June 1978. UNICEF has been fully supporting EPI in the country, and two WHO staff members have been assigned to the programme. The local production of tetanus and diphtheria toxoids is being planned.

In *Burma*, EPI activities started in the Phase I area, consisting of 27 townships of Greater Rangoon, in 1978. A WHO consultant was provided during December 1977, and two WHO medical officers visited Rangoon in March 1978, to take part in the EPI progress review.

In *India*, programmes of immunization against smallpox, tuberculosis, diphtheria, tetanus and poliomyelitis have continued in all states. Measles immunization has been given in selected urban areas. In 1976/1977, the existing immunization activities and the epidemiological situation of communicable diseases of childhood were reviewed in nine states, with WHO participation. A national working committee for EPI was constituted in 1977, and the immunization schedule has been revised. An EPI Unit was set up at the Directorate General of Health Services, under an Assistant Director-General, with responsibility for developing the programme in the country. State immunization officers were assigned and were trained at a course on EPI held in February. Training at state level continued throughout the country in March and April. A national EPI manual was written and distributed to the health staff.

In *Indonesia*, DPT immunization of children and tetanus toxoid vaccination of pregnant women were introduced in the feasibility study

areas of 10% of all sub-districts in the country in 1978. A national EPI manual was printed and distributed. Quality control of diphtheria, pertussis and tetanus vaccines has been developed. UNICEF and US AID are fully supporting the national EPI programme, and two WHO staff - a medical officer and an operations officer - were assigned to the programme in 1977. The progress of EPI was reviewed twice in 1978, with the participation of WHO staff from Headquarters and the Regional Office. A consultant in cold chain technology was assigned to the country in 1977.

In *Maldives*, DPT, tetanus toxoid and BCG immunizations have been given at Male Hospital, and also by the leprosy/tuberculosis survey team, which has been operating in the atolls. During the year the immunization activities were reviewed and a draft plan for this component of primary health care was prepared with WHO participation.

Mongolia has implemented a programme of immunizations against diphtheria, pertussis, tetanus, tuberculosis, smallpox, poliomyelitis, measles, and meningococcal meningitis, with very good coverage and epidemiological results. WHO assisted the country with the supply of vaccines and equipment for EPI in 1977 and 1978. The programme was reviewed with WHO participation in 1977.

In *Nepal*, immunization of children against smallpox, diphtheria, pertussis, tetanus and tuberculosis, and tetanus toxoid immunization of pregnant women, continued in 1978 in six districts with the integrated health services, and also in some other areas of the country. UNICEF and WHO have been fully supporting the programme.

Sri Lanka implemented a national programme of EPI, as planned, in 1976. In 1977, there was a substantial increase in the immunization coverage. Senior medical staff from four divisions in the Phase I area of the programme were trained in EPI, and the national EPI manual was written in 1978. Supplies and equipment were received and were distributed to the divisions.

In *Thailand*, an executive committee on EPI was constituted, and a national immunization manager was appointed in 1977. In 1978, the plan for EPI was formulated, and the programme was developed as a part of the provincial health services project. A feasibility study on strategies for EPI has been launched.

At the regional level, national immunization officers from the countries of the Region were trained in the planning and management of EPI at an inter-regional training course held in Malaysia in 1977. In 1978, the Staff of the EPI Unit in the Regional Office was increased to two medical officers and an operations/administrative officer. In April, a consultative meeting on planning self-sufficiency in vaccine production for EPI was held (see also Section 4.7). The subject for the technical discussions to be held during the forthcoming session of the Regional Committee is "Expanded Programme on

Immunization", and this has contributed to highlighting the importance of the programme for the countries of the Region.

2.8 Parasitic Diseases

Parasitic diseases claim a heavy toll of human life and cause socio-economic hardship to man by affecting the health of domestic animals.

The Asian Congress of Parasitology, organized by the Haffkine Institute, Bombay, from 23 to 26 February, discussed all aspects of parasitology. WHO was represented at this congress by two consultants, a scientist from Headquarters, a WHO temporary adviser and one of the Regional Advisers on Communicable Diseases. In addition, WHO sponsored the participation of six key research workers - one each from Burma, India, Sri Lanka and Thailand and two from Indonesia - involved in parasitic disease control.

2.8.1 *Schistosomiasis*

In February, a WHO consultant assisted *Indonesia* in assessing the schistosomiasis control pilot project in Central Sulawesi. He also advised on the evaluation of the study on the human ecology of plague in Bojolali.

2.8.2 *Filariasis*

Assistance was provided in filariasis control to some countries, mainly Bangladesh, India, Sri Lanka and Thailand.

In *Bangladesh*, a national seminar on the epidemiological surveillance of filariasis was organized with WHO assistance from 29 July to 1 August 1977 at Thakurgarh (Dinajpur district) for national health officials.

In *India*, the National Institute of Communicable Diseases at Delhi plans, guides and evaluates the filariasis programme. It also gives training to the technical personnel manning the programme and undertakes research on different aspects of the epidemiology of filariasis and its methods of control. A WHO consultant assisted the Institute for two weeks in September in the development of the membrane filtration and serological techniques for filaria studies, and in the training of national staff in these techniques.

The same WHO consultant was assigned to *Sri Lanka* in September-October 1977 to assess the epidemiological situation of filariasis in the endemic belt, to devise a system of epidemiological surveillance using membrane filter diagnosis, to introduce the mass dissection technique for the detection of infective larvae in the vector species, and to train the national staff in these techniques.

In *Thailand*, the Division of Filariasis Control in the Department of Communicable Disease Control carries out mosquito surveys and

dissections for filarial infections on a monthly basis, covering the southern provinces.

During the year, two WHO consultants visited institutions in four countries - Bangladesh, Burma, India and Sri Lanka - to assess the potential of these institutions for filariasis research.

2.8.3 *Leishmaniasis (Kala-Azar)*

There was a serious outbreak of this disease in the eastern states of India in July-August 1977, and it emerged as a significant public health problem in the northern districts of Bihar State after a lapse of about ten years. The two WHO Regional Advisers on Communicable Diseases visited Bihar together with the national health authorities, to assist in planning control measures. WHO supplied drugs for the control of the disease.

Two scientists from India attended the meeting of the Scientific Working Group on Leishmaniasis, under the WHO Special Programme for Research and Training in Tropical Diseases, which took place in Geneva from 13 to 20 December.

2.9 Veterinary Public Health

Programmes for the training of veterinary public health manpower are proceeding satisfactorily in the countries of the Region. Departments of health and ministries of health, except in a few countries, have, however, not yet established veterinary public health units as planned and suggested in various meetings and by WHO consultants.

Assistance was provided to *Bangladesh* in conducting a national seminar on zoonoses in Dacca from 28 to 30 December.

A WHO consultant visited *Indonesia* for four weeks in November-December to assist in the further development of the veterinary public health programme in that country and the planning of a post-graduate training course in veterinary public health, and also to review relevant curricula for the training of veterinarians with the Consortium of Medical Sciences.

An Inter-regional Seminar on Manpower Development for Veterinary Public Health, with participants from six countries of this region (Bangladesh, India, Indonesia, Nepal, Sri Lanka and Thailand) as well as from the Western Pacific, Eastern Mediterranean and African Regions of WHO, was organized in the Regional Office from 27 February to 8 March. The seminar reviewed training facilities in the countries of South-East Asia as well as in the other participating Regions.

There are several major zoonoses prevalent in this region. Of these, rabies and brucellosis are of vital concern and are receiving attention in WHO programmes. Other important areas include food safety and the prevention of food-borne diseases.

The Regional Office has taken a special interest in strengthening the capability of laboratories in food hygiene. Many countries in the Region have strengthened their services for controlling food and are interested in training their manpower in support of programmes for food hygiene, food surveillance and food control. A WHO inter-country workshop on Advanced Microbiological Methods in Food Hygiene is scheduled to be held at the Indian Veterinary Research Institute, Izatnagar, from 9 October to 4 November 1978, in collaboration with the FAO/WHO Collaborating Centre for Research and Training in Food Hygiene, Institute of Veterinary Medicine, Berlin. The workshop will assist in training senior microbiologists in this region in food hygiene (see also Section 5.5, Food Safety Programmes).

2.10 Immunology

An important activity was a two-week inter-country training course in immunology, which was organized at the Indian Council of Medical Research (the WHO Research and Training Centre in Immunology), New Delhi, from 31 October to 11 November.

The immunology of leprosy was chosen as the main theme of this course, which was attended by twelve participants in teams of two - one a bacteriologist and the other a leprosy control officer - from six countries of the Region. The participants were trained in: the raising and purification of antibodies, current immunological methods for the detection of Ags and Abs, and the characterization of lymphocytes and the culture of phagocytic cells. Adult thymectomy and mouse-pad inoculation techniques were also taught.

The Asian Workshop and Symposium on the Histocompatibility Antigen Systems in Health and Diseases, jointly sponsored by the Regional Office and the All-India Institute of Medical Sciences, was held in New Delhi from 15 to 24 December. Seventy participants, including four fellows from this region, attended the workshop. Training in the techniques of typing HLA antigens was given to a group of 10 fellows from India, Indonesia, Nepal and Thailand. Problems encountered in transplantation, population studies and the characterization of diseases were also discussed at this workshop, which was assisted by three WHO consultants.

The short supply of immunological reagents (anti-immunoglobulins, conjugates and tissue typing antisera) continues to be a major constraint hampering the expansion of service and research in all fields of immunology. Although the Regional Office allocated a limited amount of money for the provision of reagents, this is inadequate. There is a great need to establish the capability to produce and standardize immunological reagents within the Region.

2.11 Vector Biology and Control

In addition to playing a supporting role in respect of the entomological component of malaria and communicable-disease control projects in the

Region, the Vector Biology and Control Unit in the Regional Office has been collaborating with countries in strengthening their entomological set up at the national level and in developing the polyvalent expertise required to implement practical, effective and economical control measures against malaria, dengue, DHF, Japanese encephalitis, filariasis, leishmaniasis, schistosomiasis and plague.

As insecticides continue to be among the major weapons in the integrated approach to the control of arthropod-borne diseases, the monitoring, on a regional basis, of vector resistance to the insecticides in use, is of importance, especially where the resistance of *P. falciparum* to chloroquine could be instrumental in causing epidemics. Emergency measures to control DHF epidemics must take into account the susceptibility of the vector species. Insecticides for larviciding operations against urban and rural Bancroftian filariasis depend on the susceptibility of *Culex pipiens fatigans*.

Countries in the Region are progressively taking a more pragmatic attitude to the possible integration of existing malaria programmes into the general public health services. Organizational patterns for the integrated control of malaria and other vector-borne diseases are being developed.

In *Bangladesh*, following the visit of the Regional Adviser on Vector Biology and Control, a comprehensive programme of entomological activities has been developed for implementation in areas of both high and low malaria-risk. To maximize the entomological capabilities in the integrated malaria control programme and to give entomologists a basic polyvalent role in dealing with the entomological aspects of mosquito-borne diseases, a refresher and reorientation training course took place in May 1978. Twenty-three entomologists in charge of the entomological activities of the national malaria programme at district, divisional and headquarters levels took part in the three-week training, which was organized in collaboration with the Institute of Epidemiology, Disease Control and Research, Dacca, and with the assistance of WHO personnel.

A WHO entomologist was assigned to the project the Epidemiological Surveillance of Diseases (BAN ESD 002) to complement the work on the epidemiological surveillance of filariasis, dengue/DHF and Japanese B. encephalitis.

In *Burma*, the comprehensive vector-borne disease control programme is being implemented with the collaboration of WHO and UNICEF. The resources available with the erstwhile sectoral projects (malaria, filariasis, dengue/DHF) related to vector-borne disease control are being mobilized for this activity.

During the period under review a vector specialist from WHO Headquarters was assigned for three months to review the vector-borne disease control activities, draft a project document, and identify the most effective approach for implementing the programme.

The Government conducted a reorientation course for malaria assistants in order to prepare them as multi-purpose workers. A manual on vector-borne disease control has been produced.

In *Indonesia*, the project on Epidemiological Surveillance of Diseases (INO ESD 002) has been strengthened with the assignment of a WHO entomologist, who will deal with the entomological aspects of vector-borne diseases other than malaria.

The national training institutions in Bogor and Ciloto have the potential for training both national and international personnel in polyvalent expertise to man vector-borne disease control activities. At present eight national post-graduate entomologists are undergoing training as vector specialists.

In *Nepal*, a detailed plan for the entomological activities of the malaria programme has been prepared and accepted by the Government for implementation during 1978-1979. A WHO entomologist has been assigned to the malaria eradication project.

In *Sri Lanka*, the vector control project (SRL VBC 001) terminated on 31 December 1977. Following a review of the project and a tripartite review meeting held late in 1977, the Government has specifically requested that this project, with a new title "Vector Control (Phase II)" (SRL VBC 002), be extended for two more years. A new project document as required by the UNDP was prepared by the Regional Office and has been signed by all the parties. The project now consists of three components, viz., (i) intensification of the control of filariasis in the endemic belt by the Anti-Filariasis Campaign; (ii) control of filariasis and *Aedes* investigation and control related to dengue in the Colombo municipal area under the Local Government, and (iii) epidemiological and serological investigation of arbovirus diseases in the Colombo municipal area and other places of tourist importance, in collaboration with the Medical Research Institute, Colombo.

The new collaborative approach is expected to reduce further the microfilaraemia rate in the endemic belt under the Anti-Filariasis Campaign and suppress or reduce the high potential transmission in the Colombo municipal area, which has been the permanent focus for the spread of filariasis to contiguous areas and other parts of the country. Further, it is expected that the serological and virological investigations to be carried out by the Medical Research Institute, in collaboration with WHO/UNDP, will lead to the implementation of control measures for *Aedes* mosquitoes in relation to dengue fever, which is endemic in Colombo.

A WHO consultant, together with the Regional Adviser on Vector Biology and Control, visited the endemic area, assessed the epidemiological situation of filariasis and introduced more sensitive techniques for the detection of low microfilaraemia in population surveys, particularly after treatment with diethylcarbamazine.

Communicable diseases, particularly malaria, DHF and other vector-borne diseases remain major problems in *Thailand*. National health programming showed the relevance of integrating activities for the control of malaria and other vector-borne diseases. Emphasis is laid on a balanced control and eradication strategy for malaria, according to the feasibility in various geographical areas.

The plan of operation for the "Malaria and Vector Control" project has been signed by the Government. The activities planned under vector control, with special reference to dengue/DHF, are scheduled to be implemented in 1980.

The two inter-regional research activities in vector biology and control in the Region continued to make satisfactory progress. In the Vector Biology, Control and Research Unit, Indonesia, field trials are being carried out with a number of new insecticides and new formulations for the control of *Anopheles aconitus*, one of the main vectors of malaria in the country. Trials on the control of Bancroftian filariasis by the use of insect growth regulators to control *C.p. fatigans* have provided a good level of control (above 90%) for up to 4 to 5 weeks. The application of OMS 1197 (chlorphoxim) by knapsack ULV sprayer, at 600 ml/ha per treatment, has suppressed the *Aedes aegypti* population for over a month in the localities treated. Large, village-scale evaluation showed that residual malathion and ULV application of fenitrothion did not prove successful in the control of *Anopheles aconitus*.

The Rodent Control Demonstration Unit in Burma completed exclusive surveys on the distribution of rodents and other mammals of public health importance in Rangoon and its immediate surroundings. Field trials on rodenticides and insecticides against flea vectors of plague and murine typhus are being carried out among the important local species of rodents. Fenitrothion followed by pirimiphosmethyl were the most effective insecticides to be used for flea control.

These two research projects are also engaged in training national and WHO fellows in polyvalent expertise for the control of vector-borne diseases. The results of these research activities are being disseminated to national institutions, research establishments and WHO staff in other countries of the Region.

3. DISEASE PREVENTION AND CONTROL - NON-COMMUNICABLE DISEASES

The highlights of technical cooperation in this area were the preparation of the medium-term programme for non-communicable diseases, visits of a WHO/IARC team to Sri Lanka and Thailand to assist in strengthening cancer control measures at the country level, the development of national activities for the prevention and control of cardiovascular diseases, accelerated implementation of plans for

the prevention and control of visual impairment and blindness in collaboration with other international, bilateral and non-governmental agencies, and progress in promoting national and regional collaboration in research on chronic liver diseases including liver cancer. The theme of World Health Day 1978, 'Down With High Blood Pressure', which found wide appeal, helped to alert governments to this important emerging health problem, and resulted in the organization of activities for controlling hypertension at the community level.

The training of paramedical and health auxiliaries in health education, and in the early detection, diagnosis and management of preventable and curable non-communicable diseases such as blindness and diabetes was promoted. Emphasis was laid on promoting self-reliance in meeting the requirements for specialized health manpower through local training activities and establishing patterns of service relevant to the needs and resources of the communities to be served. In this context, two WHO-sponsored workshops were organized and conducted by a consultant early in 1978 at the Bangladesh Institute of Research and Rehabilitation in Diabetes, Endocrine and Metabolic Disorders (BIRDEM), Dacca, to train nurses, paraprofessional health personnel and medical post-graduates in research on and the early detection, diagnosis and control of diabetes mellitus.

3.1 Cancer

Based on the recommendations of the RACMR's research study group on chronic liver diseases including liver cancer, technical collaboration was provided for meetings of national working groups and action was taken for the supply of reagents and equipment to laboratories engaged in this field of biomedical research. Reference material on morphological patterns of chronic liver diseases and localization of hepatitis viral antigen was made available to collaborating centres. Fellowships were awarded for training in immunological techniques both within and outside the Region. Documentation on the nomenclature of liver diseases and aflatoxin injuries was distributed to national investigators.

In *Bangladesh*, a national workshop on cancer control was conducted, whose recommendations included: (i) the nomination of a senior medical officer in the Ministry of Health to be responsible for cancer control, (ii) the development of services for the standardization of diagnosis and treatment with radiotherapy, (iii) the establishment of a cancer registry, (iv) the introduction of concepts of health education in cancer prevention, and (v) the eventual establishment of an institute of oncology.

A representative from DANIDA visited *Burma* and initiated an epidemiological survey on precancerous and cancerous lesions of the mouth.

In the *Democratic People's Republic of Korea*, assistance was provided in the form of supplies and equipment, and fellowships in different aspects of cancer control.

A number of States in *India* expanded cancer control activities and strengthened existing facilities for early detection, diagnosis and treatment. The construction of a 250-bed cancer hospital affiliated to the Arignar Anna Memorial Cancer Institute, Kancheepuram, was completed and a part of this complex will be commissioned soon. This will serve as the State Cancer Institute for referral services in Tamil Nadu. Radiotherapy equipment, a theratron unit with 6000 millie curie source and radiation measurement and calibration instruments were supplied to this hospital from funds provided by NORAD and WHO. In addition to the population-based cancer registry functioning in Greater Bombay, the establishment of similar registries in New Delhi and Madras was under consideration. The project proposal for UNDP assistance towards strengthening the training and research facilities at the Tata Memorial Centre, Bombay, and establishing training and demonstration centres for cancer control in each state, was revived. A preparatory assistance mission is expected to visit India later in 1978. Collaboration with the International Agency for Research on Cancer was continued in connexion with the immunological studies on cancer of the liver at the All-India Institute of Medical Sciences, New Delhi, and for setting up a biobank for lymphocytes and tissues for later studies on cancer of the breast at the Tata Memorial Centre, Bombay. Satisfactory progress was made in designing and manufacturing radiotherapy equipment in the country.

A cancer pathologist and an epidemiologist assigned to *Indonesia* assessed the existing facilities for training and epidemiological investigations on cancer. They also cooperated in designing a protocol and advised on a study of trophoblastic neoplasms.

In *Mongolia*, a new cancer hospital was under construction with bilateral assistance. The population in four aimaks was screened for cancer. The cancer research unit was strengthened by the appointment of additional staff.

Supplies and equipment were provided to *Nepal* for setting up facilities for the safe handling of radioactive material in the treatment of cancer (at the Maternity Hospital) and nasopharyngeal cancer (at Bir Hospital) in Kathmandu. Fellowships were awarded for training in the therapeutic management of these two forms of cancer.

A WHO/IARC team visited *Sri Lanka* to assess the existing facilities and prepare a plan of action for strengthening cancer control activities at the national level. With WHO's technical collaboration the Government plans to train health and allied personnel in cancer health education, early detection, diagnosis and treatment, including rehabilitation, at the Kandy General Hospital and Maharagama Cancer Hospital. Support was given to the establishment of a pathology tumour registry at the Faculty of Medicine, Peradeniya. The Dental College in Peradeniya is undertaking epidemiological studies and early detection activities concerning oral precancerous and cancerous lesions.

The WHO/IARC team also visited *Thailand*, where, based on an assessment of existing facilities,a detailed plan of action was prepared with specified targets and activities for implementing immediate, medium-term and long-term cancer control plans. A pilot training and demonstration cancer control project will be developed at Cholburi Provincial Hospital to serve as a model for establishing comprehensive referral oncological services at the intermediate level of health care throughout the country. The National Cancer Institute in Bangkok will be strengthened for training, developing patterns of oncological services and research. It is planned to organize a hospital-based cancer registry at Cholburi Provincial Hospital and a population-based cancer registry for Bangkok at the National Cancer Institute.

3.2 Cardiovascular Diseases

The theme for World Health Day 1978, "Down With High Blood Pressure", was well received and stimulated Member States in creating community awareness of this problem amongst their populations. Baseline surveys of blood pressure in rural and urban populations, and epidemiological investigations aimed at the control of high blood pressure were conducted. In addition to the studies on rheumatic heart diseases, pulmonary hypertension and the epidemiology of aortitis and peripheral vascular occlusive disorders were under investigation in some countries. A medium-term programme for the prevention and control of cardiovascular diseases was under preparation. Documentation on the prevention and control of these diseases through health education and professional training was made available to institutes and departments of cardiology in the various countries.

In *Bangladesh*, negotiations with a bilateral agency were under progress for developing facilities for teaching the prevention and control of cardiovascular diseases at the medical colleges and at the Institute of Post-graduate Medicine, Dacca, and also for establishing a national institute of cardiology.

In *Burma*, the services of a specialist from Australia were made available, under a programme of bilateral assistance, to advise on the development of a cardiovascular disease control programme at Rangoon General Hospital.

Technical assistance was provided to the *Democratic People's Republic of Korea* for training physicians and surgeons in cardiology and cardiovascular surgery. Equipment was supplied for strengthening facilities for research in cardiovascular diseases.

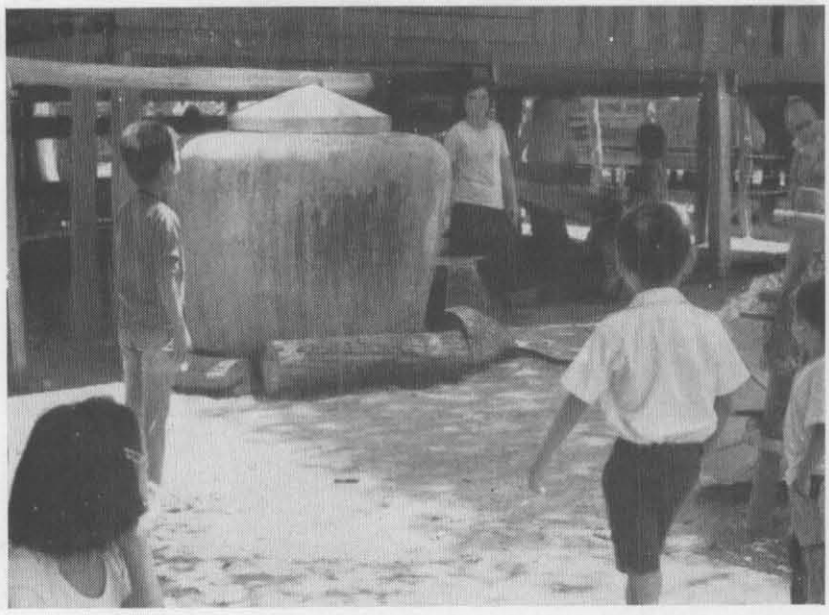
The Indian Council of Medical Research initiated a programme for the primary prevention of rheumatic fever and rheumatic heart disease amongst school children. Another area in which the Council proposes to establish collaborative studies is in assessing the magnitude of the problem of hypertension among rural and urban populations in different states of *India*. A pilot study for the control of

HELPING EACH OTHER

Students of nursing from Afghanistan, Sri Lanka, Zambia, Nepal, Indonesia and Yemen with their Indian teacher at a field practice area during their post-basic training at the RAK College of Nursing in New Delhi, India. The countries of the Region are increasing such technical cooperation among themselves. In support of technical cooperation among developing countries (TCDC), WHO fellowships were awarded during the year to 43 fellows from countries in other regions : Afghanistan, Botswana, Egypt, Iran, Iraq, Republic of Korea, Malaysia, Pakistan, Papua, New Guinea, Philippines, Sudan and Democratic Republic of Yemen.

MAKING DO WITH WHAT YOU HAVE

WHO promotes the transfer of appropriate technology for health and encourages use of materials available locally. Rain-water containers such as these made indigenously ensure safe and adequate water for drinking in Thailand.
(Photo : WHO/Martin Jones)



THE DREADED DISEASE

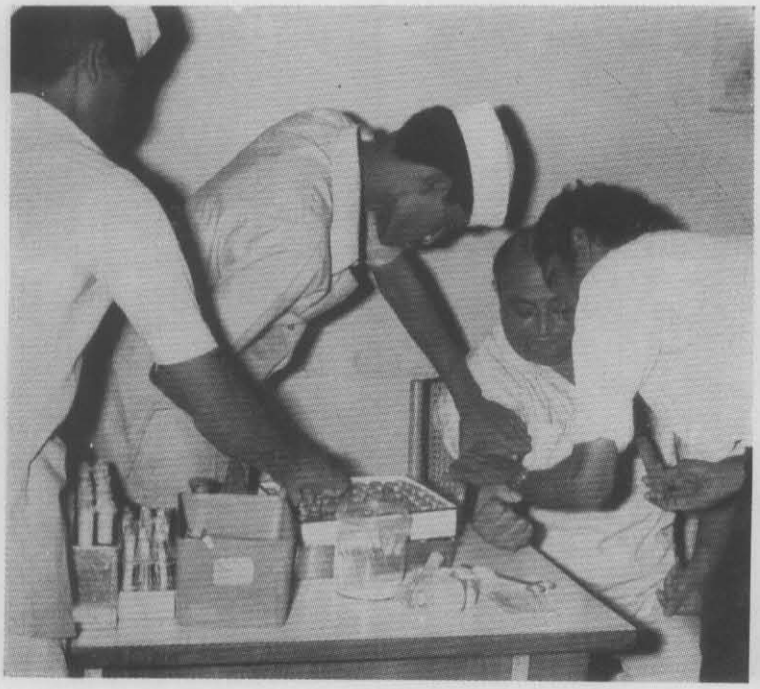
More diagnostic and treatment facilities are needed to detect and treat cancer. WHO has assisted this cancer hospital in Tamil Nadu, India, in procuring radiotherapy equipment.

DOWN WITH HIGH BLOOD PRESSURE

This slogan for World Health Day 1978 helped create an increased awareness of the problem of hypertension among all sections of society. It also stimulated action to prevent the cardiovascular diseases that may follow hypertension.

Doctors carry out a sample survey in Bombay. It showed that about 10% of those examined, both rich and poor, suffered from high blood pressure.
(Photo : WHO/A.S. Kochar)

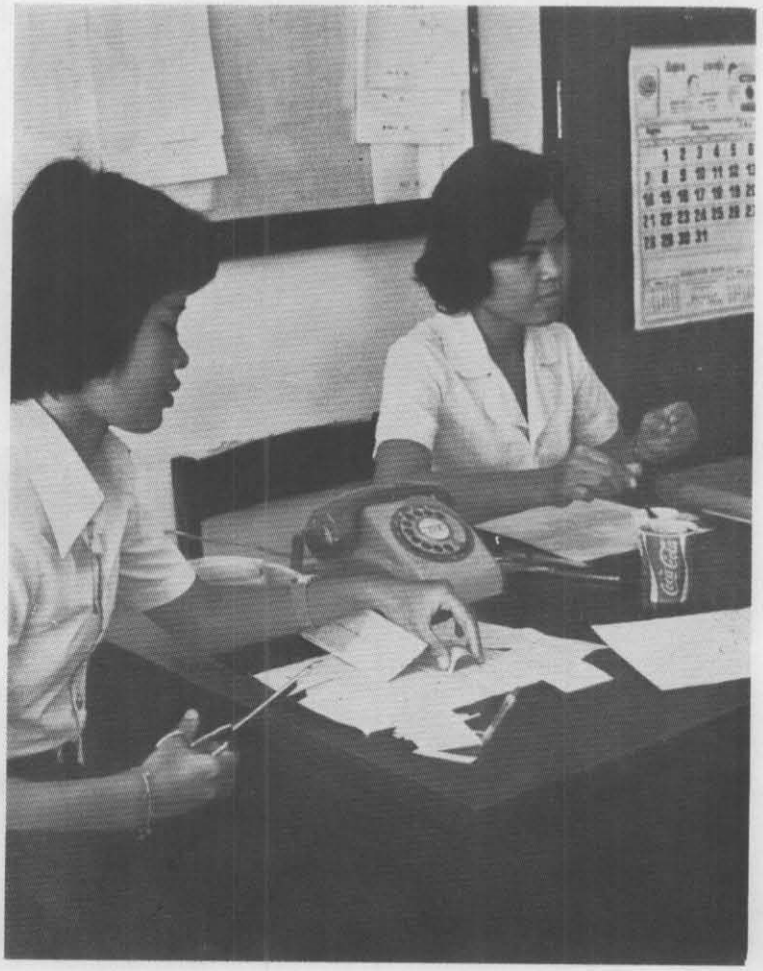
Research on hypertension and heart disease being conducted in Mongolia.



A blood sample being taken from a hypertensive patient in Bombay to measure blood cholesterol level.
(Photo : WHO/A.S. Kochar)

The Ramathibodi Hospital, Bangkok, carries out sophisticated research into the prevention and control of cardiovascular diseases.

Above: A patient has his BP checked, and then goes for an ECG (right). The record is referenced (below, right) and carefully filed with hundreds of others (below) for ready use by the research workers.
(Photos : WHO/A S. Kochar)



CONTINUING RESEARCH

Under the WHO regional programme of research, initiated in 1976, several measures have been promoted in accordance with the recommendations of the Regional Advisory Committee on Medical Research(RACMR). The Committee held its fourth session in the Regional Office in April 1978, which was addressed by Sri Lanka's Minister of Health, Mr Gamani Jayasuriya, centre of front row (left)

Above : The Director-General, Dr Halfdan Mahler, during a visit to India in February 1978, addressing the Regional ACMR's study group on alternative strategies for the delivery of health care.

Below: Another group established by the Regional ACMR studies the potential of traditional medicine. (Photos : WHO/A.S. Kochar).

hypertension at community level among the urban population in Bombay was under progress. The American Heart Association made available the services of experts for training specialists in cardiac catheterization, echocardiography and cardiac pathology at the Sri Chitra Tirunal Medical Centre, Trivandrum. An institute for research and the development of biomedical material started functioning in Trivandrum.

In *Indonesia*, the study of blood pressure profiles was under progress and the data obtained were being analysed.

In *Mongolia*, the programme for the prevention and control of cardiovascular diseases was being expanded and successfully developed with a plan for establishing a pilot project in one of the aimaks. Collaboration with WHO on hypertension and stroke continued.

A consultant was assigned to *Sri Lanka* for assessing the existing facilities for training, services and research in cardiovascular diseases. He assisted in formulating plans for simple epidemiological investigations on rheumatic heart disease. The Chief of the Cardiovascular Diseases Unit from WHO Headquarters visited Sri Lanka to discuss the details with the national authorities and formulate a medium-term programme for the prevention and control of cardiovascular diseases.

A medium-term programme for the prevention and control of cardiovascular diseases was developed for *Thailand*.

3.3 Blindness

A Regional Seminar on Restoring Sight to the Curably Blind, held in the Regional Office in March for participants from seven countries in the Region, identified the magnitude of this problem and formulated strategies. It also considered the training of health and allied personnel, mobilized resources and evolved mechanisms at the national and regional levels for coordinating activities, monitoring performance and evaluating results. The seminar recommended, among other things, undertaking epidemiological investigations, organizing immediate activities for operative restoration of sight to the large backlog of cataract patients, health education for the prevention of corneal blindness due to malnutrition, infection and injuries, planning and delivery of community-oriented eye health services, and mobilization of resources for the speedy restoration of sight to the curably blind. Technical assistance was provided from the Regional Director's Development Fund for formulating national plans and strategies and for the training of health and allied personnel in the prevention and control of blindness in Member States. International and non-governmental agencies were identified as potential sources of funds and collaboration with governments and voluntary organizations in the countries of the Region. A draft medium-term programme for the prevention and control of blindness was prepared.

In *Bangladesh*, the constitution of a national co-ordinating council for the prevention and control of blindness was awaiting a final decision. The Royal Commonwealth Society for the Blind continued to supply equipment and other items for the conduct of mass eye camps. A consultant was assigned to assess existing facilities and assist in the training of health and allied personnel and the establishment of community-oriented ophthalmic services.

In *Burma*, a recent field survey carried out by post-graduate students in ophthalmology indicated that there were about 1800 persons blind in one or both eyes, per 100 000 population. Contacts were established with a non-governmental agency to mobilize resources for activities to prevent and control blindness. Assistance from the Regional Director's Development Fund will be made available for the formulation of a national plan and the training of health and allied personnel in community-oriented ophthalmic services.

Implementation of *India's* national plan for the prevention and control of visual impairment and blindness started with the formation of the first batch of 15 mobile ophthalmic units in 1977, each unit to serve the population in five districts. A total of 80 such mobile units will be operating by 1982-1983. The Government of India and DANIDA are collaborating in the implementation of the plan. A strategy for immediate action to provide services and restore sight to the curably blind has been formulated and is under implementation. The essential components of this strategy are the creation of community awareness, health education, the provision of ophthalmic services in remote areas through mobile ophthalmic units or through the organization of mass eye camps, and the simultaneous establishment of the infrastructure for eye health care at the local, intermediate and central levels as an integral part of the existing health services. Facilities will be strengthened for training the required ophthalmic health and allied personnel in the medical colleges. In addition to such training activities at the state level, the Regional Institutes of Ophthalmology and the apex institute at the Dr Rajendra Prasad Centre for Ophthalmic Sciences, All-India Institute of Medical Sciences, New Delhi, will be strengthened for training specialized categories of personnel and for research in eye diseases.

A WHO consultant visited *Indonesia* and discussed with the national health authorities the formulation of a national plan for the prevention of blindness. Further technical collaboration will be continued for evolving a national strategy and providing training to health and allied manpower in the delivery of community-oriented ophthalmic services.

In *Nepal*, the Government is providing ophthalmic services to the population in remote rural areas through mobile teams. The Nepal Eye Hospital is training allied health personnel in community ophthalmology. The Operation Eye-Sight Universal, Canada, assisted with resources for expanding facilities in this hospital, and the availability of resources

from other countries is being explored. WHO assistance was provided for the training of ophthalmologists in community ophthalmology and specialized areas in this discipline.

In *Sri Lanka*, the establishment of a regional training and demonstration centre for ophthalmic auxiliaries is being planned. A WHO consultant is to be provided to assist in the preparation of this plan for the establishment of a regional school for ophthalmic auxiliaries at Peradeniya. Support will be extended for strengthening library facilities and organizing in-service training at the Eye Hospital in Colombo.

A WHO consultant visited *Thailand* and assisted in identifying institutions at local and intermediate level for developing training and service activities in community ophthalmology.

4. HEALTH LABORATORY SERVICES

Assistance provided during the year for the strengthening of health laboratory services covered, in the main, instrumentation, standardization, the microbiology of cross-infections in hospitals, laboratory animals, and the quality control of biologicals and vaccines.

4.1 Appropriate Technology for Health

The usefulness and feasibility of a simple, field, solid-phase, integrated-circuit colorimeter is being tested in Indonesia and Nepal. The advantages of this colorimeter are that it is practically trouble free and runs on low energy, supplied by battery cells. The accuracy of this instrument and its limitations are being evaluated. The MacArthur microscope, which is small enough to be kept in a pocket, was found to be comparable, in the optical quality of its oil immersion lens (magnification and resolution), to the conventional standard microscope. This finding was confirmed by laboratory testing in India, at the Department of Microbiology of Lady Hardinge Medical College, New Delhi, the Central Malaria Laboratory, and the State Public Health Laboratory, Maharashtra. Such a microscope may prove useful whenever it is desired to make a quick "on-the-spot" diagnosis for case finding in malaria and tuberculosis.

4.2 Standardization

The Regional Office maintained its interest in laboratory standardization. The two-tier quality control schemes - one regional and the other inter-regional - have been in operation for the second year. According to the annual report on the regional scheme, which reviewed the performance of 20 laboratories in India and Thailand, the results of most laboratories (with the exception of one) were below the acceptable standards for clinical practice. There was a wide variation

in the results reported from the participating laboratories. The collaborating laboratories were, however, encouraged to adhere to the scheme for another year. As they are being provided with control sera for internal quality control (supplied by the Reference Laboratory in Glasgow), their results should show improvement over the previous year. A local scheme for the southern States in *India*, based at the Regional Laboratory in Vellore Christian Medical College, was also started. The Regional Office is making arrangements to intensify the activities within the Region and enlist the participation of more countries in the scheme.

An inter-regional course on standardization in haematological techniques and anemias was held in Bangkok in October. Seven haematologists from the Region attended the course. Since January 1978 participants from South-East Asia have been involved in the WHO Headquarters-sponsored inter-laboratory scheme for the quality control of basic haematological values such as mean corpuscular haemoglobin (MCH), mean corpuscular volume (MCV) and mean corpuscular haemoglobin concentration (MCHC).

Quality control is being extended to microbiology in public health laboratories. The WHO-assisted health laboratory projects in *India* and *Thailand* have introduced this subject and trained technicians in it. They are also engaged in testing the proficiency of intermediate laboratories in isolation and detection. A training course was held at the Haffkine Institute, Bombay, for technicians from Maharashtra State.

Under the methods currently used in this region for the manufacture of vaccines, there exists scope, with some adaptation of the technology, for reducing the rejection rate and improving the yield as well as the potency of vaccines. To this end, and with funds provided by UNDP, WHO Headquarters have published three manuals - one each on diphtheria, tetanus and pertussis. Sets of these manuals were distributed to manufacturers of DPT vaccine and quality controllers in Burma, India, Indonesia and Thailand.

In *Thailand*, the Government has decided to establish, at the Department of Medical Sciences, an independent controlling laboratory for the testing of vaccines. This laboratory, which will be separate from the Government Pharmaceutical Organization, where the vaccines are produced, will, in the first instance, test smallpox and DPT vaccines; the testing of polio, measles and BCG vaccines will be taken up in due course.

4.3 Microbiology of Cross Infections in Hospitals

With WHO's participation the fourth one-week workshop on the microbiology of hospital infections was organized by the National Reference Laboratory for *Pseudomonas* under the joint auspices of the All-India Institute of Medical Sciences and the Indian Council of Medical Research in New Delhi from 20 to 27 February. Twenty-one participants

from different states were given training in bacteriological and serological methods currently in use in hospital laboratories for the surveillance of hospital infections caused by *Pseudomonas aeruginosa*. Training was also given in controlling and checking sterilization procedures and disinfectants, and in monitoring resistance to antibiotics.

4.4 Laboratory Animals

Research in genetics, transplantation, cancer and viral immunology has generated a demand for special lines of small laboratory animals. With a view to meeting such potential demands, the Regional Office has procured a seed colony of *nu/nu* mice for the Virus Research Centre, Poona (*India*) as well as a transfer box and isolator for breeding purposes. These were donated by the Centre D'National D'Elevage des Animaux de Laboratoire, Orleans, France. A publication of the WHO International Centre for Laboratory Animals (ICLA) on the training of laboratory animal technicians was distributed to all small laboratory animal centres having an interest in training, which had sent participants to the inter-country workshop on the subject held in Bombay in 1975. The construction of a national laboratory animal centre at Mahidol University, *Thailand*, is nearing completion and the centre is expected to be commissioned soon for training, breeding and stocking.

The Indian Veterinary Research Institute has established a new division on laboratory animal research. With the commissioning of a new animal facility, the Institute will be able to give veterinarians post-graduate training in laboratory animal science. Audio-visual equipment and aids were provided to the Laboratory Animals Information Service, Institute of Nutrition, Hyderabad (India) to strengthen the Institute's three-month course for technicians. The Virus Research Centre, Poona, continued its annual two-week special course in mice breeding.

4.5 Research

With the devolution of WHO's research programme to the Regions, a regional plan of research was formulated for strengthening the surveillance of DHF and the standardization of laboratory methods using newly developed techniques, such as, cell lines for isolation and thin-layer immuno-assay (TIA) and counter immuno-electrophoresis (CIEP) for the detection of viral antigens and antibodies. A workshop on research studies for the characterization of arbovirus infections was organized in February 1978.

4.6 Quality Control of Pharmaceutical and Biological Products

The activities in this area have concentrated on the improvement of the physical facilities, the enhancement of the technical level of personnel and the revision of the legal instruments related to drug quality control. In this context, a regional workshop on quality control of drugs, financed by DANIDA, was organized in the Regional

Office in January 1978, with fifteen participants from seven countries. The group discussed mainly the organization of quality control laboratories, design and quality control systems, quality control of raw materials, containers and packaging materials, factory and drug inspection, the hygiene of personnel, and the legal aspects of quality assurance.

The WHO scientist (pharmacist) who had been assigned to *Bangladesh* in September 1976, left in August 1977. During his assignment, he assisted the Government in establishing a new pharmaceutical unit (attached to the Central Medical Stores), in strengthening drug control laboratories and drug administration, in training staff, and in legislation for quality control. An electro-medical equipment engineer was also assigned under this project for a period of six months from December 1977 to assist the Government in the repair of electro-medical equipment in the Central Workshop, in hospitals and in medical colleges, as well as to train the staff in the maintenance and repair of electro-medical equipment.

The pharmaceutical quality control programmes in *DPRK*, *India* and *Sri Lanka* received assistance through the award of fellowships for the training of the staff and the provision of supplies and equipment for improving the physical facilities.

Pursuant to a recommendation of the 30th World Health Assembly emphasizing the need for countries to formulate drug policies as an essential component of national health policies, greater attention was given to this field. As a preliminary step, a WHO exploratory mission visited Bangladesh, Burma, India, Indonesia, Nepal, Sri Lanka and Thailand to assess the current situation regarding the drug supply systems in these countries. A seminar on drug policies and management was held in Colombo in March 1978 with participants from eight countries in the Region. The meeting discussed the findings of the exploratory mission and recommended an action programme for technical cooperation with and among countries, in the field of drug policies and management.

4.7 Vaccines for EPI

The first consultative meeting on Regional Self-sufficiency in Vaccines for the Expanded Programme on Immunization was organized in the Regional Office from 11 to 13 April. The 21 participants, in teams of two or three, were programme managers, vaccine producers and vaccine controllers from Bangladesh, Burma, India, Indonesia, Mongolia, Nepal, Sri Lanka and Thailand.

The participants recognized that, with some readjustment of its resources, the South-East Asia Region could become self-sufficient in diphtheria and tetanus toxoid as well as BCG. They felt that those existing national laboratories which have the experience should concentrate their resources on producing pertussis vaccine. As the technology for polio vaccine is yet to be developed, countries were

advised to import polio vaccine in bulk and have it diluted, blended and dispensed. With the advent of the Expanded Programme on Immunization (EPI) it became necessary for control laboratories not only to check the quality of the vaccine but also to become involved in the surveillance work. The meeting advocated the promotion of regional cooperation with a view to allowing the free flow of information, resources and vaccine technology, and for using the facilities available within the Region to provide technical training in vaccine production and control.

The conclusions of the meeting have provided a set of guidelines for governments and the Regional Office with respect to the production and control of vaccines to meet the requirements of EPI.

A number of recommendations for strengthening the control laboratories and stepping up the production capacity of vaccines used in EPI, have been forwarded to governments.

5. PROMOTION OF ENVIRONMENTAL HEALTH

The main emphasis in WHO's collaborative work in this area has been on preparations for planning programmes to develop water supply and sanitation, occupational health and safety, minimizing hazards to man from pesticides, the development of radiological protection services, the formulation and revision of food laws, and the improvement of laboratory competence in food analysis.

The designation by the United Nations Water Conference of the period 1981-1990 as the International Drinking Water Supply and Sanitation Decade focused international attention on the improvement of water supply and sanitation. WHO's activities in this field have accordingly been intensified, and rapid assessments of the present situation have been carried out in five countries of the Region in order to plan further action to meet the target of providing all people with reasonable access to safe water and adequate excreta disposal facilities by 1980. Collaborative activities with agencies such as IBRD, UNICEF and UNEP have been strengthened with a view to mobilizing more technical assistance and capital investments. In the field of occupational health and safety, a number of national courses have been held and practical demonstrations arranged in order to focus attention on workers' health and safety. The development of radiological protection services, the standardization of the functioning of radiological and cardiotherapy units, the training of health and allied manpower and the establishment of facilities for the repair and maintenance of electro-medical equipment have continued to receive attention, as have activities designed to prevent health hazards from pesticides to man. There has been a greater awareness of the problems related to the formulation and revision of food laws and regulations, and advice was given on the improvement of technical facilities and the training of personnel for manning food testing laboratories.

5.1 Environmental Health

The promotion of environmental health is one of the six major areas of concern under the Sixth General Programme of Work of WHO, and particular emphasis is laid on the promotion and development of environmental health policies and programmes, and on the recognition, evaluation and control of environmental conditions and hazards.

The United Nations Water Conference, which was held at Mar del Plata, Argentina, in March 1977, succeeded in drawing international attention to the water supply and sanitation situation, particularly in the developing countries of the world. The deliberations and resolutions of this conference have provided WHO with a renewed challenge to assist Member countries in this work.

Consequent upon resolution WHA30.33 adopted by the World Health Assembly, a considerable amount of activity in the field of environmental health has been devoted to preparatory work for planning programmes to develop water supply and sanitation. During the first stage, to be completed by mid-1978, a series of rapid assessment reports is being prepared on a country-by-country basis to determine the current state of affairs, the preparedness of individual countries to undertake the necessary planning, and the requirements in assistance which would be used for implementing programmes. In this region, Bangladesh, India, Indonesia, Maldives, Nepal and Thailand have responded positively to offers of technical collaboration, and in these countries rapid assessment reports are in various stages of completion with the involvement of WHO field staff.

Since early 1978 the WHO/IBRD Cooperative Programme has been expanded, with the goals proposed for the International Drinking Water Supply and Sanitation Decade in view (see also Chapters 2 and 5 in Part II).

In response to the recommendations made by the UNICEF/WHO Joint Committee on Health Policy at its twenty-first session in January-February 1978, a joint study of the water supply and sanitation components of the primary health care programme has been carried out in Bangladesh, Nepal and two States in India (Rajasthan and Tamil Nadu) selected for this purpose. The aim of this study is to provide a basis for the Joint Committee to formulate policy. The case studies will be reviewed and consolidated at WHO Headquarters for submission to the Joint Committee before January 1979.

In the other major sub-programme area, the activities have continued largely under inter-country projects, some of which have been assisted by the United Nations Environment Programme (UNEP). By the end of June 1978, the initial network of reporting stations collaborating under the UNEP/WHO/UNESCO/WMO Water Quality Monitoring Projects, as part of the Global Environmental Monitoring Systems (GEMS) Programme, had been practically finalized and some data received. This programme involves the participation of about 50 stations in Bangladesh, India,

Indonesia, Sri Lanka and Thailand. Similarly, India, Indonesia and Thailand have been provided with equipment under the UNEP/WHO Air Quality Monitoring Project, and monitoring stations in these countries have started supplying data through the Regional Office to the Global Centre in the USA.

UNEP has also agreed to the preparatory stage of a study of the epidemiological effects of environmental factors in developing countries. A multi-disciplinary team of epidemiologists, statisticians, sanitary engineers, nutritionists, etc., has prepared a project proposal for a major study to be undertaken in Calcutta or Bombay by next year.

An inter-disciplinary working group has been established in the Regional Office for the preparation of a medium-term programme for the promotion of environmental health.

The major achievements and activities in the countries of the Region during the period under review are summarized below.

In *Bangladesh*, the rural water supply programme has been expanded satisfactorily under the second plan of operations. The maintenance programme continued to progress well. The plan of operations for village sanitation is under preparation and will involve the Ministry of Health to a greater extent than in the past. A primary school demonstration latrine programme for 40 schools was completed and is expected to be expanded to cover 400 schools in the first phase.

Two consultants were assigned during May-July 1977 to assess the overall operations of the Water and Sewerage Authorities at Dacca and Chittagong. Their recommendations for improving the total programme were sent to the Government. The recruitment of long-term staff is under way.

The activities of the environmental sanitation project in *Burma* continued to make progress with advice from the WHO sanitary engineer. During the year, three short-term consultants were provided in the fields of health education, and the design of water supplies and a bio-gas system. A plan of operation covering UNICEF and WHO assistance to provide safe water to 1700 villages in the dry zone of Central Burma was drawn up. Further assistance is also expected from the Federal Republic of Germany, and it is tentatively planned to use this aid for the purchase of drilling equipment, pipes and pumps.

The Rangoon Institute of Technology continued to receive WHO/UNDP support through the assignment of a WHO visiting professor, who has been helping in the development of training programmes in sanitary engineering.

In *India*, the UNDP-funded project which has been assisting the Maharashtra Prevention and Control of Water Pollution Board was

successfully completed at the end of 1977. The pre-investment project on feasibility studies and the preparation of a master plan for water supply and sewerage for the Madras Metropolitan Area proceeded according to plan. The World Bank has already allocated to the Tamil Nadu Government an amount of US$11 million from its IDA credit funds for the implementation of the Immediate Work Programme identified under this project. There is a possibility of a new UNDP-supported project being launched next year to provide assistance in training pollution control staff at a number of regional laboratories.

WHO has continued to extend technical cooperation to the national water supply and sanitation and environmental pollution control programmes through the provision of short-term consultants and fellowships. Close coordination with UNICEF has been maintained through a WHO sanitary engineer based in the UNICEF Regional Office in New Delhi. WHO participated in a mission in the first half of 1978 to evaluate UNICEF assistance to the national village water supply project.

The report of the WHO/IBRD mission which, early in 1977, carried out a sector study on water supply and sanitation in Punjab, was accepted by the Government. In the first quarter of 1978, a similar study was carried out in Rajasthan.

In *Indonesia*, under UNDP-supported pre-investment planning studies, a master plan for Jakarta Sewerage and Sanitation was prepared along with other necessary reports and submitted to the Government. Preparatory assistance to the rural water supply project for East Java Province was also completed successfully; several schemes were drawn up for implementation, one of which, a full-scale project, started in East Java in January 1978. Preparations are under way for similar studies in rural water supply for Central Java Province with assistance from the Federal Republic of Germany, as well as for South Sulawesi and North Sumatra, with UNDP support. Meanwhile, water supply construction schemes in both the urban and rural sectors are being implemented with local funds and with assistance from several bilateral and multilateral agencies.

Priority was also accorded to the education and training of sanitation personnel. Advice was given on the development of academic training programmes and special courses in various disciplines of environmental health were organized. A project proposal has been under preparation with UNDP assistance to upgrade and expand the teaching of sanitary engineering subjects at the Institute of Technology, Bandung, and other engineering colleges in the country (see also Section 7.4). Food sanitation activities have also been initiated in several urban communities.

In *Maldives*, a programme to provide safe water to communities outside Male has been prepared and is being implemented with assistance from UNICEF. In Male, chlorination of the principal public wells used as drinking water sources has continued and a consultant has prepared designs for rainwater storage tanks and for communal latrines.

Under the environmental health programme in *Mongolia*, essential laboratory equipment was provided and three fellows started their studies. The technical drawings for the Jargalant water supply and sewerage systems were finalized, but the construction has not started on account of financial difficulties. The air pollution control programme in Ulan Bator made some progress.

It is expected that the environmental health activities in Mongolia will be accelerated with the appointment of a WHO sanitary engineer, who took up his assignment in May.

In *Nepal*, under the current project on community water supply and sanitation, 15 fellowships were awarded for academic post-graduate training and observation tours. Also, 70 sub-overseers and 15 village-level maintenance workers were trained. The construction of seven water supply schemes has been completed and the bulk of the schemes are expected to be ready during the current fiscal year. The encouragement provided by the WHO/UNICEF assistance for the district panchayats to include water supplies in their development programmes has produced the desired results.

The Government has increased its allocation to water supply and sanitation in rural areas in the Fifth Five-Year Plan period (1975-1980), and it is expected that by 1980 about 10% of the rural population will have access to safe water.

In *Sri Lanka*, a study of the water supply and sanitation sector was carried out in September-October 1977 under the WHO/IBRD Cooperative Programme. This sector study analysed the existing situation and identified investment possibilities. WHO has, in close collaboration with UNICEF, continued to extend technical cooperation to the National Water Supply and Drainage Board. The earlier programme of providing piped water to rural areas has been expanded to include the exploration of groundwater for supply to smaller communities. Support has been received from the World Bank, which has provided an IDA credit of US$14 million for the improvement of water supply and sewerage facilities in Colombo and towns on the south-west coast, identified by the WHO/UNDP feasibility study completed in 1971.

The UNDP-supported project on community water supply and sanitation in *Thailand* has been extended up to June 1978, whereafter an expanded project on the promotion of environmental health will be initiated. A significant input in this project is the technical cooperation of the WHO field staff in the planning and implementation of sanitation measures in the context of primary health care, together with assistance in the establishment of preventive maintenance of existing installations.

5.2 Occupational Health

Assistance was provided to *Bangladesh* in the organization of national courses on occupational health and safety. Lectures on some of the

important aspects such as "organization of occupational health services in developing countries" and "industrial health, safety and hygiene" were delivered and practical demonstrations were given to the participants by arranging visits to jute and textile mills. The need to include the subject of occupational health and safety in the curricula of medical colleges was stressed. Proper methods of storing and handling hazardous chemicals were demonstrated. A number of measures were suggested for the promotion of the health and safety of workers.

In *Burma*, in collaboration with UNDP, a project on "Strengthening of Health Services in the Newly Industrialized Areas" has been formulated with WHO as the executing agency. The project was expected to become operative by mid-1978.

In *India*, the National Institute of Occupational Health, Ahmedabad, organized a national course for training and orientation in occupational toxicology in March 1978. WHO provided financial support for this activity. Arrangements were made to supply a gas chromatograph to the Institute.

In *Indonesia*, it is hoped that UNDP funds will become available in 1978 to implement some of the important activities relating to the UNDP project "Development of Central and Regional Occupational Health and Industrial Hygiene Laboratories", so as to strengthen these services.

A WHO consultant advised the Government of *Sri Lanka* on air pollution sampling and on priorities for assessing exposure in specific industries. Assistance was given in setting up the air sampling laboratory,and guidance was provided in field studies of atmospheric contaminants.

Further assistance was given in the training of national staff in environmental pollution, particularly with regard to agro-chemicals, and in the setting up of a pesticides laboratory.

5.3 Radiation Health

Technical assistance was extended to governments for the development of radiological protection services, standardization of functioning radiological and cardiotherapy units, training of health and allied manpower, and the establishment of facilities for the repair and maintenance of electro-medical equipment. The joint IAEA/WHO postal dose-intercomparison programme was continued; radiotherapy institutions in Bangladesh, Burma, India, Indonesia and Sri Lanka participated in this programme, which helped to improve their standards. A WHO consultant from Headquarters visited the secondary standard dosimetric laboratories at Trombay (India) and Bangkok and evaluated the activities with the national authorities.

In *Bangladesh*, the Department of Radiotherapy of Dacca Medical College organized a regular film badge monitoring service for personnel

exposed to radiation hazards. A monthly supply of films was made available for this purpose.

Similarly, films were regularly supplied to the Department of Medical Physics at Rangoon General Hospital, *Burma*. The availability of extrabudgetary resources was explored for strengthening the training activities in the Department of Radiology at this hospital.

Two WHO consultants were assigned to the Division of Radiological Protection, Bhabha Atomic Research Centre (BARC), Trombay, *India*, to evaluate the current training activities, radiological protection services, the secondary standard dosimetric laboratory and research. In addition, they advised on the organization, curriculum construction and internship programme for the proposed advanced course in radiological physics. A WHO-sponsored Seminar on Radioimmunoassay Techniques was held at the Radiation Medicine Centre, Bombay, with the assistance of a consultant. Assistance was also provided in the organization of a national group educational activity at the Bhabha Atomic Research Centre for improving the knowledge and skills of hospital physicists in departments of radiology and radiotherapy. The scientists at BARC have developed thermoluminescent dosimeters and readers with computer arrangements for registering data on the dosage received by personnel exposed to ionizing radiation. An automated radiotherapy treatment planning device has also been developed in collaboration with the Electronics Corporation of India. Indigenous designing and manufacture of cobalt therapy units are progressing satisfactorily.

In *Indonesia*, a secondary standard dosimetric laboratory with bilateral assistance is being set up. A WHO consultant was assigned to evaluate the progress in the development of radiological protection services and advise on the training of the scientific and technical staff required for running and maintaining a national radiation protection programme. The consultant advised on the local training of radiation physicists at Master's level at the University of Indonesia; the Ministry of Health and the National Atomic Energy Agency will be cooperating in running this course.

In *Mongolia*, a WHO consultant assisted in the organization of the new repair and maintenance workshop for electro-medical equipment in Ulan Bator. He also serviced and repaired a large quantity of equipment. Further, he trained technicians in repair and maintenance services. A regular supply of films for personnel monitoring services was made available for promoting the development of radiological protection services.

In *Nepal*, the equipment needed for the safe handling of radium needles was supplied. Assistance was also provided for the training of personnel. Films were made available regularly for monitoring health personnel exposed to radiation hazards.

Technical assistance was provided for the installation of the cobalt therapy unit at the General Hospital in Kandy, *Sri Lanka*.

In *Thailand*, the training of radiographers and medical physicists, the work of the secondary standard dosimetric laboratory and the personnel monitoring services, are all progressing satisfactorily. A WHO consultant from Headquarters visited Bangkok and, with the national staff, evaluated the performance of the secondary standard dosimetric laboratory.

5.4 Hazards to Man from Pesticides

The WHO-assisted project in *Indonesia* which has been operating since 1969, has provided experience on, and an insight into, the hazards to man from pesticides, especially in regard to the consequences of both acute and chronic exposure. Experience has shown that, with organization, education and legislation, the problem could be reduced drastically.

The Medical Toxicology Unit at the Industrial Toxicology Research Centre in Lucknow, *India*, developed with WHO support, aims to assist in studies on the effect of organo-chlorine pesticides on man.

5.5 Food Safety Programmes

WHO assistance in this field has continued to centre round problems related to the formulation and revision of food laws and regulations. Improvement of the material and technical level of laboratories concerned with food analysis, particularly the strengthening of facilities for the microbiological examination of foods and, to a lesser extent, those concerned with the determination of pesticides and other contaminants, also receives support.

In *Indonesia*, a WHO consultant assisted the Directorate of Food Control in the evaluation and further planning of food control in the country. His recommendations covered areas such as administration, food legislation, food analysis, food inspection services, training of staff and problems related to the need for technical assistance by the food processors. He also assisted in the organization of a three-week course for food inspectors. Another consultant helped draft regulations for food service establishments and develop a food sanitation grading system for classifying hotels and restaurants.

A scientist in food bacteriology was also assigned to Indonesia to assist the Directorate-General of Food and Drugs in the improvement of laboratories for the microbiological testing of foods and drugs.

In *Thailand*, a consultant assisted the Division of Food Analysis, Department of Medical Sciences, with training in the chemical analysis of food; equipment was also supplied for this purpose. The consultant's recommendations have been forwarded to the Government.

6. HEALTH STATISTICS

A resolution on health information systems passed by the Regional Committee at its thirtieth session is being gradually implemented through activities in the area of lay reporting of morbidity and mortality statistics. The major concern of the resolution is to help the countries of the Region in designing and implementing health information systems for primary health care and to provide support in developing an appropriate technology for the purpose.

Simple registration forms and classification lists of symptom associations and conditions for designating cause of death or reason for contact with health services were developed. The scheme, evolved in this region in 1976, was tested in 1977 in Burma, India, Sri Lanka and Thailand, where the relevant information is being collected through health auxiliaries or even lay personnel. The aim of these trials was to ascertain the suitability of the scheme for use by local health services and bring out any shortcomings and difficulties in its application. The findings were discussed at a meeting held in the Regional Office with the participation of the national workers concerned with the field trials; as a result, necessary corrections and amendments were introduced.

The lay reporting classification lists are intended for publication by WHO Headquarters as a supplement to the Ninth Revision of the International Classification of Diseases (ICD) and recommended for international use wherever applicable and desirable. The Ninth Revision of the ICD, adopted by the Twenty-ninth World Health Assembly, will come into effect from 1979 onwards.

In order to ensure the smooth introduction of the Ninth Revision of the ICD, the Regional Office organized a training course for senior national staff involved in the collection and coding of morbidity data and causes of death as well as in the training of medical records and health statistical personnel. Eighteen participants from this region (from Bangladesh, India, Indonesia, Maldives, Nepal, Sri Lanka and Thailand), two from Botswana in the African Region and some observers from India were acquainted with the changes, extensions and various applications of the Ninth Revision. In this connexion, appropriate training material was provided to the national workers concerned in order to enable them to organize similar courses at country level.

Since statistical concepts and the use of statistical methods are of great importance, not only in medical research and health administration but also in clinical medicine, an Inter-regional Conference on Teaching Statistics to Medical Undergraduates was organized by WHO Headquarters jointly with the International Epidemiological Association, the National Center for Health Statistics, USA, and the Ministry of Health, Government of Pakistan, in Karachi from 5 to 9 March 1978. Eight participants from five countries of this region had the opportunity to exchange ideas with their colleagues from other parts of the world.

As for WHO's collaboration in the various countries, in *Burma*, a health statistician continued to assist the mycobacterial diseases (rifampicin trial) project. The project has completed the mass survey of the area and the processing of the data is being finalized with the help of the health statistics unit of the Department of Health and the Rangoon University Computer Centre.

A statistician assigned to the project "Research in Communicable Diseases Ecology" in *Indonesia* helped with the statistical aspects of various research studies carried on by the Institute of Medical Research in Jakarta.

The WHO health statistician working with the Regional Family Health Team assisted with the statistical aspects of the regional collaborative "Study on pregnancy and its outcome, including perinatal morbidity and mortality", currently going on in Burma, India, Indonesia, Sri Lanka and Thailand (see also Section 1.3). He also collated information on maternal and child health and family planning in connexion with a document on the child health programme for the South-East Asia Region, and helped and coordinated other pertinent regional activities on maternal and child health and family planning requiring statistical assistance and advice.

The Health Statistics Unit in the Regional Office assisted with the programme of health service research by providing data and advising on the development of research proposals. Assistance to other WHO programmes continued through the provision of health statistical information and advice on statistical methods when required.

7. DEVELOPMENT OF HEALTH MANPOWER

A medium-term programme for health manpower development for the South-East Asia Region for the period 1978-1983 was drawn up in consultation with the countries and was presented to the thirtieth session of the Regional Committee held in Bangkok in August 1977. This programme,which spells out the principles, policy and philosophy of health manpower development as endorsed by the Twenty-ninth World Health Assembly,shows the actions to be taken by the Organization, in collaboration with Member States, to facilitate the attainment of the aims, objectives and targets stipulated. The programme sets specific objectives in three areas: (a) manpower planning and management to meet the requirements of health services; (b) promotion of training for all categories of health staff, and (c) educational development and support. Project activities are now being planned and implemented within the framework of this medium-term programme.

The thrust of the Organization has been in providing assistance to the countries of the Region in reorienting the existing training programmes for auxiliary health workers to become multi-purpose personnel, in making the educational programmes more relevant to the needs of the health services, in the development of training programmes for community

health workers, and in reorienting medical education so as to make it more community based.

Health Manpower Planning

As a result of country health programming in Bangladesh, Burma, Nepal and Thailand, the health manpower needs of these countries have been estimated. A short-term consultant carried out a health manpower study in *Burma* in 1977. A seminar on health manpower studies in relation to health care delivery was held in *Bangkok* in November 1977, attended by 21 participants from seven countries of the Region.

Training in Health Services Management

In response to a resolution on training in health services management, adopted by the Regional Committee at its thirtieth session (SEA/RC30/R14), a WHO staff member has been assigned to carry out a review of the institutions in the Region which provide training in health planning and health management sciences, in order to assess the support needed and to identify those institutions which could offer facilities for regional training programmes.

A long-term WHO staff member has been assigned to the Centre for Health Research and Development in Surabaya, *Indonesia*, to assist in the organization of courses in health planning, health information systems, health management and operational research/systems analysis. The Centre is designed to run inter-country courses. A management workshop was held in September 1977. National health staff from several countries of the Region participated in the workshop, in addition to WHO staff.

Student Loan Libraries

The student loan library scheme, which was initiated in 1974 to meet the acute shortage of textbooks for students in the libraries of medical schools, has been further extended, and ten more libraries are expected to be established in medical colleges in Bangladesh, India, Indonesia, Mongolia, Nepal and Thailand.

7.1 Medical Education

Country projects on medical education have been supported by the provision of long-term staff, short-term consultants, fellowships, supplies and equipment and, in certain cases, grants.

Burma, Indonesia, Mongolia and Thailand have continued to be provided with long-term staff, and efforts are being made to recruit staff for projects in Bangladesh and Nepal.

In *Bangladesh*, a short-term consultant assisted the National Medical Committee on Medical Education in developing the curriculum for training undergraduate medical students, in developing post-graduate training facilities and in establishing a national teacher training unit.

In *Burma*, WHO continued to collaborate with the three Institutes of Medicine and with the various schools of post-graduate studies. Short-term consultants in health manpower planning and in forensic medicine were provided.

In *India*, a WHO consultant assigned to the National Teacher Training Centre at the Jawaharlal Institute of Post-graduate Medical Education and Research, Pondicherry, assisted in organizing the Fourth National Teachers Training Course and helped the staff of the Institute in formulating institutional, departmental and instructional objectives.

Two long-term WHO staff members continued to assist the Consortium of Medical Sciences and the medical colleges in *Indonesia*. One of them helped in setting up medical education units in the medical colleges; such units are now functioning in every medical school. The other staff member, posted at the Medical School in Surabaya, is collaborating in the development of a community-oriented curriculum.

The WHO medical educator (paediatrician) provided to *Mongolia* completed his assignment with the State Medical Institute at Ulan Bator. The project manager continued to assist in the development of the programme to improve the Department of Medical Education and in organizing several workshops on teaching methods, evaluation and research.

WHO consultants in curriculum development and clinical medicine were assigned to the Institute of Medicine, Kathmandu, *Nepal*, to assist in the development of the Diploma Course in General and Community Medicine.

In *Thailand*, WHO's continuing collaboration with the Faculty of Public Health, Mahidol University, included: development of a programme for a Master of Science degree in Public Health for paramedical personnel; work on the nurse practitioner training programme; preparation of training programmes in health planning and management,and the upgrading of this faculty to international standards. A WHO staff member assisted the Regional Teacher Training Centre at Chulalongkorn University, Bangkok, in preparing an international course in health manpower development and in teaching three-month courses.

Community Orientation

Most medical colleges in the Region have continued with efforts to make their curricula more community oriented.

In *Bangladesh*, a new curriculum for the undergraduate medical course has been drawn up. Increased stress is laid on teaching and training in paediatrics, maternal and child health, communicable diseases, community medicine and human reproduction and family planning. Teaching of community medicine will start from the pre-clinical phase and will have a multi-disciplinary approach. A field training scheme

has been started wherein medical students are posted for two weeks each to the thana health complexes attached to the medical colleges.

In *Burma*, undergraduate medical students, house officers and post-graduate students continue to receive part of their training in community medicine in the field practice areas. The Fourth Medical Education Seminar was held in April 1978 at which the whole curriculum was reviewed.

In *India*, the Government has drawn up a scheme for the reorientation of medical education involving medical colleges in the delivery of health services to the community. The scheme envisages that, in the first phase, each medical college in the country should have immediate responsibility for preventive, promotive and curative health care in respect of three community development blocks and, after four or five years, for the entire district in which the medical college is situated.

In *Indonesia*, a WHO staff member has assisted in the development of a model curriculum in community medicine at the Faculty of Medicine, University of Airlanga, Surabaya, in training the faculty and in the development of the field programme.

In *Nepal*, the Diploma Course in General and Community Medicine of the Institute of Medicine, which aims at providing "community physicians", is now scheduled to begin in July 1978. The emphasis during the first semester will be on community and social medicine, in an integrated course entitled "social medicine in the community, the family and the individual".

In *Thailand*, the Ministry of Public Health and the Medical Faculties of Mahidol and Chulalongkorn Universities are developing a curriculum for new types of "rural physicians" in close cooperation with consumers and producers of health manpower.

Other Activities

An inter-country seminar on "Reorientation of Medical Education: the Role of the Preclinical Sciences", was held in the Regional Office from 26 to 30 June.

A WHO consultant was recruited to visit the post-graduate training institutions in some countries of the Region to survey and identify the needs for post-graduate training in medical education, the institutions or departments capable of providing or having the potential to provide post-graduate training, and suggest steps to be taken for the development of post-graduate centres in the Region. His report will form the basis of a consultation to be held in October 1978 on the development of national post-graduate training centres in the Region.

A directory of training courses for health personnel in South-East Asia was compiled and published by the Regional Office. It is hoped

that this first edition will stimulate more institutions in the Region to provide information about training programmes offered by them, and thus make future editions more complete.

The Regional Teacher Training Centres in Bangkok, Thailand, and in Peradeniya, Sri Lanka, continued to conduct training courses for both national personnel and for WHO fellows from other countries of the Region. The National Teacher Training Centre at Pondicherry, India, has also organized national training courses.

An inter-country course in educational science for teachers of health professionals was held in Jakarta in October-November.

In order to review the situation in the countries of the Region with regard to the teacher training programmes for health personnel, a consultation was held in May 1978 in Rangoon. The meeting discussed and recommended guidelines for the development of a regional teacher training programme for health personnel with a view to promoting or strengthening national programmes.

7.2 Paediatric and Obstetric Education

A WHO consultant was provided to *Bangladesh* to follow up the implementation of the recommendations made by a previous consultant for strengthening the programme of undergraduate paediatric education in medical colleges. The National Committee on Medical Education has adopted the recommendations concerning the undergraduate paediatric curriculum in the medical colleges, which will be started in Dacca Medical College in the first instance.

In *India*, the draft of a handbook on maternal and child health was prepared by an *ad hoc* committee on the teaching and education of medical students and interns in maternal and child health; the draft is to be finalized this year. A meeting of the *ad hoc* committee on education and training in child health was held for the purpose of preparing a handbook on child health care for medical students and interns. Teams of three senior teachers (paediatricians,obstetricians and teachers of preventive and social medicine) from each of the three medical colleges which are to be used as demonstration centres helped to develop field practice areas for the MCH curriculum.

In *Sri Lanka*, a manual on maternal and child health for field workers has been completed.

The Regional Office organized a "Reunion" meeting of past fellows of the UNICEF/WHO Course for Senior Teachers of Child Health in October. WHO staff participated in the International Paediatric Association workshop on priorities in manpower for child health services in developing countries, held in New Delhi in October. Further, WHO provided assistance to the International Congress of Paediatrics and was represented at the Congress, which also took place in New Delhi in the same month.

The "Guidelines" on the teaching and practice of neonatology were completed and distributed as No.6 in the Regional Publications Series.

7.3 Teaching of Human Reproduction, Family Planning and Population Dynamics

A number of national and inter-country seminars, training courses and workshops on the teaching of human reproduction, family planning and population dynamics were organized in the various countries during the year under review.

An inter-country seminar on the teaching of these subjects in medical schools took place in *Colombo* from 10 to 15 October 1977, the sixth such training course to be held in one of the countries of this region. There was a general consensus that coordination in this training among the various departments needs strengthening. The participants also noted that the internship training in the field practice areas varied from one institution to another within the same country.

One of the WHO consultants who assisted with this seminar also visited Bangladesh, India, Indonesia, Nepal, Sri Lanka and Thailand to review the teaching of human reproduction, family planning and population dynamics in the medical schools in these countries.

A national Seminar on the Teaching of Human Reproduction, Population Dynamics and Maternal and Child Health-based Family Planning was organized in Mymensingh, *Bangladesh*, with support from WHO.

In *India*, two national workshops were organized in Hyderabad in December in collaboration with the All-India Institute of Medical Sciences, New Delhi. These were: (a) the First WHO/AIIMS Follow-up Workshop on the Strengthening of Integrated Teaching of Human Reproduction, Family Planning and Population Dynamics in Medical Schools, and (b) the Sixth WHO/AIIMS Workshop on the Strengthening of the Integrated Teaching of Human Reproduction, Family Planning and Population Dynamics in Medical Colleges. The status of the teaching of this subject in the medical schools of India as a result of the participation of senior teachers in the inter-country training courses was discussed in these meetings.

The main work of the Regional Centre for Documentation on Human Reproduction, Family Planning and Population Dynamics during the period under review was the preparation of publications under Phase III of its programme of activities. Two short-term consultants assisted with these efforts.

In order to include in the bi-monthly document "Human Reproduction, Family Planning and Population Dynamics" the specialty topics covered during the Centre's second phase, a revised classification scheme was devised. Six issues of the document were completed and are being processed for distribution. Correspondents were appointed in most of

the countries of the Region to serve as focal points for the collection of information and material.

A seminar on Documentation in the field of Human Reproduction, Family Planning and Population Dynamics was held in Jakarta, *Indonesia*, from 9 to 13 August 1977 in collaboration with the National Family Planning Coordinating Board of Indonesia. There were participants from six countries of the Region (Bangladesh, India, Indonesia, Nepal, Sri Lanka and Thailand), in addition to representatives from various international agencies. The participants emphasized that the Regional Documentation Centre should encourage the planning and establishment of national centres and should facilitate liaison among these centres. It should also carry out documentation and information functions and provide assistance to the national centres in training, manpower, resources and other areas.

Awareness of and interest in the activity and utility of the Regional Documentation Centre have been steadily increasing. The documents/bibliographies issued by the Centre continued to be received with great interest in all the countries of the Region.

7.4 Education and Training in Sanitary Engineering

The development of manpower in environmental health has continued to be an essential part of WHO's programme in this field. Education and training in sanitary engineering has been an important component of the development of health manpower, the aim being to provide environmental, sanitary and public health engineers for the investigation, design, construction, operation and maintenance of sanitary works as well as for the management of environmental health programmes. The strategy adopted by WHO has been to assist in the development and strengthening of educational and training institutions. In addition, in-service courses have been supported and fellowships awarded for study abroad.

Five countries, namely, Burma, India, Indonesia, Sri Lanka and Thailand, have been assisted in developing and strengthening their educational and training institutions in sanitary and public health engineering.

In *Burma*, at the Rangoon Institute of Technology, a WHO professor has been helping with the strengthening of sanitary engineering courses for undergraduate civil engineers and the development of in-service courses for graduate engineers. A proposal is being drawn up to develop a graduate diploma programme in sanitary engineering at this institution with UNDP assistance.

A short-term consultant on air pollution was assigned to *Thailand* to assist the Department of Sanitary Engineering of Chulalongkorn University, Bangkok, with its undergraduate and graduate degree programmes in sanitary engineering; the Department produces some 15 to 25 graduates each year.

In *Indonesia*, WHO has concluded a contractual agreement with the University of Oklahoma to provide to the Department of Sanitary Engineering, Institute of Technology, Bandung, three short-term consultants - on solid waste management, industrial waste treatment and assessment of environmental impact. The Institute has been offering a four-year undergraduate "Sarjana" programme in sanitary engineering and a three-year undergraduate Bachelor's degree course in the same subject, intended to provide operators for sanitary works and engineering assistants for environmental health projects. A non-degree programme for graduates in sanitary engineering has been developed to strengthen the faculties handling sanitary engineering courses in civil engineering programmes in other educational institutes of technology in the country. The Bandung Institute now produces 10 to 20 "Sarjana" graduates each year. The first Bachelor in Sanitary Engineering Students of the three-year programme are expected to graduate in 1978.

A new WHO project has been initiated to assist the University of *Sri Lanka* in developing and strengthening its public health engineering courses in the undergraduate civil engineering programme.

WHO has continued its assistance to the National Environmental Engineering Research Institute in Nagpur, *India*, by providing short-term consultants and awarding fellowships. The Institute organizes short courses for biologists, chemists and engineers involved in environmental health and public health engineering programmes.

7.5 Training of Auxiliaries

The training of multi-purpose health workers and other health auxiliaries is receiving greater attention, and the concept of a community health worker selected from the community by the community has gained acceptance in a number of countries.

In *Bangladesh*, WHO continued to assist in the training of auxiliaries and medical assistants. Sanitary inspectors, dental technicians, radiographers, laboratory technicians and pharmacists are being trained at the Paramedical Institutes in Dacca and Rajshahi. A workshop on teaching methods and the use of audio-visual aids for teachers of health auxiliaries was held in Dacca in September 1977.

In the strengthening of the thana health scheme emphasis is laid on the training programme designed for the joint training of family welfare workers and family welfare assistants. It is expected that such joint training will encourage the integration of health and family planning activities at the primary health care level.

Under the village health volunteers or village health squad scheme, a pilot training project was undertaken in July/August 1977 whereby fourth-year medical students of all medical colleges trained a total of 7416 trainees in 22 thanas. The village health squads or volunteers

will each serve a population of 500, concentrating their efforts on health education and environmental sanitation.

In *Burma*, the training of community health workers and auxiliary midwives is being undertaken. Training manuals for these workers have been prepared and arrangements are being made for field-testing the manuals.

In-service training has been given to health assistants, lady health visitors, nurses and midwives, public health supervisors and other unipurpose health workers.

In *India*, the activities of the multi-purpose health workers scheme, which had slowed down from April to October 1977 owing to the introduction of the community health workers scheme, have again accelerated. The community health workers scheme, which was officially launched on 2 October, is designed to extend simple health care by a community health worker to the people in his village or to a group of villages. A manual for the community health worker has been prepared and is being translated into regional languages. The manual is being pre-tested and a revised edition is expected to be ready by the end of 1978. It is planned to train about 600 000 community health workers throughout India by 1984.

In *Indonesia*, there has been considerable activity in the development of the programme to produce community health nurses. The scheme involves the conversion of a large number of training schools, the retraining of the teaching staff and constant review of the new training programme.

In *Maldives*, WHO staff have assisted the existing teaching programme of the allied health services training centre in the training of community health workers, nurse-aides and traditional midwives.

A WHO consultant assisted *Nepal* in the training of radiographers at the Institute of Medicine.

In *Sri Lanka*, to meet the shortage of doctors and paramedical staff, the Government has decided to train non-transferable community health-aides who would be given intensive multi-purpose training to deliver a primary health service to the community with emphasis on prevention. The intake of pupil nurses and trainees into the assistant medical practitioners course has also been increased.

In *Thailand*, nurse practitioners are being trained to provide medical care at the district and provincial facilities. The training of middle-level health workers such as practical nurses, sanitarians and midwives is being strengthened. Appropriate training is being given to village health communicators, village health volunteers, tambon doctors and "granny" midwives.

7.6 Group Educational Activities

During the period under review, 104 group educational activities, including meetings, consultations and courses,were organized - 59 national, 39 regional and 6 inter-regional (see Annex 3). Emphasis was laid mainly on meetings at the national level, giving greater attention to the needs and requirements of individual countries.

The subjects covered included health education, primary health care, maternal and child health, nursing services, management and administration, family health, nutrition, medical rehabilitation, malaria, expanded programme on immunization, communicable diseases, health manpower development and environmental health. Training courses were organized on educational science for teachers of health professionals including nursing, health assistants, and for the teaching of human reproduction, family planning and population dynamics.

There was an increase in the number of consultations during the year. These meetings have provided an opportunity not only for the exchange of information and experience but also to get valuable guidance in specific fields of activity. Consultations were organized for the development of teacher training, vaccine production for the expanded programme on immunization, community health-oriented nursing education, appropriate technology for health, and for training in human sexuality including sex education.

Special mention should be made of the regional meeting on Primary Health Care, held in the Regional Office from 21 to 26 November 1977, which was organized in preparation for the international conference on the subject scheduled to take place in Alma Ata, USSR, in September 1978.

7.7 Fellowships

During the twelve-month period 1 May 1977 - 30 April 1978, 831 new fellowships were awarded and 58 extensions were arranged.

Of 159 fellowships in communicable-disease control and laboratory services, 53 (33%) were for communicable diseases other than malaria and tuberculosis, 47 (30%) were for laboratory services, 28 (17%) were for epidemiology, 17 (11%) were for malaria, and 14 (9%) were for tuberculosis control.

Of the total number of awards during the year, 282 (34%) were for training within the Region.

Out of the new awards, 177 fellowships were awarded to doctors, engineers and nurses for one-year post-graduate courses leading to a degree or diploma; in addition, 287 were given for other types of training and 367 for study tours.

During the year, 43 fellows from the following countries or territories outside South-East Asia visited the Region: Afghanistan, Botswana, Egypt, Democratic Republic of Yemen, Iran, Iraq, Republic of Korea, Malaysia, Pakistan, Philippines, Sudan, and Papua New Guinea.

The table on page 91 shows the fellowships awarded, by subject of study and country of origin of the fellow, from 1 May 1977 to 30 April 1978. The table on page 92 shows the number of awards in each calendar year over a five-year period.

Tables 1 to 4 in Annex 6 give, in respect of each country of the Region, information on: (1) the distribution of awards by source of funds and type of fellowship; (2) the distribution by subject of study and country of origin of the fellow; (3) fellowship programmes arranged by the WHO South-East Asia Region in other regions and *vice versa*, and (4) utilization of former WHO fellows.

With the changeover to a new fellowships obligation system, it became necessary for the Regional Office to finalize fellowship placements and issue letters of award during the programme year or within six months thereafter. Accordingly, in 1977, out of a total of 610 fellowships under the regular budget, 525 were awarded, representing a delivery rate of 86%.

Pursuant to a resolution adopted by the Regional Committee at its twenty-ninth session, the fellowships programme has been carefully reviewed so as to award the maximum possible number of fellowships for training within the Region. A comparative statement of the numbers of awards made since 1975 for study within South-East Asia is given below:

Year	Number of fellowships (Provision)	Proposed Regional Fellowships	Percentage of Regional Fellowships
1975	703	143	20.3
1976	765	223	29.2
1977	605	214	35.4
1978	651	240	36.9

The above figures refer, however, only to the placement of fellows in various training institutions in the countries of the Region. When the regional training programmes and the associated network of training institutions are established and functioning, the regionalization of the fellowships programme will take on the character of genuine technical cooperation among developing countries.

Fellowships Awarded, by Subject of Study and Country of Origin of the Fellow

(1 May 1977 - 30 April 1978)

Sl. No.	Subject	Bangladesh	Burma	DPRK	India	Indonesia	Maldives	Mongolia	Nepal	Sri Lanka	Thailand	Total
1.	Public Health Administration	4	10	-	18	20	-	9	12	5	26	104
2.	Sanitation	8	11	-	42	16	1	2	11	15	7	113
3.	Nursing	1	4	-	5	3	1	1	7	10	8	40
4.	Maternal and Child Health	28	22	-	28	16	1	8	5	41	19	168
5.	Communicable Diseases and Laboratory Control	17	20	2	25	37	1	5	9	29	14	159
6.	Clinical Medicine	4	6	4	23	2	2	4	2	11	5	63
7.	Basic Medical Sciences and Education	6	6	6	24	-	-	4	3	8	14	71
8.	Others	10	16	-	28	17	-	10	3	17	12	113
	Total	78	95	12	193	111	6	43	52	136	105	831

Annual Distribution of Fellowships, by Country and by Type of Fellowship, 1973 - 1977 (Calendar Year), for Study Within and Outside the South-East Asia Region (Inclusive of Extensions)

Year	Bangladesh		Burma		DPRK		India		Indonesia		Maldives		Mongolia		Nepal		Sri Lanka		Thailand		Total		Grand Total
	Regional	Inter-Regional	Regional	Inter-Regional	Regional	Inter-Regional	Regional	Inter-Regional	Regional	Inter-Regional	Regional	Inter-Regional	Regional	Inter-Regional	Regional	Inter-Regional	Regional	Inter-Regional	Regional	Inter-Regional	Regional	Inter-Regional	
1973	14	15	3	38	-	-	-	183	28	49	8	-	-	78	10	22	22	72	2	76	87	533	620
1974	17	18	11	67	-	-	8	170	24	59	19	2	-	68	25	17	30	99	-	91	134	591	725
1975	13	16	7	64	-	-	-	168	31	36	5	-	-	67	24	11	63	126	-	72	143	560	703
1976	13	12	28	56	-	37	28	157	25	42	7	-	-	48	29	8	27	74	-	25	157	459	616
1977	27	28	12	25	-	15	40	159	56	56	5	-	1	45	34	22	66	94	6	41	247	485	732
	84	89	61	250	-	52	76	837	164	242	44	2	1	306	122	80	208	465	8	305	768	2628	3396

The awards in 1977 and 1978 include 56 intra-country fellowships, awarded in India, Indonesia and Thailand.

An evaluation was carried out of the fellowships awarded to candidates from South-East Asia during the five-year period, 1965-1970. Out of 1515 questionnaires sent out to former WHO fellows, only 466 were returned. Of these, 344 fellowships were evaluated by the governments (except the Government of India) and 188 (54.65%) were adjudged as very good, 1 (.29%) as good, 140 (40.70%) as moderate, and 15 (4.36%) as not useful. The Government of India carried out a similar evaluation independently in collaboration with the National Institute of Health Administration and Education, New Delhi, involving 86 fellowships awarded to candidates from that country under the auspices of WHO and the Colombo Plan. This study revealed that 79 fellows (91.8%) considered that the training had been suitable and 70 (81.4%) felt that they had achieved the objectives of training.

7.8 Regional Office Library

The Regional Office Library continued to provide MEDLARS/MEDLINE services to Member governments. Although the WHO MEDLINE Centre at Geneva ceased to operate on 1 October 1977, MEDLINE search requests are being provided, free of cost, to institutions in Member countries which are in greatest need of such searches and are unable to buy these themselves.

During the period 1 July 1977 - 31 May 1978, the Library received 1708 books, pamphlets, WHO publications and reports, as well as 5135 issues of current periodicals; 2405 persons (2018 WHO staff and 387 others) visited the Library, and 1432 books and periodicals were issued to Regional Office and field staff and to local libraries on inter-library loan. Photocopies of 2783 pages were supplied. The Library continued to supply reference material in connexion with various seminars and meetings held in the Regional Office and outside.

The report of the survey of health science libraries in South-East Asia, carried out with a view to assessing the situation concerning library and reference services in the Region, which had been circulated to all concerned last year, has been accepted for publication in the July 1978 issue of the "Bulletin of Medical Library Association" (USA).

As mentioned in Chapter 7, ten more "student loan libraries" are being established in Bangladesh, India, Indonesia, Mongolia, Nepal and Thailand during 1978. Thus, a total of 29 such libraries will have been set up by the end of this year.

The Chief of the WHO HQ Library, Geneva, visited some countries of the Region to study the health literature situation and explore the feasibility of establishing regional health literature and library services in South-East Asia.

8. RESEARCH PROMOTION AND DEVELOPMENT

The Regional research programme, initiated in 1976, is in the third year of its development. The Regional Office has promoted several activities in accordance with the recommendations of the Regional Advisory Committee on Medical Research (RACMR) as well as the several research study groups that have been convened on the specific priority areas identified. The regional research activities have generated in Member countries a greater awareness of the need and a commitment for building up national self-reliance. They have also made scientists aware of the desirability of paying greater attention to research for the solution of problems of interest to their countries, and of generating new knowledge as well as appropriately utilizing existing expertise. This trend is in keeping with the overall objectives of the regional research programme. In addition, research activities stimulated in the countries have attracted direct bilateral support to themselves as well as extra-budgetary funds through WHO.

The Regional ACMR has so far met on four occasions; the fourth session took place in April 1978. The research study groups convened so far have considered the promotion and development of research in the fields of: (1) dengue haemorrhagic fever, (2) development of dengue vaccine, (3) characterization of arbovirus infections, (4) malaria (resistance of *P. falciparum* to 4-aminoquinolines and applied field research), (5) leprosy, (6) chronic liver diseases, including liver cancer, (7) alternative strategies for the delivery of health care, (8) diarrhoeal diseases of children, and (9) traditional medicine.

As dengue haemorrhagic fever continues to be a serious problem affecting some of the countries of the Region, concerted research is being promoted for the prevention and control of this disease. Clinical trials on therapeutic agents are in progress in Burma, India and Thailand. Further, a programme for the development of a dengue vaccine has been drawn up for implementation in collaboration with centres already engaged in this work.

Regarding the development of laboratory methods for the isolation and characterization of arboviruses, a workshop was held to find ways to overcome outstanding technical problems and to develop a strategy for regional cooperation in the development and standardization of new and existing methods.

In the field of malaria, studies on *P. falciparum* resistance to 4-aminoquinolines have been initiated.

In keeping with the recommendations of the third session of the Regional ACMR for the development of comprehensive research in malaria, a large-scale programme of applied research has been proposed in order to develop realistic strategies for the control of this disease in the Region.

The recommendations of the Research Study Group on Leprosy have been conveyed to governments. A WHO team is to visit countries in the Region to finalize the research studies developed by the national institutions as well as to promote further research in the priority areas identified by the Research Study Group.

Research in chronic liver diseases including liver cancer is in progress. Retrospective collaborative studies are currently being undertaken in Bangladesh, Burma, India, Indonesia, Mongolia, Nepal, Sri Lanka and Thailand. National coordinating bodies have been constituted by these countries and prospective studies identified by the Research Study Group are under preparation.

With regard to alternative strategies for the delivery of health care, information on current research activities in the various countries has been compiled. The Research Study Group on this subject, which has met thrice so far, has identified specific areas for research and has developed the training strategies needed for the effective implementation of research. Based on the suggestions of this group, the Regional Office has developed a detailed work plan in collaboration with WHO Headquarters.

The Research Study Group on Diarrhoeal Diseases of Children has concentrated on oral rehydration and the epidemiological aspects of diarrhoeas. In these areas twenty research studies have been identified, eight of which have been given high priority; study designs have been prepared on four of these. Governments have been kept informed of the research priorities in this field and a team of WHO staff is expected to visit the countries to finalize the research proposals that have been developed by the institutions as well as to promote the relevant activities.

In pursuance of the resolutions adopted by the Regional Committee at its twenty-ninth and thirtieth sessions (SEA/RC29/R11 and SEA/RC30/R13) research in the field of traditional medicine is being promoted. The Research Study Group that met recently has identified specific areas for research in traditional systems of medicine as related to primary health care, and has developed guidelines for initiating a work plan.

The Fourth Session of the Regional ACMR discussed "Research in the Development of Appropriate Technology for the Improvement of Environmental Health at the Village Level". A research study group will be convened in the near future to undertake the development of research in the specific fields identified by the ACMR.

In view of the expansion of the Region's biomedical and health services activities, the topic "Ethics of Medical Experimentation Involving Human Subjects" was also discussed at the Fourth Session of the Regional ACMR. The Regional Office, in close association with HQ and the Council for International Organizations of Medical Sciences (CIOMS), will collaborate with Member countries in reviewing existing ethical procedures together with the development of guidelines on this subject.

In response to the resolutions of the World Health Assembly and the Regional Committee calling for the development of a medium-term and a long-term programme for research promotion and development, the Regional Office has initiated a comprehensive regional research programme with the focus on national requirements through a synthesis of the outcome of national meetings. Regional ACMR members are actively participating in the organization and conduct of these meetings.

9. TECHNICAL INFORMATION AND REFERENCE SERVICES

The regional publications programme, initiated last year, got off to a good start with the production of five publications in this series during the period under review. These were: "Typical Designs for Engineering Components in Rural Water Supply"; "Orthopaedic Nursing in Developing Countries"; "Community Water Supply and Excreta Disposal in South-East Asia"; "Smallpox Eradication in India", and "Guidelines on the Teaching and Practice of Neonatology". At the time of going to press, a further publication, "Smallpox Eradication in Bangladesh", was being prepared. A Regional Publications Committee has been established to review and direct the regional publications programme. The work of the Reports and Documents Unit has been reorganized during the year and the posts of reports officer and sales clerk which had remained unfilled last year were abolished with effect from 1 January 1978.

During the twelve-month period 1 June 1977 - 31 May 1978, 165 assignment reports, final reports and reports on meetings and seminars were issued. Some of these were brought out under special printed cover for wider distribution. Such reports included that on a seminar held in April 1977 on "Traditional Medicine in South-East Asia","A learning unit on health manpower planning", and the report of the "Reunion" Meeting of Past Fellows of the WHO-UNICEF Course for Senior Teachers of Child Health. In addition, the report and minutes of the thirtieth session of the Regional Committee and the report of the technical discussions on "Health information systems with special reference to primary health care and community development" were, as usual, edited and issued with a printed cover. A "Supplement to the Handbook of Resolutions and Decisions of the WHO Regional Committee for South-East Asia" was brought out, incorporating the resolutions adopted at the twenty-ninth and thirtieth sessions.

The Regional Office cooperated with a commercial publisher in bringing out a book entitled "Challenges and Response", containing a selection of the speeches of the Regional Director, delivered on various occasions. To mark the completion of thirty years of WHO's collaboration with the countries of the South-East Asia Region, a volume "A Decade of Health Development", is under preparation.

Wide distribution was given to the reports and material mentioned above, including the regional publications, for which there has been

an increasing number of requests. Several documents received from WHO Headquarters and other sources were also widely distributed. The policy decision to enlarge the free distribution of WHO publications has resulted in a greater number of requests being dealt with by the Regional Office.

Documentation and reference services were provided during meetings organized by WHO, including the Regional Committee, and requests for documents were complied with, as usual.

Sales

The total sales during 1977 amounted to US$47 352*, of which subscriptions accounted for US$31 352, and US$15 995 came from single copy orders, sales over the counter and receipts on behalf of HQ against proforma invoices.

Compared with the 1976 figure of US$51 765, there was a decrease of about 8.5%, which can be attributed to the new policy of distributing more publications free of cost to medical libraries and other health institutions in the developing countries of this region.

The sales during January-May 1978 amounted to US$24 373.

Nearly 400 subscriptions were registered or renewed for 1978.

Orders for copies of WHO Regional Publications in the South-East Asia Series were received from different parts of the world and complied with.

The Regional Office took part in the Third World Book Fair, held in New Delhi from 11 to 20 February 1978. Publicity material was distributed to the several thousand persons who visited the WHO stall. Direct sales at the Fair amounted to Rs 9748 (US$1218). As a result of this exhibition, many orders, both for single copies and subscriptions, were received later at the Regional Office.

Selected books were displayed in World Health House during meetings, conferences, seminars and workshops. Also, visiting groups of nursing students, health educators, etc., were briefed on WHO publications and the concessional rates.

*All figures relating to sales are based on the net amount shown in the invoices, in most of which a 50% discount (40% in respect of subscriptions) and, in some cases, an additional 10% trade discount have been allowed. Therefore, the commercial value of the publications sold should be taken to be approximately double the figures given.

PART II

ORGANIZATIONAL AND ADMINISTRATIVE MATTERS

1. THE REGIONAL COMMITTEE

The thirtieth session of the Regional Committee was held in Bangkok, Thailand, from 2 to 8 August 1977. Representatives were present from 9 out of the 10 Member countries of the Region. The session was also attended by representatives of the United Nations Development Programme and of the United Nations Children's Fund, as well as of one intergovernmental and 30 non-governmental organizations in official relations with WHO.

The session was inaugurated by the Prime Minister of Thailand. The inaugural meeting was also addressed by the Minister of Public Health, the Director-General of WHO and the Regional Director.

The Regional Committee elected Dr Prakorb Tuchinda (Thailand) as Chairman and Professor Jamba (Mongolia) as Vice-Chairman.

The Regional Committee nominated Dr V.T. Herat Gunaratne as Regional Director for a new term.

Presenting his Annual Report, the Regional Director said that the remarkable victory against smallpox had brought with it not only a great sense of relief, but also high hopes for a similar breakthrough in the case of other major killing diseases against which potent immunizing agents were available. The serious resurgence of malaria in recent years had underlined the fact that, while integrating vertical malaria programmes into the general health services, no slackening of activities must be allowed, and that there was a need for inter-departmental co-operation at all levels. Surveillance activities to detect cases of leprosy for early treatment should be intensified, and urgent research was needed in the field of dengue haemorrhagic fever, which accounted for a large number of deaths, especially among children.

It was gratifying that the countries of the Region were improving their health services on the basis of the concept of primary health care.

As for health manpower development, given the political will, Member countries would be able to bring about a shift towards shortening the duration of higher technical courses and increasing task-oriented education in order to develop suitable manpower commensurate with current and future needs.

Research was needed not only to find new and more effective solutions to health problems but also to develop appropriate technology. With the establishment of the Regional Advisory Committee on Medical Research, action had been taken to initiate goal-oriented research in the priority areas of health services, malaria, leprosy, dengue haemorrhagic fever, liver diseases including liver cancer, and diarrhoeal diseases in children.

Where country health programming had been undertaken, there had been an appreciable improvement in the health planning process. Effective technical co-operation and exchange of appropriate knowledge and expertise would not only result in the optimal use of scarce resources, but also create the climate for self-reliance.

In its discussion on the Annual Report, the Regional Committee considered at length various inter-related aspects of the planning and development of health services. Country health programming figured prominently in the discussion, and the relationship between country health programming and national health planning was explained. The Committee showed keen interest in the functioning of national coordinating committees for WHO programmes, as exemplified by the Royal Thai Government/WHO Coordinating Committee.

In the discussion on family health reference was made to the importance of the expanded programme on immunization (EPI) in family health. With the present technical knowhow and resources, EPI was going to be a continuous programme, and it was stressed that it must be fully integrated with the maternal and child health/family health services. The specific role of nutrition in maternal and child health activities was also mentioned. It was emphasized that this group of services should be the core of primary health care.

Noting that the population explosion was a major problem in most countries of the Region, the Committee again stressed the inter-relationship of population, family planning and health. It recognized the invaluable assistance provided by the United Nations and other agencies in this field and also expressed appreciation of the co-ordinating role of, and technical input from, WHO in this programme, and expressed the wish for continued support.

The possibility of rendering oral health and mental health services as a package delivered through primary health care was mentioned. A resolution of the World Health Assembly on mental retardation (WHA30.38) was also brought to the attention of the Committee, which itself adopted a resolution suggesting suitable activities to tackle mental retardation in the Region.

In regard to communicable diseases, the Committee noted with satisfaction the success in the fight against smallpox, but viewed with concern the development of *P. falciparum* resistance and the increasing trend of malaria incidence in most of the countries. It stressed the need for the production of insecticides and anti-malaria drugs within the Region.

On the question of vaccine production, the Committee agreed that the Regional Director should convene a meeting to develop a programme which might lead the countries in the Region to self-sufficiency in vaccine production.

REGIONAL COMMITTEE

The thirtieth session of the Regional Committee held at Bangkok in August 1977 (above) nominated Dr. V.T.H. Gunaratne for a new term as Regional Director. The WHO Director-General, Dr Halfdan Mahler, who also attended the meeting, met the members of the Royal Thai Government/WHO Coordinating Committee together with the Regional Director (below).
(Photos : WHO/A.S. Kochar)

PERSONAL CONTACT

The Director-General, Dr Halfdan Mahler, paid an official visit to India in February 1978 at the invitation of the Government. His busy schedule included a visit to a health centre in Punjab where community health workers are undergoing training.

AGENCY COOPERATION

UNICEF vehicles enable national health workers to reach this WHO-assisted provincial health service project in Thailand.
(Photo : WHO/Martin Jones)

KNOWLEDGE EXCHANGE

The Regional Office took part in the World Book Fair held at New Delhi in February 1978, where the distribution of WHO publications received a substantial boost.
(Photo : WHO/A.S. Kochar)

A draft medium-term programme for the development of health manpower in the Region was considered and special attention was given to the manpower needs of the primary health care programme.

The Committee considered the problem of safe water supply, especially in the rural areas, and expressed the view that low-cost and effective technologies would have to be developed for this purpose in order to increase coverage.

The Committee viewed with concern recent moves to develop a central planning and control authority for social and economic development within the United Nations. In a resolution it strongly expressed the view that the constitutional mandate of the Organization to furnish adequate technical assistance had to be safeguarded, and requested that its concern about these developments be conveyed to Member States. In all, 17 resolutions were adopted during the session.

Technical discussions were held on the subject of "Health information systems with special reference to primary health care and community development". "Expanded programme on immunization" was chosen as the subject for the technical discussions to be held during the thirty-first session of the Regional Committee.

The Committee set up a Sub-Committee on Programme Budget to examine revisions to the programme budget for 1978 and 1979 and later approved the Sub-Committee's report.

The Committee accepted with appreciation the invitation of the Government of Mongolia to hold its thirty-first session in August/September 1978 in Ulan Bator.

The Director-General, who addressed the Regional Committee, said that the Thirtieth World Health Assembly had decided that the principal target of Member States and WHO should be the attainment by all peoples, by the year 2000, of a level of health that would permit them to lead socially and economically productive lives. The Health Assembly had also urged the reallocation of available resources on a more equitable basis.

He concluded by saying that the Regional Committee had an important role to play in providing the political strength, moral courage and adequate foresight necessary for reaching the health targets to which governments and WHO had committed themselves.

2. REGIONAL PROGRAMME PLANNING AND DIRECTION

In order to improve the management of the Organization's global programmes, a Global Programme Committee was established in April 1977 at Headquarters, consisting of the Director-General, the Deputy Director-General, the Regional Directors and the Assistant Directors-

General. The Committee, among other things, has reviewed the implementation of the new programme budget policy and strategy. In the Regional Office, the Regional Programme Committee has been meeting regularly to review the regional programme.

The Regional Director's Advisory Committee, consisting of senior technical and administrative staff, has continued to keep under review policy matters relating to the planning and direction of the regular programme at project, country and regional levels.

In view of the importance of providing relevant information for the formulation of the programme budget and the need for developing information systems in the Region, an information system for the Organization has been developed and is being progressively implemented on an Organization-wide scale. The Regional Office has participated in these efforts.

During the period under review, several regional consultative meetings were held in the Regional Office on various priority health problems of the Region. These meetings provided valuable guidelines for the development of the programme in the respective fields.

Meetings of the Regional Advisory Committee on Medical Research have contributed to efforts to rationalize the programmes of medical and health services research and to strengthen the research capabilities in the countries.

In order to strengthen programmes of assistance to Member countries in the development of water supply and sanitation, a Memorandum of Understanding had been signed in 1971 between WHO Headquarters and the World Bank for establishing a group of ten engineers and financial analysts to work in the Environmental Health Division in Geneva. After the successful operation of this study over the past seven years, it had been felt that the sector studies could be more speedily and economically executed if they were managed from decentralized bases. Consequently, an Agreement has now been reached between WHO and IBRD whereby a financial analyst has been assigned to the Regional Office since 1978 to assist in carrying out sector studies, in identifying and preparing investment projects, as well as to participate in project appraisal and supervision missions, etc.

The Regional Office continues to collaborate with national authorities on country health programming, which has been undertaken in Bangladesh, Burma, Nepal and Thailand and is expected to be carried out in Sri Lanka this year.

3. ADMINISTRATION

3.1 General

The Director-General paid a visit to Bangkok in August 1977 to attend the thirtieth session of the Regional Committee. In December, he visited Bangladesh to attend the certification ceremony of smallpox eradication in Bangladesh by the International Assessment Commission.

In February 1978, the Director-General visited India at the invitation of the Government of India, and in March he visited Nepal at the invitation of His Majesty's Government. In addition to calling on high government officials in these countries, he visited a number of important public health institutions. The Regional Director accompanied the Director-General on these visits.

Several important persons, including the Minister of Health of Sri Lanka and the Ministers of Health of Maharashtra and Tamil Nadu States in India, visited the Regional Office and held discussions with the Regional Director and other staff on health matters.

The WHO Regional Director for the Eastern Mediterranean was in New Delhi from 9 to 14 December 1977, and visited the Regional Office and some medical institutions in New Delhi.

In November 1977, Dr Ladnyi, Assistant Director-General, visited Rangoon to take part in the certification of smallpox eradication in Burma.

In February-March 1978, Mr Warren W. Furth, Assistant Director-General in charge of administration and finance, visited the Regional Office to attend the meeting on the Allocation of Resources and to hold discussions on administrative and financial matters. He also visited Nepal for discussions with the WHO Representative and field staff.

In June 1978, Dr Ch'en Wen-Chieh, Assistant Director-General, visited India, Sri Lanka and Thailand to see WHO-assisted programmes.

During the period under review, the Regional Director visited Bangladesh, Nepal, Sri Lanka and Thailand, and various parts of India, where, in addition to conferring with the government authorities, he attended meetings, inaugurated courses and seminars, and addressed professional groups. He inaugurated a large number of meetings in the region and delivered addresses on WHO activities.

In September 1977, His Majesty the King of Thailand conferred upon the Regional Director the honorary degree of Doctor of Public Health of Mahidol University. In May 1978, the President of Sri Lanka conferred upon the Regional Director the honorary degree of Doctor of Science of the University of Sri Lanka. The Regional Director

visited Washington to attend the 75th anniversary celebrations of the Pan American Health Organization and the Fourth Special Meeting of Ministers of Health of the Americas.

Administrative arrangements were made for a large number of WHO-sponsored meetings, seminars, etc., held in the Regional Office (See Annex 3).

Among the important meetings held in the Regional Office was the WHO/UNICEF Joint Regional Meeting on Primary Health Care, which took place in November 1977 with some 90 participants (see also Section 1.2 in Part I).

In pursuance of the discussions at the twenty-ninth and thirtieth sessions of the Regional Committee, the Regional Director convened a meeting of the Working Group set up by the Regional Committee to review the parameters and guidelines for the allocation of resources among the countries of the Region. This meeting, held on 27 and 28 February, was attended by representatives from Bangladesh, Burma, India, Indonesia, Maldives, Mongolia, Nepal, Sri Lanka and Thailand. The representatives also attended a meeting on the Charter for Health Development which immediately followed it (1-3 March).

3.2 Organizational Structure

The structure of the Regional Office as of 30 June 1978 is shown in Annex 1.

Following the certification of the eradication of smallpox from the South-East Asia Region, the Smallpox Unit in the Regional Office has been disestablished.

The WHO Representative to Thailand has taken over the additional duties of the WHO Liaison Officer to ESCAP, Bangkok, following the abolition of that post as of 1 January 1978.

3.3 Personnel

3.3.1 *Staffing*

The distribution of professional staff in the Region by nationality as on 31 May 1978 is shown in Annex 2. A column giving the worldwide distribution of WHO staff by nationality has also been included.

The following table shows the number of posts in the professional category in the Region and the number actually filled as on 31.5.1978.

Organizational Location	Established posts for 1978 as of 30 June 1978	Posts inactivated/ recruitment in abeyance	Posts to be filled in 1978	Posts actually filled	Posts for which candidates already selected and recruitment in progress	Posts requiring selection/reselection
Regional Office	16	-	16	15	-	1
Field Programmes	211	28	183	152	23	8
Total	227	28	199	167	23	9

Twenty-eight posts were inactivated because: (i) nine posts were not required, (ii) thirteen were to be filled by short-term consultants, and (iii) recruitment for six posts was held in abeyance.

During 1977, 188 consultants were employed in field programmes for periods ranging from two weeks to eleven months. From 1 January to 31 May 1978, 38 consultants were employed.

During 1977, 40 professional and 6 general service staff, and until 31 May 1978, 17 professional and 1 general service staff members left WHO service.

Three general service staff completed 25 years of service with the Organization, and one professional and seven general service staff completed 20 years.

3.3.2 *Briefing*

During the period under review, 9 long-term staff and 151 consultants were briefed and 25 long-term staff members and 161 consultants were debriefed.

3.3.3 *Staff Training*

A Headquarters-sponsored Management Workshop was organized in New Delhi from 5 to 30 September 1977 for national health staff in the countries.

of the South-East Asia and Western Pacific Regions as well as WHO staff. Seven national officials and 6 WHO staff from this region attended the programme.

Another Headquarters-sponsored programme of training, "Teamwork in office management", was organized in New Delhi from 3 to 7 October for general service staff. Eighteen staff members from the Regional Office and 4 from the offices of WHO Representatives took part in this training.

Two WHO staff members from the South-East Asia Region attended a Headquarters-sponsored Management Workshop for Health Services Development, held in Edinburgh from 18 April to 6 May 1978.

3.3.4 *Employment Conditions*

The salary scales of the general service staff in India, Sri Lanka and Thailand were revised, and a full survey concerning the salaries of general service staff in India is being undertaken.

The heads of the various agencies of the United Nations system in New Delhi held meetings to discuss matters of common concern, which included a review of various employment questions affecting both professional and general service staff in India. A regular dialogue continued with staff representatives on matters of mutual interest.

3.4 Budget, Finance and Accounts

The total obligations incurred on field activities in 1977 were US $20 208 862, an increase of almost 4% as compared to 1976. The obligations for smallpox eradication activities financed by Voluntary Funds amounted to US $1 690 000, which is much less than in previous years. In 1978, only a small amount will be required to cover certain follow-up and concluding activities of this successful programme.

The obligations incurred on field activities in the last five financial years, under different sources of funds, are shown in Figure 2.

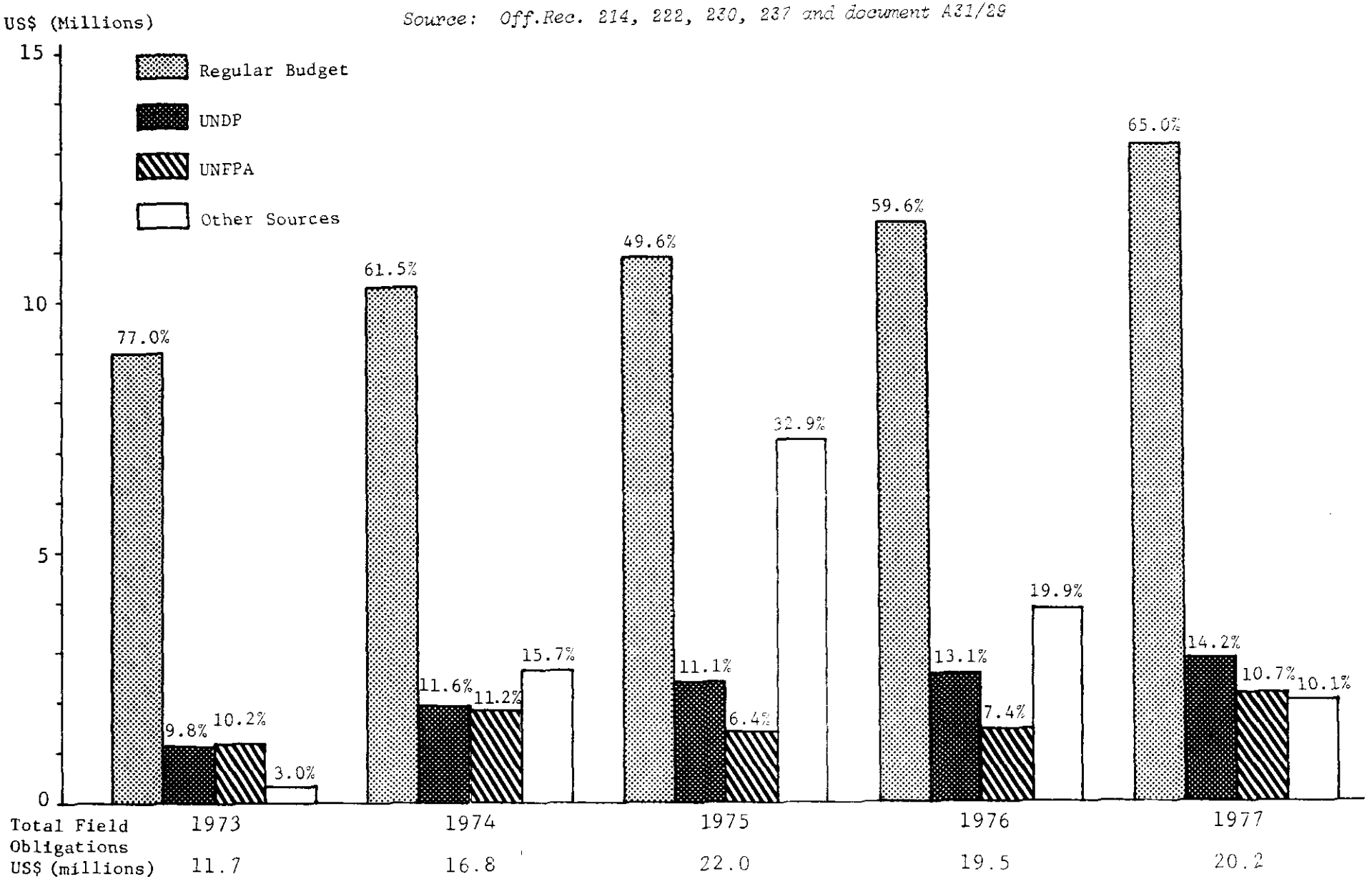
Details of the financial implementation of the 1977 programme under the regular budget are given in Annex 8.

3.5 The Regional Office Building

In response to resolutions WHA29.54 and WHA30.52 of the World Health Assembly requesting that stocks of smallpox vaccine be kept for use in the event of unforeseen emergencies, cold storage facilities are being established on the premises of the Regional Office in New Delhi. Construction work has been completed and the installation of the equipment, consisting of two refrigeration units and a standby generator, is expected to be completed by September 1978.

Figure 2. OBLIGATIONS INCURRED ON FIELD ACTIVITIES IN THE SOUTH-EAST ASIA REGION (1973-1977)

Source: Off.Rec. 214, 222, 230, 237 and document A31/29



The cold room will have a volume of 40 m^3 and will be kept at a constant temperature of minus 20°C; 30 000 000 doses of smallpox vaccine will be permanently stored in the cold room.

4. PROCUREMENT OF SUPPLIES AND EQUIPMENT

The amount of supplies and equipment provided to WHO-assisted programmes has been increasing year by year. The figures for the period 1 July 1977 - 31 May 1978 are as follows:

(a) Supplies and equipment $4 585 599

These consisted mainly of laboratory equipment and chemicals, hospital and surgical supplies, drugs, vaccines, biologicals, audio-visual and teaching equipment, vehicles, printing material, and items of administrative supplies.

(b) Medical literature $ 144 489

Where possible, having due regard to prices and quality, purchases were made within the Region in accordance with the principle of technical cooperation among developing countries. The total amount spent on such purchases was $682 640.

Emergency Supplies from the Regular Budget of the Organization

The following emergency supplies were procured at the request of Governments:

Bangladesh	..	200 ampoules of anti-venom snake serum and one million doses of anti-cholera vaccine for flood relief measures.
Burma	..	3000 x 2 ml. of gamma globulin for the control of viral hepatitis.
India	..	20 000 x 200 mg. ampoules of pentamidine isothionate and 12 000 x 100 ml. packs of Lomidine for controlling an epidemic of (leishmaniasis) Kala Azar in Bihar State.
		200 vials x 10 ml. of mixed gas gangrene antitoxin for cyclone-affected persons in Andhra Pradesh.
		200 ampoules x 250 mg. of Distamine for the treatment of persons who had consumed thallium by accident.

Maldives	..	Tetracycline, 250 mg	2 000 capsules
		Oral rehydration fluid	2 000 packs
		Furazolidone	25 000 tablets
		Halazone	40 000 tablets
		Chlorine, 0.25 mg.	1 000 000 tablets
		Syringes, disposable 5 ml. with needles	2 000
		Cholera vaccine	20 000 doses
		Laboratory reagents and media	
		(to meet the gastro-enteritis emergency - see sub-section 2.4.2 in Part I)	
Nepal	..	2000 x 1000 ml. packs of sodium chloride intravenous solution and 1000 giving sets, for cholera control.	
Sri Lanka	..	1000 x 500 ml. and 500 x 1000 ml. packs of Ringer's lactate, 1500 giving sets and 30 000 Furoxone tablets, for medical emergency.	

In addition to the above emergency procurements for the Member States in the Region, the immediate procurement of 4000 x 1000 ml. packs of Ringer's lactate intravenous solution and 4000 giving sets was arranged for Syria (Eastern Mediterranean Region).

Non-Emergency purchases on a reimbursable basis

Bangladesh	..	Anti-venom snake serum and polio vaccine.
Mongolia	..	Cerebro-spinal meningitis vaccine and spare parts for freeze-drying machine.
Nepal	..	Anti-rabies vaccine, DPT vaccine, bleaching powder, laboratory equipment and media.
Thailand	..	Microscopes.

Revolving Fund

During the period under review, seven requests (amounting to approx. $94 000) were received, and purchase authorizations for $93 844* were raised. Five requests are pending for completion of the necessary formalities.

Donation of freeze-dried smallpox vaccine from India

India has donated one million ampoules of freeze-dried smallpox vaccine to WHO to meet possible future requirements for emergency supplies.

*Of this amount, about $87 000 related to requests received prior to 1 July 1977.

5. COLLABORATION WITH OTHER AGENCIES

During the past year there has been increased collaboration with other United Nations bodies and bilateral agencies; a concerted effort to implement various ECOSOC resolutions on social development in the perspective of the international development strategy for the Second United Nations Development Decade, and increased allocation of resources for health projects from United Nations agencies as well as from bilateral organizations.

5.1 United Nations

The United Nations Emergency Fund provided assistance amounting to $36 227 to Bangladesh and Burma during 1977.

Special efforts have been made to harmonize WHO's programme with specific ECOSOC resolutions on social development issues such as those of the United Nations Decade for Women, the International Year of the Child, the United Nations Conference on Science and Technology for Development, the International Year of Disabled Persons and the United Nations Water Conference.

Two objectives of the Decade for Women are of particular concern to WHO, namely: the promotion and improvement of health, nutrition and social well-being of women and the improvement of the living conditions of families and communities. A complete inventory of WHO's current activities which have a potential or direct impact on the well-being of women was formulated and submitted to the Joint Inter-organizational Programme for the United Nations Decade for Women.

Some of the Organization's current activities in maternal and child health have been directed to support the aims of the International Year of the Child. These are expected to promote better advocacy for children's health through various studies, surveys and training programmes, and will be implemented in collaboration with UNFPA and UNICEF.

In preparation for the United Nations Conference on Science and Technology for Development, scheduled for the latter half of 1979, the Regional Office has participated in various pre-conference meetings. The ECOSOC Preparatory Committee established for the Conference has issued an agenda which covers, *inter alia*, items related to the health sector such as nutrition, medicinal plants and pharmaceuticals, health services, housing, social services and environment. At the specific invitation of governments, WHO staff have assisted in the preparatory work on national papers related to the above items.

In connexion with the International Year of the Disabled, a consolidated draft programme has been prepared taking into account various international projects and activities. The proposals submitted by the

countries in this region contain assessments of the magnitude of the problems of disabled persons, training, services and research required for the prevention of disability and rehabilitation.

Pursuant to the resolutions adopted by the United Nations Water Conference (Argentina, March 1977), WHO has been given the responsibility to serve as the lead agency for assessing national community water supply programmes. For this purpose, the Regional Office has been collaborating with ESCAP and the countries in the Region in rapid assessments of existing programmes and the extent to which these programmes might be usefully expanded to meet the objectives of the United Nations Water Conference.

5.1.1 *United Nations Development Programme (UNDP)*

During the year the Governing Council of UNDP emphasized the significant role of UNDP in evolving multi-sectoral approaches, measures for anti-poverty programmes, appropriate technology for use by developing countries, and programmes with a direct impact on rural populations. This new approach is in accord with WHO's own objectives as enunciated in the various work programmes. Therefore, in formulating UNDP country programmes, WHO has requested the national authorities to pay particular attention to UNDP's approaches. The possibility is being explored of WHO/UNDP joint programming in order to identify and determine UNDP inputs in the perspective of the priority areas already defined in the course of country health programming exercises or within the framework of the health sector as included in national development planning. Attempts are being made to initiate such joint programming exercises in Bangladesh and Nepal.

UNDP attaches considerable importance to technical cooperation among developing countries (TCDC). The basic principle of TCDC is the achievement of regional as well as national self-reliance. Efforts have been made during the past year to promote national interest in TCDC in health and related matters. Thus, steps are being taken, in collaboration with national authorities, to identify areas in which Member countries could offer technical cooperation. UNDP/WHO projects are being reoriented, and new inter-country projects are being formulated, in line with the principles of TCDC. In addition, pursuant to the Regional Committee's resolution emphasizing the utilization of regional institutions as much as possible for training, 38% of the fellowships awarded in 1977 have been placed within the Region (see Section 7.7, "Fellowships", in Part I). Plans are also being made to strengthen and develop regional training centres in various fields.

During 1977, it has been possible to improve still further the rate of UNDP programme delivery, to 97.6 per cent as compared to 92.2 per cent in 1976. A gratifying feature of the year has been the fact that the financial crisis that UNDP faced in 1975 has now considerably eased. As a result, the amount of the total approved programme for

the countries in the Region for 1978 has increased to $5.0 million from $2.8 million in 1977.

In *Bangladesh*, there are six UNDP/WHO projects: in the areas of nutrition, health manpower development, rural water supplies and communicable-disease control. In addition, a project for the strengthening of community health nursing manpower development has been formulated for UNDP's assistance. The project is expected to start before the end of 1978.

The large-scale project in *Bhutan*, "Development of Health Services", was reprogrammed in 1977 in order to increase the training and equipment components. A distinctive feature of this project is that a national project director is coordinating the activities.

In *Burma*, there are four UNDP/WHO projects. Two projects on "Food and Drug Laboratory Control" and "Strengthening of health services in the newly industrialized areas (West Bank of Irrawaddy River)", are expected to be approved in the near future so as to start operating before the end of 1978.

In *India*, three UNDP/WHO projects are in operation, including a large-scale project "Tamil Nadu Water Supply and Sewerage Pre-Investment Studies - Madras Metropolitan Area" (IND PIP 001). In addition, projects are being formulated in consultation with the national authorities in the areas of environmental pollution control, DPT vaccine production, health education, traditional medicine, filariasis and leprosy control and malaria control in urban areas. These projects will be a part of the Second UNDP Country Programme in India and are expected to start early in 1979.

The current UNDP/WHO programme for *Indonesia* covers six projects in the areas of rural water supply, health services development, establishment of industrial hygiene laboratories, and vaccine and sera production. For the forthcoming Second Country Programme the Government has proposed three new projects: rural water supply in South Sulawesi and in North Sumatra and the training of village health promoters. These projects, for which UNDP inputs amounting to $2.5 million are planned, are expected to be developed soon with the technical assistance of WHO.

In *Mongolia*, the two projects, "Assistance to the State Medical Institute" and "Brucella Vaccine Production, Songino" continued to make progress. It is understood that the Government wishes to extend these projects with further UNDP assistance.

A UNDP/WHO mission visited *Nepal* in March/April 1978 to formulate a project on support services for primary health care with emphasis on the development of basic health services, logistics of supplies and production of drugs and training of health personnel to extend rural health services. The project will be financed from the special

contribution to UNDP from the Netherlands and is expected to start before the end of 1978.

In *Sri Lanka*, the vector control project terminated in December 1977; the second phase of the project has been approved for two years.

In *Thailand*, the project on community water supply is scheduled to be terminated in September 1978 and the new phase of the project is expected to start in October with a total UNDP assistance of $1.9 million.

At the regional level, the following six inter-country projects have been submitted during this year for UNDP approval: Prevention and Control of Blindness and Visual Impairment; Medical Teachers' Training and Continuing Education, Phase III, Development of Regional Training Programme in Maternal and Child Health; and Nutrition Education Programme, and Expanded Programme on Immunization. These projects, which are scheduled to start later in 1978, are intended to strengthen the regional programmes and to foster technical cooperation among the countries of the Region.

5.1.2 *United Nations Children's Fund (UNICEF)*

WHO and UNICEF cooperate effectively at both regional and country levels. At the regional level, all common problems, with special emphasis on maternal and child health services, applied nutrition, environmental health and health and family planning, are discussed with the UNICEF regional offices in Delhi and Bangkok. WHO staff attend UNICEF's regional staff meeting and UNICEF is represented at the annual Regional Director's meeting with the WHO Representatives. The core of coordination, however, lies at the country level through WHO participation in UNICEF's programmes and UNICEF taking part in CHP exercises.

In *Bangladesh*, joint consultation between UNICEF and WHO has resulted in a programme of $1.5 million for the training of voluntary village workers. Another $30 000 have been earmarked for the development of cold storage for vaccines.

In *Bhutan*, the UNICEF programme for 1977-79 in the areas of nutrition education, rural water supply and the construction of three training schools for health teachers and pre-school care, has been developed in collaboration with WHO, and these inputs will support the UNDP/WHO project, "Development of Health Services".

In *Burma*, WHO was represented at a national planning seminar organized by UNICEF to identify priority problems relating to children, alternative strategies for their solution, and areas of research for the long-term planning of basic services for children.

In *India*, collaboration with UNICEF is particularly significant in the national rural water supply programme; the Government of India has

requested UNICEF assistance for the provision of drilling equipment, and it is expected that this assistance will amount to $10 million annually for four years beginning 1979.

WHO also participated in UNICEF's programme formulation in Maldives for nutrition and primary health care.

UNICEF's assistance to Mongolia continued, in the form of supplies and equipment for the health services, for the production of rehydration fluids, and for laboratory services and disease control.

The current UNICEF plan of operation for *Nepal* - Development of services for children - has been drawn up jointly in consultation with WHO and UNESCO.

5.1.3 *United Nations Fund for Population Activities (UNFPA)*

Pursuant to the UNDP Governing Council's decision, the resources of UNFPA are being increasingly utilized for country projects in order to strengthen national self-reliance in maternal and child health and family planning with particular emphasis on the development of services and manpower. UNFPA supported regional programmes and projects are now being planned on the basis of the identified needs of the countries of the Region and inputs from UNFPA funds are being coordinated with those of other United Nations agencies. In this context inter-country projects are being reprogrammed in order to reflect the regional needs. For this purpose a meeting is being held in October in Bangkok with UNFPA and other agencies to finalize a coordinated programme proposal for a four-year period starting 1980. Meanwhile, UNFPA has approved two current projects, "Regional Team on Family Health" (ICP MCH 011) and "Development of Health Education in Family Health Programme" (ICP HED 003).

The 1977 WHO/UNFPA programme for the Region amounted to $2.1 million. It has increased to $4.5 million in 1978.

The largest programme is in *Bangladesh*, amounting to $2.6 million, followed by that in *Sri Lanka* which totals $1 million. These projects have been reviewed jointly by WHO and UNFPA in collaboration with the national authorities. It is expected that the two WHO/UNFPA projects in Bangladesh in maternal and child health will receive an additional $2.5 million to extend and expand operations. The WHO/UNFPA project on family health in Sri Lanka has been extended beyond 1978 and a new project has been approved.

5.1.4 *International Atomic Energy Agency (IAEA)*

Collaboration with IAEA continued in connexion with the IAEA/WHO Postal Dose-Inter-comparison for Cobalt-60 therapy; the reports received from the institutions to which dosimeters had been distributed were forwarded to IAEA. The Regional Office cooperated with

IAEA in its programmes for the measurement of strontium-90 in human bones, and in the monitoring of health personnel for radiation, as part of the comparative study of personnel film badge services, by making film badges and films available to various institutions.

Representatives from the countries of the Region participated in the IAEA/WHO Course on Calibration Methods for Radiation Measuring Devices, which took place in the Federal Republic of Germany in April.

5.2 Specialized Agencies

5.2.1 *Food and Agriculture Organization (FAO)/ World Food Programme (WFP)*

Collaboration with FAO has been particularly significant in Mongolia, where FAO has offered $88 000 in 1978 for the WHO/UNDP project on brucella vaccine production and control.

WHO was represented at the FAO-sponsored Regional Workshop on the Education and Motivation of Rural Workers for Family Welfare Planning, held in Bangkok in November.

As part of its preparations for the World Conference on Agrarian Reform and Rural Development to be held in July 1979, the FAO Regional Office for Asia and the Far East in Bangkok held inter-agency meetings at which WHO was represented, and an inter-agency task force on integrated rural development was set up. In order to provide an effective and specific regional contribution to the world conference, the Inter-Agency Committee recommended an Expert Group Meeting on Agrarian Reform and Rural Development; this meeting, which was held in April 1978 with UNDP financial assistance, was attended by a WHO staff member.

WHO has collaborated with the WFP in the field of nutrition and maternal and child health care. There have been regular reviews of WFP-assisted projects with health implications in Bangladesh, Bhutan, India and Indonesia. Also, WHO provided a technical adviser for a WFP evaluation mission to Bangladesh in February.

5.2.2 *International Labour Organisation (ILO)*

WHO was represented at the Sub-Regional Seminar on the Status and Role of Women in the Organized Sector, sponsored by ILO at Dacca from 12 to 16 December, and also at a regional workshop on the education and motivation of rural workers for family welfare planning, which took place at Bangkok from 1 to 5 November.

In *Bangladesh,* ILO is keen to collaborate with WHO in respect of two projects - occupational health (BAN HWP 001) and the prevention of blindness (BAN PBL 001).

5.2.3 *United Nations Educational, Scientific and Cultural Organization (UNESCO)*

WHO representatives took part in the Asian Programme of Educational Innovation for Development and in the Consultation Meeting of its Associated Centres held in Bangkok in March under the auspices of the Asian Centre of Educational Innovation for Development.

5.2.4 *International Bank for Reconstruction and Development (IBRD)*

A desk study in water supply and sanitation was carried out in *Burma* and sector studies were undertaken in *Sri Lanka* and *India* (Punjab and Rajasthan). As part of the WHO/IBRD Co-operative Programme, a financial analyst seconded by IBRD has been posted in the Regional Office since January 1978. Under this cooperative programme, the Regional Office sponsored several missions to assist the Governments of India, Indonesia and Sri Lanka in the sector development of water supply.

The Regional Office participated in an IBRD Supervision Mission which visited a nutrition development project in Indonesia and in a project identification mission which visited India (Tamil Nadu and Orissa) in May-June 1978.

5.3 Inter-Governmental and Non-Governmental Organizations in Official Relations with WHO

The growing importance of inter-governmental and non-governmental organizations is reflected in the number of such organizations that are represented at the 30th session of the Regional Committee held in Bangkok. Their participation in the Regional Committee was useful for exchanging views and planning strategies for coordinated programmes at the country level.

The effect of such collaboration is evident in the financial assistance being provided by the Canada-based agency "Operational Eyesight Universal" to the Nepal Eye Hospital for expanding its activities. WHO also collaborated with the International Union Against Tuberculosis in organizing a national tuberculosis seminar in Nepal (see also Section 2.3 in Part I).

Further, vehicles have been provided by the Yugoslavia-based international fund "Hungry Child" through WHO to Burma, India and Indonesia.

5.4 Bilateral and Other Agencies

A training course on coastal pollution control is scheduled in August/September in coordination with the Danish International Development Agency (DANIDA); it is expected that representatives from the countries of this region will participate in this course. The Danish

Parliament has granted an amount of 60 million Danish Kroner for a project on the prevention of blindness in India.

The Swedish International Development Authority (SIDA) has provided 80 million Swedish Kroner for the WHO/Government of India collaborative programme for malaria eradication. This is part of a larger assistance programme, which includes leprosy and tuberculosis control. WHO was represented at a Meeting of the Experts Committee on Non-formal Education called by the South-East Asian Ministers of Education Organization (SEAMEO) and held at Chiang Mai, Thailand, in August/September 1977. The meeting reviewed the proposed development plan for the SEAMEO programme in non-formal education. WHO participated in the SEAMEO-TROPMED Workshop on the Development of Educational Science in Tropical Medicine and Public Health in South-East Asia, held in Bangkok in August 1977.

The Government of Canada has agreed to provide 5.6 million Canadian dollars to Burma through WHO to support the vector-borne disease control programme. It is expected that the Government of the Netherlands will also provide supplemental funds to cover the assignment of a project manager and a vector control specialist for a period of three years for this programme.

WHO was represented at the Second National Conference on Primary Health Care held in Thailand in January 1978, organized jointly by the Thai Ministry of Public Health and the International Development Research Council of Canada.

In September 1977, CARE signed an agreement with the Government of Sri Lanka for undertaking nutrition programmes in the country. Under this agreement food worth $7.4 million will be provided to Sri Lanka to be used in conjunction with the Health Ministry's "Triposha" programme.

Active plans are being made for a Donor's meeting for primary health care programmes in Asia to be held in June 1979, organized in collaboration with US AID. Representatives from Bangladesh, Burma, India, Indonesia, Sri Lanka and Thailand are expected to participate in this meeting, which will also have participants from some countries in the Western Pacific Region.

Other organizations with which collaborative programmes have been developed include Emmaus-Suisse, the Danish "Boy Scouts" Organization and the Sasakawa Memorial Health Foundation of Japan (Japan Shipbuilding Industry Foundation). Assistance from these agencies is mainly in the field of leprosy control in different countries.

6. PUBLIC INFORMATION

Special Events

Eradication of smallpox: The year witnessed a historic event - certification of the eradication of smallpox from the whole of Asia. The last stronghold of smallpox in the Region - Bangladesh - was officially declared free of the disease in December 1977. This achievement received enthusiastic and world-wide coverage by the information media.

The Regional Office collaborated with WHO Headquarters in the dissemination of information about the event. The activities included coverage of the announcement ceremony in Dacca, a press conference for the WHO Director-General, an inter-continental radio hook-up between Dacca and New York enabling journalists in New York to interview the Director-General, who was in Dacca, as well as coverage through photographs, filming and radio recordings.

The Director-General and the Regional Director were also interviewed by Delhi Television for a special programme devoted to smallpox eradication.

Regional Committee: In connexion with the thirtieth session of the Regional Committee, which was held in Bangkok, advance press releases were distributed throughout the Region, while the local press, radio and television covered the meeting in Bangkok. A press conference at the end of the session facilitated wide coverage of its deliberations and decisions.

World Health Day: World Health Day 1978, which focused attention on hypertension, with the slogan "Down with high blood pressure", was observed with great enthusiasm throughout the Region. The theme evoked considerable interest among all sections of the public.

The Regional Office distributed sets of articles, photographs, wall charts and posters to governmental and non-governmental agencies, social welfare organizations, medical and health associations and others observing the day.

The Regional Director recorded talks in English and Sinhalese for the External Services of All India Radio. The English talk was translated into different languages and beamed to listeners in South-East Asia, Africa and the Middle East.

Background information material was provided to newspapers, magazines and free-lance writers for articles on the theme prepared by them.

Group Educational Activities: Arrangements were made for press and radio coverage of several group educational activities organized by the Regional Office during the year. Press releases were

issued and facilities provided for interviews with the WHO staff and national participants attending these meetings. The topics which received wide coverage included malaria, traditional medicine, dengue haemorrhagic fever, mental health, quality control of drugs, prevention of curable blindness, health statistics and the Asian Charter for Health Development.

Publications

A 40-page illustrated information booklet entitled *"Health - a Primer for Progress"*, describing WHO's work in the Region, was published. Copies were distributed to national health authorities, information media, medical and nursing institutions, schools and colleges throughout the Region.

World Health carried several articles on various national health activities and WHO's work in the Region. Some of these were written by Regional Office staff on assignment; others were prepared by freelance writers and professional contributors. These articles covered, among other subjects, technical cooperation among developing countries, traditional medicine, mental health and desertification.

The *WHO Chronicle* was provided with several write-ups on health topics of regional interest.

Cooperation with United Nations Agencies

The Regional Office provided material for a monthly supplement to the United Nations *Newsletter* published weekly by the United Nations Information Centre, New Delhi. The supplement covers current activities of the United Nations agencies in India and is distributed to opinion leaders, media representatives, educational institutions, libraries and reading rooms throughout the country.

Photographs

The photo library in the Regional Office was enriched by new coverages in the areas of primary health care, hypertension, nursing education and training, malaria, rural water supply and desertification. This addition facilitated the supply of relevant photographs to various newspapers, magazines and freelance writers for illustrating articles.

Visitors

A number of groups of medical officers, health educators and nursing students visited the Regional Office during the year, and were briefed on the Organization's aims, objectives and activities.

PART III

ACTIVITIES UNDERTAKEN BY GOVERNMENTS WITH THE HELP OF WHO

PROJECT LIST

This part of the report contains programme summaries in respect of each country, giving a brief account of the major health problems of the country and highlighting the government's efforts during the year, with special reference and in relation to WHO collaboration. The information is complementary to that already given in Part I. Each programme summary is followed by a list of the projects in the country for which WHO has given assistance during the whole or part of the period under review. Inter-country and inter-regional projects are listed at the end.

In the project list, in the first column (under "Project Number and Source of Funds"),

"R" means	the Regular Budget;
"UNDP"	the United Nations Development Programme;
"FP"	the United Nations Fund for Population Activities;
"VA"	Voluntary Fund for Health Promotion - Special Account for Assistance to the Least Developed among Developing Countries;
"VC"	Voluntary Fund for Health Promotion - Special Account for the Cholera Programme;
"VD"	Voluntary Fund for Health Promotion - Special Account for Miscellaneous Designated Contributions (General);
"VG"	Voluntary Fund for Health Promotion - Special Account for Medical Research (specified) - General;
"VI"	Voluntary Fund for Health Promotion - Special Account for the Expanded Programme on Immunization;
"VL"	Voluntary Fund for Health Promotion - Special Account for the Leprosy Programme;
"VR"	Voluntary Fund for Health Promotion - Special Account for Medical Research (unspecified);
"VS"	Voluntary Fund for Health Promotion - Special Account for Smallpox Eradication;
"VW"	Voluntary Fund for Health Promotion - Special Account for Community Water Supply, and
"VY"	Voluntary Fund for Health Promotion - Special Account for the Yaws Programme.

The projects are listed in accordance with the programme classification.

1. BANGLADESH

A National Health Policy statement was presented to the National Health Council in 1977. The Government has accorded priority to primary health care, static health care development, environmental health, communicable-disease control, population control, health manpower development, supplies and maintenance of equipment and drug production and quality control. Malnutrition and communicable diseases, particularly those diseases etiologically related to environmental sanitation, were identified as major public health problems.

The country aims to provide health care to all sections of the people and particularly to those in the rural areas. The Government is now shifting the emphasis from curative to preventive health care and to the development of a health care delivery system that will provide integrated and comprehensive health care to the rural population. To achieve this, the Thana Health Complex Scheme has been formulated to cover all the 356 rural thanas in the country. The WHO collaborative programme is aimed at meeting the urgent need for training the basic health workers in the Thana Health Complex Scheme.

The Government has accorded priority to the development of PHC in three thanas in each of the districts of Mymensingh, Tangail and Dacca. Phase 1 in the implementation of this activity has already been initiated. A scheme for the training of 400 village healers has also been initiated.

A preliminary document on primary health care covering all aspects, viz., the concepts, the scope of activity of a resident village health worker, the system of selection and support by the community, training and evaluation, was prepared. This has helped promote the concept of primary health care as part of integrated rural development. As part of promoting further community involvement in providing medical care, a series of seminars was conducted at divisional and the national levels to propagate the concept of primary health care. This, in turn, has led to the introduction of the concept of a resident village health worker, selected by the people and responsible to them. The WHO Manual on the Primary Health Worker was translated and modified for use in the training of family welfare workers (FWW) and village health squads. New training schemes for FWWs and FWAs (family welfare assistants) to be implemented at the national and district levels from March 1978 were formulated. These will encourage the integration of health and family planning activities at the primary health care level.

Because of the importance attached to the improvement of rural health services, a scheme to train an adequate number of medical assistants to form a horizontal cadre in the health services has been formulated. The first group of medical assistant students is being trained, and is expected to graduate in July 1978. WHO is assisting with this project.

The activities of the Bureau of Health Education at the national level and the health education units at divisional and district levels have increased. The Bureau organized the first National Health Education Workshop in October 1977. The health education personnel also participated in the planning and

implementation of the educational aspects of various national health and health-related programmes such as the BCG campaign, environmental sanitation programme, training of village health squads, and the planning and organization of divisional primary health care workshops.

Laboratory support was extended to the investigation of an outbreak of encephalitis and cholera. In view of the importance attached to safe drinking water, a survey was conducted to monitor bacteriological contamination from various water sources. Steps are being taken to manufacture tetanus toxoid, and it is expected that the production laboratory will be ready in 1978.

One of the top priority programmes of the Government relates to the reduction of population growth. WHO played a major role in coordinating the assistance in the field of family planning with other international agencies such as UNFPA, UNICEF, UNDP and bilateral agencies. WHO is also the executing agency for implementing programmes funded by UNFPA in this field. The holding of two national seminars on the teaching of human reproduction and demography and family planning based on maternal and child health have stimulated integrated teaching of these subjects in undergraduate medical courses. The first seminar catered to the students of all the eight medical colleges and the second one was for professors and lecturers from six medical colleges representing different teaching departments related to the teaching of human reproduction and family planning.

The Division of Population Control and Family Planning under the Ministry of Health and Population Control is entrusted with the responsibility for the implementation of the family planning schemes. There has been a shift in the emphasis from clinical family planning to maternal and child health services. Under the project for family planning manpower training, family welfare visitors, thana supervisors, traditional birth attendants and family welfare assistants/family planning assistants were trained. An evaluation of the activities of FWV training institutes, and of the performance of the trained FWVs, has been made by the Planning Commission.

In the field of disease prevention and control, the most significant achievement was the declaration by an International Commission which visited Bangladesh in December 1977 that the country was free from smallpox.

Activities for the expanded programme on immunization were being developed. For the year 1978, a target of eight million vaccines is being set. Intensive follow-up of leprosy cases was started in Rangpur District. Case-finding and treatment of tuberculosis and leprosy cases in the district of Tangail had been further strengthened. The services of 54 epidemiological surveillance teams were being used for the assessment of the last BCG vaccination campaign, which achieved a target of five million vaccinations.

Greater stress was now being laid on reorganizing malaria control activities in view of the changing epidemiological situation and also in the light of the activities under the expanded programme on immunization. The Institute of Epidemiology, Disease Control and Research is actively involved in this

programme by providing technical assistance. WHO is assisting in further developing this activity. Research on resistance of *P.falciparum* to 4-aminoquinolines was conducted, as were *in vivo* tests. A study on the bionomics of *Anopheles b. balabacensis* was conducted along with a study of the effectiveness of DDT and malathion in relation to cycles and dosages. Malaria case detection through active and passive surveillance was continued, and single-dose presumptive treatment was given to all fever cases. Focal spraying of DDT was continued in the low-risk areas, and post-monsoon DDT spraying operations were started in September 1977 and completed in November.

The first National Workshop on Mental Health made a number of recommendations directed towards the development of community-oriented national mental health services. Oral health services were confined to curative activities in large hospitals and Dacca Dental College. The Organization is assisting with the provision of fellowships.

A National Workshop on Cancer Control was conducted, which recommended the development of medical physics services and competent engineering services as well as the establishment of a cancer registry.

A critical shortage of nursing manpower continued in the country; there were very few trained nurses in such specialties as paediatrics, psychiatry, neonatal nursing and neurology. The Government is endeavouring to improve nursing care for the rural population, and, in this connexion, is contemplating a revision of the basic nursing curriculum to include more community health nursing. WHO continues to give assistance to the post-basic training centre in the preparation of nursing administrators and teachers, public health nurses and trainers of family welfare workers. WHO, through its consultants and nurse educators, has also assisted the country in evolving a method for implementing nursing education programmes and in revising the existing nursing curricula.

The first Five-Year Plan attached importance to water supply and sanitation, and the Country Health Programming carried out in 1977 included this as a priority area among major health concerns. The project for community water supply and sanitation contributed towards the development and implementation of a demonstration latrine programme. Pilot projects were under way in 59 sub-divisions for the proper maintenance of more than a quarter of a million tubewells. UNICEF and UNDP were participating in this programme.

Projects in Operation

Number and Source of Funds	Title
BAN PPS 001 R	Organization of Health Services, Planning and Administration
BAN HSD 001 R	Strengthening of Thana Health Complexes and Development of Primary Health Care

BAN HSD 002 R	Development of Health Laboratories and Allied Laboratory Services
BAN MCH 001 R	Development of Family and Child Health Services
BAN MCH 002 FP	Family Planning Manpower Training
BAN MCH 003 FP	Strengthening of Family Planning Clinical Programme with Special Emphasis on MCH-based Family Planning
BAN HRP 001 FP	Teaching of Human Reproduction, Population Dynamics, Demography, Family Planning including MCH-based Family Planning, in Medical Colleges
BAN HRP 002 FP	Mobile Sterilization Teams
BAN NUT 002 UNDP	Institute of Public Health Nutrition
BAN HED 001 VD	Public Health Education
BAN HED 002 R	Health Education
BAN HMD 001 R	Nursing Advisory Services and Training
BAN HMD 003 UNDP	Training of Medical Assistants
BAN HMD 004 UNDP	National Institute of Preventive and Social Medicine
BAN HMD 005 UNDP	Strengthening of Health Manpower Development Programme
BAN ESD 001 R	Strengthening of Epidemiological Services
BAN ESD 002 UNDP	Epidemiology and Disease Control
BAN MPD 001 R	Malaria Eradication
BAN SPI 001 R/VS/VI	Smallpox Eradication

BAN BVD 001 R	Mycobacterial Disease Control
BAN PBL 001 R	Prevention of Blindness
BAN CAN 001 R	Cancer
BAN CVD 001 R	Cardiovascular Diseases
BAN ORH 001 R	Oral Health
BAN MNH 001 R	Mental Health
BAN HWP 001 R	Occupational Health
BAN PHA 001 R	Pharmaceutical and Biological Quality Control
BAN BSM 001 R	Community Water Supply and Sanitation
BAN SES 001 UNDP	Assistance to Water and Sewerage Authority, Dacca and Chittagong

2. BHUTAN

The health services of Bhutan are in an early stage of development; lack of adequate trained manpower and an infrastructure are the major impediments to the expansion of health care services in the country. Added to this is the logistics problem caused by the fact that villages are mostly very small and widely scattered. Curative and preventive health services are combined under one Director of Health Services. The present health services (just the nucleus) consist of 5 zonal hospitals, 3 leprosy hospitals and a network of 61 dispensaries. A programme of preventive activities exists for the control of malaria. A BCG mass campaign is continuing. The major diseases which affect the population are diarrhoea, dysentery, respiratory infection, intestinal parasites, anaemia, malnutrition, venereal diseases, endemic goitre, tuberculosis and leprosy. Besides strengthening the existing curative and preventive health services, the Government has been developing the services for maternal and child health, school health, health education, environmental health and vital and health statistics. Recently, the Government has also emphasized the importance of the Expanded Programme on Immunization following the official declaration of the eradication of smallpox from the country.

Since lack of trained manpower is the major constraint in developing services, a Health School was established in 1974 in Thimpu for training health personnel of various categories suitable for supporting primary health care services. The categories trained in this school included health assistants, auxiliary nurse-midwives and basic health workers. The training programme undertaken in the School will provide the necessary health personnel for converting the existing dispensaries into basic health units in a phased manner and thus to develop integrated curative and preventive health services. With support from UNDP, WHO is assisting in the training programme of the aforesaid health workers.

A draft operational manual for the basic health units was prepared and field tested; it is expected to be introduced shortly. Further, WHO collaborated with the Government in strengthening the facilities in Thimpu, Gelyphong and Tashigang hospitals; these hospitals will act as the base for a zonal supervisory system to be developed in the near future for the extension of health care coverage. WHO/UNDP project activities were directed towards (a) providing integrated preventive and curative basic health services, (b) developing maternal and child health and family planning services, (c) expanding the existing mass BCG campaign and (d) developing programmes on tuberculosis, nutrition, leprosy and environmental health and sanitation.

UNICEF and the World Food Programme also supported the health development activities in Bhutan. UNICEF provided assistance for the development of health services and training of paramedical workers and supplied iodized salt to combat endemic goitre, WFP participated in the nutrition programme by providing food supplements to hospital patients, expectant and nursing mothers, infants and children.

Projects in Operation

Number and Source of Funds	Title
BHU HSD 001 UNDP	Development of Health Services

3. BURMA

The Government launched the People's Health Programme in April 1978. This programme covers primary health care and basic health services, family health, the expanded programme on immunization, vector-borne diseases control environmental health and medical care, and also six support programmes, viz., (i) health laboratory technology, (ii) health information services, (iii) staff and procedure development, (iv) production and quality control of biologicals and pharmaceuticals, (v) supplies, logistics and repair and maintenance of health equipment, and (vi) health services research. Top priority has been given by the Government to the People's Health Programme.

A workshop on the monitoring and evaluation of the People's Health Programme was held, which developed an evaluation procedure suitable to the country situation.

Community health workers, selected from 670 under-served villages in 15 townships, were trained for three weeks in the respective townships and the rural health centres. A manual for community health workers was developed in Rangoon and distributed. A one-week training programme in primary health care was conducted for township medical officers, township health officers and specific-disease control programme leaders. A one-month training programme for health assistants, lady health visitors, public health inspectors, etc., who are working in the primary health care programme is being organized.

Public health inspectors, vaccinators and special campaign personnel, who were to become multi-purpose workers - Health Supervisors, Grade II in these 15 townships - were given two months' training in order to strengthen the supervision of the community health workers. The basic health workers in the rural health centres in these townships were trained in the strategy of the family health programme, with special reference to ante-natal and post-natal care, home delivery, "under-five" clinic service, school supplementary feeding and distribution of iodized salt.

Lady health visitors and midwives were trained as multi-purpose workers and supervisors of the community health workers, and 284 auxiliary midwives were given a six-month training and each assigned to a village tract.

In order to expand the network of the medical care services, 20 new station hospitals, 10 indigenous medicine dispensaries and 4 Social Security Board dispensaries were established. A hospital administration manual was developed by a group of hospital administrators, specialists and professors.

The development of manuals on priority health service programmes, the training and re-orientation of the basic health service staff, and the acceleration of the training programmes for midwives, lady health visitors and nurses in their new roles as multi-purpose health workers and supervisors of the community health workers and auxiliary midwives, were some of the activities undertaken during the year. A new teaching curriculum for student midwives was

developed, and a one-week workshop for tutors of all 16 midwifery schools was held. A new job description and a curriculum were developed and finalized for public health nurses and tutors who are responsible for the training of lady health visitors, who need to be prepared for their new midwifery responsibility under the People's Health Programme. A pilot project for training traditional birth attendants, "Lethes", is being planned in Rangoon Division to provide a one-day-a-week training scheme for them over six months.

Type C laboratories were established in 10 townships. A new training centre for laboratory technicians, grade II, was established. A separate Department of Immunology was established in the National Health Laboratory, where tissue culture work in virology was further expanded, and preparation of viral antigens was started. The facilities in the animal house were markedly improved.

A plan for the production of basic drugs needed for the People's Health Programme has been prepared for possible UNICEF assistance. The production and quality control of vaccines and sera at Burma Pharmaceutical Industry (BPI) have progressed satisfactorily. Training programmes in the repair and maintenance of health equipment were drawn up, as also a plan for a cold room at the National Blood Bank and the design of a cold box for storage of vaccines in remote areas.

The baseline data were established in respect of hospital morbidity, out-patient morbidity, health manpower, tuberculosis, leprosy, trachoma and sexually transmitted diseases. A lay reporting system on morbidity and mortality statistics was designed and implemented as a pilot project. A Workshop on Monitoring and Evaluation of Health Projects and Programmes was conducted. The staff at the central level and some of the township medical and health officers were trained in the new health information system.

Three WHO short-term consultants assisted in developing the vector-borne disease control project document and advised on the programme activities. The State and Divisional Health Directors and their staff were briefed on the new strategies of the vector-borne disease control programme and twenty malaria assistance were given a reorientation course on the new strategies.

Vector-borne disease control activities included: an epidemiological study of small mammals; a serological survey for antibodies to *Yersinia pestis* and *Rickettsia mooseri*, using the indirect fluorescent antibody technique; insecticide susceptibility tests of fleas, and socio-economic and environmental studies carried out in six townships in Rangoon. Health education programmes on rodent-borne diseases were arranged through the radio and newspapers.

The Rifampicin Trial in leprosy was continued. An analysis of the mass survey data was started in February 1978. Treatment of cases on the eastern side of the Irrawaddy River with Rifampicin and DADDS and DDS was started in August 1977 and completed in February 1978.

The project document for the Expanded Programme on Immunization was finalized and the manual for field staff developed. An orientation course for basic health workers in Rangoon Division was conducted.

The main activities in the field of environmental sanitation were: the preparation of engineering drawings; the commencement of village surveys in 20 townships and summarizing data from villages in three townships; a review of available hydrogeological data; the development of technical guides for designing a bio-gas plant; the preliminary work for water systems and development of a national proposal for comprehensive plan for water supply, including a rapid assessment of the existing situation.

Piped water supply systems for 5 station/township hospitals and 10 rural health centres, 200 surface wells and one community water supply system, 80 600 sanitary pit latrines, 2300 septic tanks and 80 600 composting pits were constructed; 1049 wells or ponds have been reconditioned and 28 548 wells have been chlorinated.

The teaching of and services in epidemiology, nursing and midwifery were improved. Operational research was developed in medical education, chemical pathology, radiology, genetics, paediatric nursing, health manpower planning and forensic medicine.

The project "Education and Training of Health Manpower" has supported 22 training courses during 1977 as a part of the continuing education of various categories of field health workers.

Projects in Operation

Number and Source of Funds	Title
BUR HSD 003 R	Hospital Services Management
BUR PHC 001 R/VL	Primary Health Care and Basic Health Services
BUR MCH 004 R	Family Health
BUR HMD 004 UNDP	Sanitary Engineering Education and Training, Rangoon Institute of Technology
BUR HMD 005 UNDP	Education and Training of Health Manpower
BUR HMD 006 R	Development of Procedure and Staff Training

BUR ESD 001 UNDP	Strengthening of Health Services (Epidemiology)
BUR ESD 002 R	Prevention, Control and Surveillance of Communicable Diseases
BUR ESD 003 UNDP	Expansion of Epidemiological Surveillance in Community Health Services
BUR SPI 001 R	Expanded Programme on Immunization
BUR BVD 001 UNDP	Tuberculosis Control
BUR VBC 001 R	Vector-borne Disease Control
BUR BLG 002 R	Development of Production and Quality Control of Biological and Pharmaceutical Products
BUR LAB 003 R	Promotion of Health Laboratory Technology
BUR BSM 002 R	Environmental Sanitation
BUR DHS 002 R	Department of Medical Research
BUR DHS 003 R	Development of Health Information Services

4. DEMOCRATIC PEOPLE'S REPUBLIC OF KOREA

With the concept that "the world's most precious possession is man", the Government of DPR Korea firmly maintained the preventive bias in the development efforts for the continued improvement of the health services in the country, both in coverage and in quality.

The State is responsible for the administration of all medical and health institutions and hospitals, which are distributed all over the country in such a manner that adequate services are within easy reach of the entire population.

Consonant with the priority attached by the Government to public health, the State is entirely responsible for providing health care to all people in the country with special attention to children.

During the period of the Six-Year Plan (1971-1976), the Government decided to increase the number of hospital beds and trained medical workers. As a result, the hospital services have greatly expanded. The situation regarding supplies and equipment as well as drugs and medicines has vastly improved. The medical services available to the rural population have been developed further by reinforcing the country and maternity hospitals, by converting the rural clinics into hospitals and by adding children's wards. This has, to a great extent, brought the quality of medical services in rural areas at par with those in urban areas.

Free medical care has been provided to all people since 1953 under the system of universal free medical service, and following the "section medical services" system, health services in the country have continued to develop and expand.

Existing country hospitals were being converted into integrated hospitals, and all rural clinics into hospitals; thus the number of therapeutic and prophylactic units has also increased.

To enable the Government to expand the health services and improve the quality, WHO awarded fellowships to various medical specialists for training in order to improve further their knowledge and skill in their specialty.

The training of doctors, pharmacists, middle-level workers and nurses continued in the provinces under the leadership of the Ministry of Higher Education and the Ministry of Public Health and with the technical guidance of the Academy of Medical Sciences.

The Government concentrated on the training and continuing education of the health workers and teachers needed for expanding institutions. WHO assisted the Government in preparing professional workers to take their part in the international scientific community through the fellowships programme covering various scientific disciplines and language training.

WHO coordinated with the Government very closely in the area of disease prevention and control, particularly in the prevention and control of cancer and cardiovascular diseases. Fellowships were awarded for providing training to physicians in the management of liver cancer, diagnosis and treatment of various types of cancer and in chemotherapy, hormone therapy, radiotherapy, cytopharmacology, exfoliative cytology and histopathological techniques. In cardiovascular diseases, fellowships were awarded for training in cardiac catheterization, contrast radiography and cardiac resuscitation. Drugs, equipment and other supplies were provided for management and research in the prevention and control of cardiovascular diseases. For strengthening early detection, diagnosis and biomedical research in cancer, WHO has taken action to supply a colposcope, microscopes and other research equipment. Through these efforts, the Institute of Cancer and the Institute of Cardiology were being strengthened and thus their potential enhanced for national programmes for the prevention and control of cancer and cardiovascular diseases.

WHO also collaborated with the Government in programmes for the improvement of general environmental hygiene, particularly in the fields of industrial hygiene and food hygiene.

Projects in Operation

Number and Source of Funds	Title
KRD HSD 001 R	Strengthening of Medical Care Services
KRD HMD 001 R	Strengthening of Health Manpower Development
KRD CAN 001 R	Cancer Control
KRD CVD 001 R	Cardiovascular Diseases
KRD PHA 001 R	Drug Quality Control
KRD LAB 001 R	Laboratory Sciences and Techniques
KRD CEP 001 R	Environmental Health
KRD FSP 001 R	Food Hygiene

5. INDIA

The Government is attaching increasing importance to the provision of health care in rural areas, control of communicable diseases - of which malaria is of particular concern - family welfare planning, prevention and control of visual impairment and blindness, making available sufficient quantity of drugs especially in rural areas, innovation in the training of medical undergraduates, training of health assistants, rural water supply, control of air and water pollution and management of solid wastes. Some of the important national health programmes are: primary health care, family welfare, mental health, malaria, tuberculosis, leprosy, filariasis and kala-azar control, EPI and the prevention of blindness.

A rural health scheme, beginning with the training of community health workers in 777 selected primary health centres spread over the country, was launched in October 1977. The scheme envisages the provision of one community health worker for every village or community with a population of 1000, and it is programmed to train 580 000 community health workers. By October 1977, 28 districts had implemented the multi-purpose workers' scheme. Other districts are on the way to implementing the scheme also. WHO has been associated with the development of primary health care in India, especially in the field of training of trainers and basic health workers. The inputs included the development of training strategies and curricula, the production of manuals, and the provision of library books, duplicating machines, projectors and other teaching aids.

In order to tackle the growing incidence of malaria, a modified plan for malaria control was put into effect in the majority of the states. The main objective is to prevent deaths due to malaria, and the strategy will be intensive anti-malaria measures in industrial and farm production areas, and consolidation of the achievements attained so far. WHO continued its collaboration with the Government by providing advisory teams, equipment for and cost of training, and organizing observation tours for regional coordinators to study the latest techniques in surveillance. Assistance from SIDA was made available for *Plasmodium falciparum* containment and applied field research activities. UNICEF has also made its contribution by providing anti-malarials and equipment for the entomological and parasitological components of the programme. For the first time for years, a reduction in the malaria incidence was observed. WHO also initiated and assisted in the organization of anti-malaria border coordination conferences with the neighbouring countries of India.

Mental health activities centred round the National Institute of Mental Health and Neurosciences, Bangalore. Innovations in community-based mental health were being carefully evaluated before being extended generally throughout the country. In October 1977, a committee appointed by the Government recognized the existence of a drug abuse problem among the population as a whole. The drugs most frequently misused were alcohol, tobacco, opium and cannabis, while psychotropic drugs were just making their entry. The Committee recommended the establishment of a National Advisory Board on Drug Abuse Control.

A National Expanded Programme on Immunization (EPI) has been prepared, and it is proposed to be launched during the sixth-plan period. A separate cell has been established in the Directorate-General of Health Services headed by an Assistant Director-General to look after the EPI activities. A task force was constituted (including representatives from WHO and UNICEF) to review the progress of the programme. In the meantime, primary vaccination of the newborn has been continued, and revaccinations have been made available as necessary.

DANIDA is collaborating in the implementation of the programme for the prevention of visual impairment and the control of blindness. A Seminar was organized by WHO in New Delhi in March 1978; this was concerned with the prevention and control of blindness and considered training of health and auxiliary personnel.

The National Leprosy Control Programme is being expanded for total coverage by the establishment of new units and centres in uncovered endemic areas.

A total of about 600 tuberculosis clinics, including 308 upgraded district tuberculosis centres are now functioning in the country. A consultative meeting on the Tuberculosis Prevention Trial was organized by the Indian Council of Medical Research to which international experts were invited. A WHO consultant visited the Tuberculosis Prevention Trial Project in Madras and assisted the Project Director in preparing the recommended scientific documentation and in the publication of the "Early Results of the Project".

There was an outbreak of kala-azar in Bihar and some parts of Uttar Pradesh. A team of experts was sent to Bihar by WHO to study the problem and recommend control measures.

WHO and the Ministry of Health and Family Welfare through the Indian Council of Medical Research have agreed to collaborate in the research study on the efficacy of ayurvedic treatment for rheumatoid arthritis, which has been conducted at the Ayurvedic Trust and Research Institute at Coimbatore in Tamil Nadu.

With the assistance of a WHO short-term consultant, the National Teacher Training College at the Jawaharlal Institute of Post-graduate Medical Education and Research, Pondicherry, conducted a national teachers' training course and formulated institutional, departmental and instructional objectives.

The "Family Planning Programme" was renamed "Family Welfare Programme" with a view to promoting total welfare of the family and the community. WHO has been requested by the Government to give assistance and guidance in publicizing the need for small family norms. New curricula in child care and school health for undergraduates and internship level are under preparation as part of the activities undertaken by a WHO-funded project.

The teaching of human reproduction, family planning and population dynamics in the medical schools in the country was reviewed by a WHO consultant.

The research programme on human reproduction was continued, with the All-India Institute of Medical Sciences, New Delhi, one of the collaborating centres for Research and Training (RTC) in Human Reproduction providing broad institutional basis for multi-disciplinary research, development and training in human reproduction. A series of exploratory studies in the development of methods for the intranasal administration of contraceptive steroid and anti-human chorionic gonadotrophin vaccine for fertility regulation was carried out. Selected research institutions at Lucknow, Bangalore, Calcutta, Hyderabad and collaborating centres for clinical research at Chandigarh and Bombay are participating in the research programme.

Because of the widespread prevalence of malnutrition, a number of programmes have been launched in the country which aim at supplementing food given to children by their parents.

The UNDP-funded and WHO-executed project on water supply and sewerage in Madras City progressed very satisfactorily. Existing domestic sewerage, industrial effluent and sewage treatment and disposal facilities in the city were assessed and recommendations developed for improving and upgrading these facilities. The recommended Immediate Works Programme has been designed to provide measures to alleviate the current shortage in potable water supply to the city. Legislation has been passed creating the Madras Metropolitan Water Supply and Sewerage Board. This board will be responsible for the implementation of the approved Immediate Works Programme. The UNDP-funded project for assistance to the Maharashtra Prevention and Control of Water Pollution Board was completed by the end of 1977. Further activities are also envisaged on specific aspects of environmental sanitation including water, air and land pollution control.

Projects in Operation

Number and Source of Funds	Title
IND RPD 001 R	Biomedical Research
IND PPS 001 R	Health Economics and Management
IND HSD 001 R	Medical Rehabilitation
IND HSD 002 R	Study of Multi-purpose Health Workers Strategy
IND HSD 003 R	Nursing in Clinical Specialties
IND HSD 004 R	Development of Community Health Nursing Services

IND PHC 001 R	Strengthening of Health Administration (Rural) including Planning and Evaluation
IND MCH 001 R	Strengthening of Departments of Paediatrics, Obstetrics and Preventive and Social Medicine in Indian Medical Colleges
IND MCH 002 R	Integration of Maternal and Child Health Services, including Family Planning Services, into General Health Services
IND MCH 003 R	Strengthening of Maternal and Child Health Services
IND HRP 001 FP	Strengthening of Teaching of Human Reproduction, Family Planning and Population Dynamics in Medical Colleges
IND NUT 001 R	Applied Nutrition Programme
IND NUT 003 R	Nutrition Training
IND NUT 005 R	Nutrition Programmes
IND HED 001 R	Training in Health Education
IND HED 003 UNDP	*Health Education*
IND HED 004 FP	Health Education in Schools, including Family Life Education
IND HED 005 R	Development of National Health Education Services
IND HMD 001 R	Medical Education
IND HMD 002 R	Post-basic Nursing Education
IND HMD 006 R	Training of Basic Health Workers
IND HMD 007 R	Research in Nursing
IND HMD 009 UNDP	Training of Medical Educators

IND HMD 011 R	Medical Librarianship
IND HMD 012 R	National Medical Teacher Training Centre
IND HMD 013 R	Nursing Development
IND HMD 014 R	Medical Education and Training
IND ESD 001 R	Assistance to the National Institute of Communicable Diseases
IND MPD 001 R	Malaria Eradication
IND SPI 001 R/VS	National Smallpox Eradication Programme
IND SPI 002 R	Expanded Programme on Immunization
IND BVD 001 R	Leprosy Control
IND BVD 002 UNDP	Tuberculosis Chemotherapy Centre, Madras
IND BVD 004 R	Tuberculosis Research Centre, Madras
IND BVD 005 R	Tuberculosis Control
IND BVD 006 R	Venereal Diseases Control Programme
IND VPH 001 R	Training in Veterinary Public Health
IND PBL 001 R	Prevention of Visual Impairment and Control of Blindness
IND CAN 001 R	Cancer Control Pilot Project, Tamil Nadu
IND CAN 002 R	Establishment of Cancer Centres in States

IND CAN 006 R	Cancer Control and Prevention
IND CVD 002 R	Cardiovascular Diseases Control
IND ORH 002 R	Oral Health
IND MNH 002 R	Mental Health
IND MNH 003 R	*Fellowships (Drug Addiction)*
IND RAD 002 R	Radiation Medicine Centre, Bombay
IND RAD 004 R	Advanced Course in Radiological Physics
IND HWP 001 R	Occupational Health
IND PHA 001 R	Drug Laboratory Techniques and Biological Standardization
IND PHA 002 R	Quality Control of Pharmaceuticals
IND BLG 002 R	Production of Freeze-dried BCG Vaccine
IND BLG 003 R	Industrial Technology in DPT Vaccine Production
IND LAB 002 R	Promotion of Health Laboratory Services and Health Laboratory Technology
IND LAB 003 R	Laboratory Qaulity Control and *Standardization*
IND LAB 004 R	Standardization of Laboratory Methods in Blood Transfusion, Immunohaematology and Control of Coagulation Therapy
IND LAB 005 R	*Virological Techniques*
IND BSM 002 R	Village Water Supply

IND BSM 005 R	Community Water Supply and Sanitation
IND PIP 001 UNDP	Tamil Nadu Water Supply and Sewerage Pre-investment Studies - Madras Metropolitan Area
IND CEP 001 R	Prevention and Control of Water Pollution
IND CEP 002 R	Control of Air Pollution
IND CEP 003 R	Medical Toxicology Unit
IND CEP 005 UNDP	Pollution Investigation and Control, Maharashtra
IND CEP 006 R	Environmental Pollution Control
IND SES 001 R	Assistance to the National Environmental Engineering Research Institute, Nagpur
IND SES 003 UNDP	Public Health Engineering Education
IND FSP 002 R	Food Standards Programme
IND DHS 002 R	Strengthening of Health Statistical Services

6. INDONESIA

The main health problems facing the country stem from the prevalence of communicable diseases, malnutrition, poor environmental conditions including lack of safe water supply, inadequate health manpower and inadequate health care to the rural population. The problem of health management is acutely felt.

With 85% of the population living in rural areas, the emphasis is on the development of health services and provision of coverage through health centres. The other national programmes designed to improve the overall health situation relate to the strengthening of hospital services, disease prevention and control, promotion of environmental health, health manpower development, and improvement in the nutritional state of the population.

The project for strengthening of health services assisted the Bureau of Planning in the Ministry of Health in the preparation and submission of the programme plan for the third Indonesian Five-Year Plan (1979-1983). A detailed plan of action for the period 1978 onwards was formulated. Provincial training courses in management were implemented, and preparations made in 1978, for training in Operational Research and Systems Analysis (ORSA). Weight chart experiments were completed. The health centre programme with the target of providing one health centre for every kesamatan continued to make progress. The concept of primary health care was promoted, and health care delivery targets for Repelita III were set.

School-health services cover only 50% of all elementary schools. Training of teachers was completed in 50% of all elementary schools. School-health targets for the third plan were set; it includes the expansion of school-health services to cover selected middle and high schools throughout the country. Dental services particularly through the programme of Health Centres continued to expand.

With the eradication of smallpox, increasing attention is paid to the programme of immunization, strengthening and expansion of the malaria control activities, tuberculosis and leprosy control programmes, surveillance of epidemic diseases, certain non-communicable diseases such as cancer and cardiovascular diseases, mental health and oral health. The programme for rural water supplies has been intensified; this programme is supported by bilateral donors such as the Netherlands and the Federal Republic of Germany. Urban water supply schemes and excreta disposal schemes have been developed, with external assistance from Japan, the United States of America, Australia, France, the United Kingdom, the Netherlands and Switzerland, as also from the International Bank for Reconstruction and Development.

With the establishment of a Research and Development Centre, it has been possible to coordinate the activities in the field of cancer. While dental health services are inadequate to meet the needs of the country, the mental health programme is well organized. Public awareness and interest have been aroused in blindness prevention. A study was undertaken with

assistance from the American Foundation for the Blind to map the incidence of blindness and to ascertain the causes.

WHO's collaborative endeavours covered various fields such as planning, programme and evaluation of health services, promotion of health care delivery, family health, nutrition, medical education, nursing education and services, epidemiological surveillance, malaria, tuberculosis, leprosy, cancer, radiation health, mental health, laboratory services, community water supply and sanitation.

A number of agencies and bilateral donors have been actively participating in the health promotional endeavours of the Government, notably the IBRD, UNICEF, UNDP and WHO in the United Nations system, and US AID, the Netherlands and Japan among bilateral donors.

With WHO collaboration medical education units have been set up in the medical schools, a community-oriented medical curriculum has been developed. Nursing in Indonesia is still in the development stage. A system of legislation and registration is yet to be introduced, and guidelines are to be formulated. The Government is considering nursing personnel as major providers of basic health services. The focus of reorganization in nursing has been the scheme for conversion of the multiplicity of existing training programmes to three major categories, namely the health nurse to provide basic health services at village level and patient care in hospitals, the nurse-aide for bedside care, and the university graduate nurse for teaching and administration. Work has been confined to the training of the health nurses involving conversion of 400 existing nursing and midwifery schools. WHO collaboration in support of the programme was strengthened through the assignment of a third nurse-educator. A short-term consultant nurse-educator assisted with the preparation of job descriptions and guidelines for hospital nursing service manuals. Fellowships were provided to train nurses in clinical specialties and for orientation to various patterns of university nursing education and systems of legislation and registration.

The development of community-oriented mental health services continued and the process was supported by WHO through a country project. Mental health services are provided through more than 100 health centres throughout the country.

As regards malaria, the main thrust has been on training and applied research. As there was no change in the incidence and there were pockets of intensive transmission, additional measures such as thermal fogging were instituted with intensification of surveillance. A national malaria coordinating committee is being formed to ensure close coordination between relevant authorities in inter-sectoral planning and cooperation. An in-depth technical evaluation of the programme was carried out by the Government/ WHO/US AID in August 1977. A feasibility study for setting up a DDT manufacturing plant was jointly undertaken by UNIDO and WHO in March 1978. WHO continued its support to implement the intensive training programme.

The programme to prevent hazards to man from pesticides has been expanded to cover the provinces, and fifteen provincial laboratories have been upgraded

to carry out pesticide analysis, and the pool of technicians capable of undertaking this analysis has grown.

A workshop on the Expanded Programme on Immunization was held in July 1977 for provincial immunization managers and to prepare detailed plan proposals for the financial year 1978-1979. This plan called for an increase in the coverage from 5% at the end of 1977 to 26% in 1978. A draft operational manual was prepared using the WHO manual as the guideline.

Increased emphasis is laid on health education of the public and community participation in leprosy control activities. The leprosy supervisors of 10 kabupatens in North Sulawesi Province received additional training and were engaged in case-finding activities. A national workshop followed by the "First International Workshop on Leprosy Control in Asia" was held in Jakarta in December 1977.

The project for research on communicable diseases ecology has completed its studies relating to particular diseases such as helminthic diseases, taeniasis, cysticercosis, filariasis and schistosomiasis. The project is now engaged in preparing the design of the studies, especially the design for the leprosy survey, the disability study and the perinatal mortality study, and in advising on the data processing arrangements for the disability study. Plans have been formulated for a combined course for research investigators; the course will cover epidemiology, statistical analysis and study design, both survey design and experimental design.

A WHO consultant reviewed the existing situation in the field of cancer and made recommendations. Two Japanese specialists visited the country in November 1977 in connexion with the early detection of gastric cancer. In the field of radiation protection, a secondary standard dosimetric laboratory is under development in Jakarta.

The quality of staff available at the various levels of laboratory operation has been improved through training programmes and the provision of materials. Nearly all provincial centres now have a health laboratory able to carry out at least a limited range of clinical and public health laboratory examinations.

In the field of epidemiological surveillance, with WHO assistance,in-service training has been given to epidemiologists, the surveillance system and the epidemiological investigation of priority endemic diseases have been strengthened.

In the field of quality control of food and drugs, a programme for microbiological quality control of food has been started. Plans for new food and drug laboratories have been prepared. Proposals drawn in consultation with architects and engineers are being prepared.

WHO's collaboration in the field of environmental health, especially water supply, continued throughout the year. A master plan for Jakarta Sewerage and Sanitation has been prepared. Several rural water supply schemes for

the Province of East Java were drawn up, as part of the preparatory assistance to the project, and the project is being implemented from the beginning of 1978. With the active involvement of WHO, rural water supply studies have been undertaken in Central Java, which is being funded by the Federal Republic of Germany, and in South Sulawesi and North Sumatra with UNDP financial support. Bilateral and multilateral agencies are assisting with the water supply construction schemes in urban and rural sectors. Special courses were organized for environmental health personnel of different disciplines. A project for upgrading the teaching of sanitary engineering subjects at the Institute of Technology, Bandung, and other engineering colleges in the country, with the financial support of UNDP, is under preparation.

Projects in Operation

Number and Source of Funds	Title
INO HSD 001 R	Strengthening of National Health Services (Health Planning, Research and Development, and Health care delivery system)
INO HSD 002 R	Medical Rehabilitation
INO HSD 003 UNDP	Strengthening of Health Services (Province of Irian Jaya)
INO HSD 004 UNDP	Medical Education to Upgrade Jayapura Hospital, Irian Jaya
INO MCH 001 R	School Health
INO MCH 003 R	Medical Services for Family Health
INO NUT 003 R	Nutrition
INO HED 003 FP	Development of Health Education in Family Health
INO HMD 001 R	Medical Education
INO HMD 002 R	Nursing Education and Services
INO HMD 003 R	Post-graduate Education in Public Health
INO ESD 002 R	Research in Communicable Diseases Ecology

INO ESD 003 R	Strengthening of Epidemiological Surveillance and Control
INO MPD 001 R	Malaria Eradication
INO SPI 001 R	Immunization Services (including smallpox)
INO BVD 001 R	Tuberculosis Control
INO BVD 002 VL	Leprosy Control
INO BVD 003 VY	Campaign for Control of Yaws in Sub-Districts of North Morotai
INO VPH 001 R	Veterinary Public Health
INO CAN 001 R	Cancer Control
INO ORH 001 R	Oral Health
INO MNH 001 R	Mental Health
INO RAD 001 R	Radiation Health
INO HWP 001 UNDP	Development of Central and Regional Occupational Health and Industrial Hygiene Laboratories
INO PHA 001 R	Quality Control of Food and Drugs
INO BLG 001 UNDP	Vaccine and Sera Production
INO LAB 001 R	Laboratory Services
INO BSM 001 R	National Community Water Supply and Sanitation
INO PIP 002 UNDP	Jakarta Sewerage Master Plan
INO PIP 003 UNDP	Rural Water Supply Project, East Java Province
INO PIP 004 VW	Rural Water Supply for Central Java Province
INO CEP 001 R	Hazards to Man from Pesticides
INO SES 001 R	Training in Sanitary Engineering

7. MALDIVES

Communicable diseases constitute a serious public health problem. The crude death and infant mortality rates are high, since diseases such as diarrhoea, tuberculosis, leprosy, filariasis, tetanus, dengue haemorrhagic fever, poliomyelitis and infectious hepatitis are endemic. Malnutrition is prevalent and constitutes one of the chief causes of disease in children. Environmental conditions also contribute to a large extent to the occurrence of enteric diseases. Another area of concern to the government is the comparatively high birth rate, which is 3% per annum. Lack of health manpower constitutes a constraint in providing basic health services to the population. Collaborative programmes to improve the situation are being undertaken with United Nations bodies such as UNDP, UNICEF and WHO and bilateral and multilateral agencies.

Emphasis is laid on the integrated health-care approach through primary health workers. WHO is assisting the country in the training programmes for the community health workers. UNICEF assistance is envisaged for payment of stipends and providing medical kits for such trainees. WHO is assisting the country by providing clinical specialist consultants and long-term staff in the development of health manpower and provision of medical care in Male and in the atolls and in organizing their health services to provide medical care for the population in the capital as well as in the other atolls.

A national-level meeting on primary health care was held in Male in October 1977 as a preparatory step for the WHO Regional Meeting on Primary Health Care. Representatives of the Ministries of Education, Agriculture and Provincial Affairs took part in this meeting, which was designed to provide basic health care to the majority of the population. The deliberations highlighted the vital role played by community health workers in the delivery of primary health care, their training and functions.

Malaria control activities in the country have resulted in reducing the incidence of the disease in the capital and atolls. WHO staff assisted the Government in conducting a nation-wide survey for the detection, treatment and follow-up of leprosy cases. The survey has covered more than half of the atolls. BCG, DPT and smallpox immunizations have been simultaneously carried out by the workers engaged in the survey.

An outbreak of cholera affected 93 islands, including Male, in 18 out of 19 atolls. More than 3000 cases were treated and about 74 000 people were vaccinated. Eleven teams from WHO, India, Sri Lanka and US AID assisted the Government of Maldives in the control operations. The three-member WHO team consisted of an epidemiologist, a bacteriologist and a laboratory technician. Personnel from the Cholera Research Laboratory, Dacca, were sent to Maldives under US AID auspices. UNICEF and WHO provided vaccines, reagents, media, drugs and laboratory equipment.

To meet the urgent need for providing the requisite number of auxiliary health workers for the communicable-disease control programme, WHO has

assisted the Government in formulating and conducting training programmes for the community health workers, nurse-aides and the indigenous midwives.

With the help of the WHO fellowships programme, the country is training health workers and preparing them for greater responsibility through specialized and general training programmes.

There is a growing need for safe water supply and improved sanitation facilities, and WHO has been actively involved in assisting the Government in the water purification and tank construction programme in Male and other atolls. This programme is expected to bring about a decline in the incidence of water-borne diseases. UNICEF is supporting the chlorination and tank construction programme in Male.

Projects in Operation

Number and Source of Funds	Title
MAV HSD 001 R	Public Health Administration
MAV HMD 001 R	Training of Auxiliary Health Personnel
MAV HMD 002 UNDP	Fellowships (Medical Education)
MAV HMD 003 UNDP	Fellowships (Medical Education - Non-communicable Disease Prevention and Control)
MAV MPD 001 R	Malaria Control
MAV BVD 001 VL	Leprosy and Tuberculosis Control Programme
MAV BSM 001 R	Water Supply and Sanitation
MAV PIP 001 UNDP	Water Supply and Sewerage, Male

8. MONGOLIA

The Government of Mongolia accords very high priority to the development of health services. A new Public Health Law, the first comprehensive bill of its nature, came into force at the beginning of 1978. The main objective of the Government is the reduction of infant and maternal mortality rates. Priority is also accorded *inter alia* to improving the quality of medical care and expansion of coverage to the rural population, improving and upgrading medical education and related research, controlling communicable diseases and promoting environmental health. The Government intends to co-ordinate foreign assistance from all sources and to channel it to the priority health programmes, i.e., maternal and child health, production and control of biologicals and pharmaceuticals, environmental health and manpower development.

WHO has been collaborating with the national authorities in improving the management of health services. To this end, WHO assisted the Government in training personnel in health planning, management and health economics.

The national health information group completed its work. All the primary statistical registration and reporting forms have been reviewed and approved and are being printed. Reorganization is being effected in the health planning and finance units of the Ministry of Public Health.

A national committee was appointed to participate in the joint (with USSR) study of the state of health of the population.

Maternal and child health continued to be the first priority programme for international and bilateral cooperation. A seminar on emergency child care was held for district paediatricians. Oral rehydration trials were organized. Directives for the treatment of late toxicosis in pregnancy were prepared. A post-graduate course for paediatricians was completed. A WHO consultant in child haematology visited the country and assisted in establishing a child haematology unit in Ulan Bator.

The National Children's Fund started the construction of a new 120-bed children's hospital in a suburb of Ulan Bator. Eight new creches with 374 places were opened. The health education activities were stepped up; during 1977, the national radio organized 52 broadcasts devoted to health; health programmes are shown twice a month on the television. With WHO's collaboration, the State Health Education House has been made a more active and modern institution.

An assessment has shown that the project for medical rehabilitation is progressing satisfactorily. A rehabilitation committee consisting of five specialists was established. Four new hospital rehabilitation departments were organized. The Orthopaedic and Traumatic Hospital in Ulan Bator became a rehabilitation centre for disorders of the locomotor-system. The total number of staff engaged in rehabilitation increased from 168 to 196. All categories of medical staff are being given some kind of training in medical rehabilitation. A group of specialists to provide emergency care to

patients with stroke was organized and the wireless communication and control system was expanded. The programme for expansion of health services envisages a considerable increase of places in creches and in the number of physicians and pharmacists and intermediate-level health workers.

National competence in advanced laboratory medicine was being increased through the project on health laboratory technology. Reagents and culture media were supplied to the Central Bacteriological Laboratory. The programme for quality control of drugs and biologicals received reagents, pharmaceutical standard spares, reference literature, etc., as recommended by a WHO consultant. The production of Rev 1 vaccine for the 1978 immunization programme developed successfully and, by the end of March 1978, three million doses of brucella vaccine had been produced. The monitoring of immunization through laboratory testing of vaccinated herds was continued.

To meet the urgent need for the maintenance and repair of electro-medical equipment, a seminar was conducted. WHO assistance was received for the repair of sophisticated equipment and for training national staff.

With the implementation of the immunization programme, there have been no cases of diphtheria, tetanus and poliomyelitis in the recent past, and there was a marked decline in the numbers of pertussis and measles cases. The expansion of this programme aims at improving the coverage and the cold chain system, and introducing regular quality control of vaccine.

Substantial resources were invested in services, research, staffing, construction of buildings for new institutions and supplies and equipment in the field of non-communicable diseases. A new cancer hospital was constructed, and the people of four aimaks were screened for cancer. The cancer research unit was better staffed. The cardiovascular disease control programme was successfully developed and expanded.

Because of the socio-economic changes taking place in the country, environmental health received special attention and high priority. Action is under way to establish a national environmental health centre with a self-sufficient set of laboratories for monitoring environmental and occupational hazards, and for undertaking ergonomic studies, water safety control and the prevention of air pollution. The technical drawings for the Jargalant water supply and sewerage system were finalized, and the air pollution control programme made progress.

An increasing need was being felt for the improvement of undergraduate and basic education of health manpower, and WHO assisted in the development of the national system for post-graduate, post-basic and continuing education. The Government gave first priority to the teacher training programme. WHO assistance was valuable for the training of nine public health administrators at a course held in Moscow in October 1977. The third teacher training seminar attended by 22 participants took place in September 1977. A seminar for nurse tutors was organized and was attended by 11 participants. The Centre for Post-basic Education has completed a post-basic course in rehabilitation for 25 participants, and a course for 20 laboratory technicians/bacteriologists began in March 1978.

The total number of undergraduate students trained at the State Medical Institute as of 31 December 1977 was 1706. In September 1977, 14 post-graduate courses were started with 198 participants. Six bilateral experts worked at the Institute and practically all the WHO consultants coming under other programmes contributed to the development of the programme.

The new hostel for about 300 students was to be opened shortly. In January 1978, a seminar on teacher-training education was held for 24 participants. In March 1978, an educational conference was organized for 100 participants.

Projects in Operation

Number and Source of Funds	Title
MOG PPS 001 R	Management of Health Services
MOG HSD 001 R	Rehabilitation Services
MOG HSD 002 R	Strengthening of Emergency Health Services
MOG MCH 002 R	Maternal and Child Health
MOG MCH 003 FP	Epidemiological Studies of Population Growth
MOG HED 001 R	Health Education
MOG HMD 003 UNDP	Assistance to the State Medical Institute, Ulan Bator
MOG HMD 004 R	Training of Health Manpower
MOG ESD 001 R	Epidemiological Services and Surveillance
MOG OCD 001 R	Control of Non-communicable Diseases
MOG RAD 001 R	Strengthening of Radiological Services and Maintenance of Electro-medical Equipment
MOG PHA 001 R	Quality Control of Drugs and Biologicals
MOG BLG 001 UNDP	Brucella Vaccine Production
MOG LAB 003 R	Modern Health Laboratory Technology
MOG SES 001 R	Strengthening of Environmental Health Services

9. NEPAL

The long-term objective of the national health policy of the Government is to expand health services by involving the entire population of the Kingdom. The immediate objectives, as enunciated in the fifth plan covering the period 1975-1980, are to provide at least a minimum of health care to the maximum number of people and develop basic health services with emphasis on preventive and promotive health activities and the progressive integration of vertical projects into the basic health services.

The basic health problems are the high prevalence of communicable diseases, high infant and child mortality, diarrhoeal and nutritional disorders and a high birth rate. Health care coverage is inadequate owing to paucity of financial and health manpower resources and maldistribution of available manpower.

The Government has accorded priority to the social sector in the current five-year plan, which constitutes 24.6% of the budgetary allocation; of this, health is allocated 28.5%, which comes to 5.3% of the total plan outlay. However, while the budgetary allocation to the health sector is inadequate to match the magnitude of the national health problems, it is augmented by the allocation to drinking water supply programmes.

The health programme in Nepal is being supported by international and bilateral as well as non-governmental organizations. In 1977, about 6% of the total foreign assistance was earmarked for the health sector including water supply.

WHO's collaborative efforts with the Government are based on the priority programmes identified by country health programming.

The importance of health planning is being increasingly recognized. Both national staff and WHO project personnel were actively engaged in the preparation of the health sector's plan, mid-term evaluation, and the development of the country health profile. These activities are essential for the Planning Unit to be able to fulfil its future role.

The Integration and Community Health Division is entrusted, together with other vertical projects, with the task of providing at least a minimum of health care to the maximum population. To this end, the integrated basic health services have been significantly expanded with junior auxiliary health workers (village health workers) performing house-visiting in order to deliver five types of services, viz., family planning, anti-malaria, tuberculosis control, leprosy control and smallpox vaccinations, from health posts which are the operational basis of the integrated health services. With a view to introducing a village health volunteer scheme under the authority of village panchayats for developing primary health care, several test projects are being designed in the four development regions.

In order to improve the logistics and the supply system so as adequately to support the health institutions, a project for basic health supplies with financial support from UNDP, WHO and UNIDO is being formulated.

The laboratory services have developed satisfactorily, facilitating further expansion of the clinical and public health services, including communicable-disease control and epidemiological surveillance.

While the overall malaria incidence during 1977 showed a slight increase compared to that of the previous year, cases drastically increased in the Central Region, including the integrated districts of Bara, Parsa and Rauthat and in the Far-Western Region. The increase was due to operational drawbacks. An independent "Situation Analysis Team" made an assessment of the malaria programme during February/March 1978.

Leprosy control activities progressed well in respect of child and adult surveys and health education. Case detection is being done by the staff of health posts.

The tuberculosis control project progressed well; 2.96 million children were vaccinated with BCG during the period mid-1975 to mid-1977, out of these vaccinations, two million were done by the tuberculosis control project. The first National Tuberculosis Seminar was held in Kathmandu from 20 to 23 February 1978 under the auspices of the Government, IUAT and WHO.

In the field of community water supply and sanitation, in 1977, 48 rural water supply systems covering a population of 63 000 and 2 urban water supply systems covering a population of 16 000 were constructed. Community participation in rural areas has been satisfactory, and it has become a government policy to obtain community participation in all future rural water supply schemes.

The new Diploma Course in General and Community Medicine, which is based on a very innovative, problem-solving and integrated curriculum, is of great importance. The course is intended to produce "community physicians" as heads of multi-disciplinary rural health teams to meet adequately the needs of the rural population. The rural health teams should be able to contribute to the integrated, multi-sectoral rural development policy of the Government, which is in line with the primary health care concept.

Projects in Operation

Number and Source of Funds	Title
NEP PPS 001 R	Health Planning and Programming
NEP HSD 001 R	Development of Health Services
NEP MCH 001 FP	Family Health Aspects of Integrated Family Health Services, Siraha and Saptari Districts, Nepal

NEP MCH 002 R	Strengthening of Family Health Services
NEP NUT 003 R	Nutrition
NEP HED 001 R	Health Education
NEP HMD 001 R	Training of Health Manpower
NEP HMD 003 UNDP	Fellowships (Nursing)
NEP MPD 001 R	Malaria Eradication
NEP SPI 001 R	Smallpox Eradication
NEP BVD 001 R/VL	Leprosy Control
NEP BVD 002 R	Tuberculosis Control
NEP BSM 001 R	Community Water Supply and Sanitation

10. SRI LANKA

Top priority has been given by the Government to the attainment of a high standard of health by the people, through disease prevention and improvements in the health services, particularly in the rural areas, by using both the ayurvedic and the "western" systems. The main problems facing the country are in the field of communicable diseases, particularly malaria, health manpower development, family health and maternal and child health care, and environmental health. Inadequacy of water supply and sanitation represents a priority problem which is responsible for the high incidence of gastrointestinal diseases and diarrhoea in both urban and rural areas. In order to overcome these problems, the programmes that the Government is undertaking are: provision of qualified medical personnel to medical health services; modernizing existing hospital facilities; training auxiliary health workers; preventive services through health education; immunization; establishment of clinics in schools; initiation of community health projects with regard to water, sewerage, food hygiene; housing and environmental sanitation; increased family planning services; manufacture of drugs, and encouragement to the ayurvedic system of medicine.

WHO's collaborative programmes follow closely the priority areas identified by the Government. A course on health planning and medical care administration was conducted for senior hospital administrators from various provincial hospitals. Fellowships in hospital administration were also provided by WHO. The Japanese Government is to donate a fully-equipped teaching hospital to be constructed at Peradeniya. The first phase will include paediatric wards with 160 beds. In-service training courses were held in medical rehabilitation, for which the focal point has been the Ragama Rehabilitation Hospital. The Institute of Post-Graduate Medicine has undertaken a programme for training anaesthesiologists. WHO provided supplies and equipment to strengthen the Institute and also fellowships for training in anaesthesiology. Work on the repair and maintenance of electro-medical equipment was continued.

The family health programme is one of the major activities and aims at improving maternal and child care and family nutrition services, the expanded programme on immunization as well as health education, school health and family planning services. This programme also receives considerable assistance from UNFPA and other bilateral agencies. The manpower development aspect of this programme relates to the elaboration of integrated curricula for the teaching of human reproduction, family planning and population dynamics in medical schools. Particular reference needs to be made to the Ministry of Health's nutritional "Triposha" programme, which consists of supply of "Triposha" - a pre-cooked fortified weaning food derived from wheat-soya blend - to the infants.

The project on mental health continues to have as its primary objective, the establishment of post-graduate training in psychiatry in the country. The two unviersity departments of psychiatry are now well-established to take on this responsibility. The direction of the programme would in future be more towards the improvement of services and the development of an orientation to a community-based mental health service.

Malaria is one of the most important public health problems. There is vector resistance to DDT over almost all the island, and the spraying of malathion has to be resorted to in the control programme, particularly in the highly malarious areas. From 1968, an emergency programme with bilateral aid and technical assistance from WHO, has been in operation. The Government has formulated a five-year programme of intensive malaria control with WHO collaboration. France, Netherlands, US AID and UK are supporting this programme. WHO is also collaborating in the expansion of an immunization programme for the entire country within the next three years, for which UNICEF is providing extensive logistic support.

Three rounds of spraying with malathion have been completed. Beginning November 1977, case detection activities were reorganized, and 37 health institutions were selected to serve as indicator institutions. The epidemiological assessment of the incidence of malaria in the country in future will be based on the data collected from these institutions. Other institutions are continuing treatment of suspected malaria cases. Observations of the entomological trend in the fixed capture stations continued. The first cycle of spraying of fenitrophion in the Tonigala study area to study the impact of the insecticide on the incidence of malaria transmission was completed. A second cycle was started in February 1978.

The vector biology and control project was extended to cover 1978 and a rabies control strategy was worked out.

Local technicians were trained in perfusion techniques in the field of cardiovascular diseases.

Efforts are being made to reorient medical and nursing education. WHO assistance in this area includes projects concerning health manpower study, strengthening of nursing education, post-graduate teaching of community medicine and training in public health. The work related to curricular changes and teaching methodology was also carried out at the Regional Teacher Training Centre at Peradeniya, which is supported by WHO. An institute of acupuncture treatment has been established at the Colombo South Hospital. Teaching of human reproduction, family planning and population dynamics and psychiatry has been continued through the assignment of consultants.

Other activities carried out with WHO collaboration include filariasis control, and the prevention, control and treatment of blindness.

The supply of safe drinking water to rural areas is the most important development in the field of environmental health. Of the 100 WHO/UNICEF village water projects, 26 have been completed so far, the rest being in different phases of implementation.

Another project to be started in collaboration with UNICEF and WHO is the groundwater project, the aim of which is to provide water to inhabitants of drier areas through drilled wells. A mechanical engineer from UNICEF and a hydrogeologist from WHO have been provided for assisting the Government in developing the programme. WHO is also providing technical advice to water supply schemes not included in the UNICEF/WHO Regular programme of assistance but undertaken by the National Water Supply and Drainage Board.

Projects in Operation

Number and Source of Funds	Title
SRL PPS 001 R	National Health Planning
SRL HSD 001 R	Medical Rehabilitation
SRL HSD 002 R	Port Health Services
SRL HSD 003 R	Strengthening of Electro-medical Division
SRL HSD 004 R	Training of Anaesthesiologists
SRL HSD 005 R	Medical Stores Management
SRL MCH 001 FP	Family Health
SRL MCH 002 FP	Strengthening of Hospital-based Family Planning Services in Sri Lanka
SRL NUT 001 R	Public Health Nutrition
SRL HED 001 R	Health Education
SRL HED 002 FP	Health Education in Family Health
SRL HMD 001 R	Medical Education
SRL HMD 002 R	Nursing Advisory Services
SRL HMD 005 FP	Health Manpower Study
SRL HMD 006 FP	Strengthening of Nursing/Midwifery Education
SRL HMD 007 FP	Teaching of Human Reproduction, Family Planning and Population Dynamics to Medical Students

SRL HMD 008 R	Post-graduate Teaching of Community Medicine
SRL ESD 002 R	Strengthening of Surveillance and Control of Communicable Diseases
SRL MPD 001 R	Malaria Control
SRL VPH 001 R	Veterinary Public Health - Control of Rabies in Sri Lanka
SRL VBC 001 UNDP	Vector Control
SRL VBC 002 UNDP	Control of Filariasis and Arbovirus Diseases
SRL CAN 001 R	Cancer Epidemiology and Research
SRL CVD 001 R	*Cardiovascular Diseases*
SRL ORH 001 R	Oral Health
SRL MNH 001 R	Mental Health
SRL RAD 001 R	Radiation Health
SRL HWP 001 R/DL	Occupational Health and Industrial Hygiene
SRL PHA 001 R	Quality Control of Biologicals and Pharmaceutical Products
SRL BLG 001 R	Production of Improved Vaccines
SRL LAB 001 R	Strengthening of Laboratory Services
SRL BSM 002 R	Provision of Basic Sanitary Services
SRL SES 001 R	Undergraduate Training in Public Health Engineering
SRL FSP 001 R	Food Hygiene

11. THAILAND

With the basic national policy of minimizing socio-economic differences between rural and urban populations, the Government's goals in the health sector for the fourth five-year plan relate to a reduction in the population growth, maternal and child health and nutrition, control of communicable diseases and environmental health hazards, free medical care for the poor, strengthening of national health planning and management and the health information system. The health problems for intervention by the Government are water and food-borne diseases, vector-borne diseases including malaria and dengue haemorrhagic fever, other communicable diseases such as leprosy, tuberculosis, population growth and accident prevention, in that order of priority. Water-borne and food-borne diseases affect every year about one-third of the whole population. The incidence of other preventable diseases continued to be high.

The new planning procedure of country health programming and project formulation which led to the formulation of the fourth five-year plan saw a three-fold increase in the allotment of national resources to the health sector. In 1978, the public health budget represents 4.1% of the total government budget. Emphasis is being placed on the construction of health facilities in rural areas, and most of the budget increase is allotted to construction work.

A National Health Board, which will be an inter-sectoral body, to function as a policy making, planning and coordinating body for all aspects of health development, is under consideration. A Royal Thai Government/WHO Coordinating Committee has been set up. The national officials at the decision-making level are involved in the planning and implementation of the Organization's collaborative programme. An assessment of the work of the Coordinating Committee was carried out in October 1977, and the plan of work for 1978 was developed. A working group has been set up by the Committee for coordinating and monitoring operational studies in health services.

A coordinating body formed between the Ministry of Public Health and Mahidol and Chulalongkorn Universities is bringing about close coordination between consumers and producers of health manpower. The Ministry has begun to bring in the private sector to collaborate in health services development. with emphasis on primary health care. The project "Accelerated Family Planning and Health" is being implemented in 20 provinces with a credit from IDA.

The WHO collaborative programmes are based on priority programmes identified during the Country Health Programming.

In the field of health planning and management, significant progress was made in developing a management information system, and a training programme in management.

Two national seminars were held on primary health care, the first one in September 1977 in preparation for the Regional Seminar, and the second in January 1978 in preparation for the International Conference on Primary Health Care.

Implementation of the primary health care programme has started, covering 23 provinces in 1977 and another 25 provinces in 1978. Training of 17 483 village health communicators was completed in 1977, and another 51 000 village health communicators will be trained in 1978.

A new supervisory system has been developed by the provincial health care project. A management scheme has been introduced for monitoring construction works (of district hospitals, health centres and midwifery centres).

A systematic information system was tested by the Family Health Division in four provinces, in order to develop a comprehensive information on all maternal and child health services delivered by the institutions. New acceptors of family planning exceeded the target. Various types of health personnel, including traditional health attendants, were trained in large numbers. The family planning programme continued to be highly successful with targets set for new acceptors in 1977 having been exceeded by 44.2%.

Data from the national nutritional survey are being analysed. The project of integrated nutrition and family planning in primary health care in Samergn District is progressing well. There are 620 child nutrition centres in 64 provinces. Regional centres for health education were established. Research projects in relation to primary health care are in progress. The project on "Monitoring Mental Health Needs" is carrying out a census of patients contacting health services because of mental health problems.

A revision of the legislation for drug control made progress, and plans were under way to increase the local production of DPT vaccine.

Epidemiological surveillance, integrated into primary health care at village level, was initiated. Malaria morbidity and mortality in 1977 continued to be as high as in 1976. Several small-scale applied research studies were in progress. A national seminar on malaria control methods was held in February 1978. The evaluation of Maharakham Leprosy Project - implementation of alternative integrated scheme of leprosy control - was carried out with support from the Sasakawa Memorial Foundation of Japan through WHO. A re-survey for the epidemiological study of tuberculosis, with the main purpose of comparing the results with those obtained from the first survey carried out 15 years ago, is in progress. During January and February 1978, 700 cases and 11 deaths were reported from a number of provinces. Cholera epidemics were reported in Bangkok and neighbouring provinces. Morbidity from diarrhoeal diseases continued to be high.

Project formulation for the Expanded Programme on Immunization with revised strategies was carried out. UNICEF is supporting this programme, with emphasis on the development of a cold chain. A plan has been developed to establish a six-month training course in eye diseases and cataract surgery and to train doctors and nurses from provincial hospitals.

In the field of cancer, the ongoing activities were reviewed by the Ministry of Public Health in cooperation with representatives of Mahidol University,

the Cancer Society of Thailand and WHO. A plan was developed to strengthen cancer control activities in the country.

As regards oral health, the activities were concentrated on building up a dental health service infrastructure in provincial health offices and provincial and district hospitals. A National Oral Health survey was completed. The teaching of dental public health in the three dental schools has been strengthened, and the Faculty of Public Health, Mahidol University, prepared plans for establishing a Master of Public Health Programme with majoring in dental public health.

The activities of the Community Water Supply and Sanitation project were concentrated on providing support to primary health care by emphasizing the provision of access to safe water and sanitary disposal of excreta. Four districts were selected as pilot projects for this purpose. The preventive health measures undertaken by this project will be evaluated for country-wide application, and the experience gained used for providing safe water and sanitary facilities for excreta disposal in all rural areas during the International Drinking Water Supply and Sanitation Decade.

Two air pollution monitoring stations were established, and a training course for the operators of the air pollution monitoring stations was conducted in Bangkok with the participation of the South-East Asia and Western Pacific Regional Offices of WHO.

Bacteriological examination, chemical analysis for quality control and an analysis for toxic contaminants were carried out by the Division of Food Analysis.

An evaluation of the training programme of the first group of nurse practitioners was completed. The training of village health volunteers and village health communicators continued. Short training programmes in planning and management were given to district and provincial health administrators. A conference was held to facilitate coordination, communication and collaboration among the producers and consumers of, and sponsors of regulations on, health manpower.

Efforts are being made to develop regionally reorganized programmes in public health, tropical medicine and dental public health. The Regional Teacher Training Centre at Chulalongkorn University continued to function.

Projects in Operation

Number and Source of Funds	Title
THA PPS 001 R	Planning, Management and Information System
THA HSD 001 R	Urban Health Care Development

THA PHC 001 R/VL	Development of Provincial Health Care
THA MCH 001 FP	Bangkok Municipality Family Planning Field Workers Project
THA MCH 002 FP	Accelerated Development of Maternal and Child Health and Family Planning Services
THA MCH 003 FP	Fellowships in Family Planning and other Related Fields
THA MCH 004 FP	Expansion of Family Planning Services and Support of the Infrastructure of the National Family Planning Programme
THA MCH 005 FP	Field Trials on New Patterns of Family Planning Services
THA NUT 003 R	Nutrition Training and Studies, Food Marketing and Distribution
THA HED 001 R	Development of Health Education
THA HMD 003 R	Faculty of Public Health
THA HMD 004 R	Medical Education and Training
THA HMD 005 R	National Institute of Dermatology
THA HMD 011 R	Health Manpower Development
THA MPD 001 R	Malaria and Vector Control
THA ORH 001 R	Oral Health
THA LAB 001 R	Strengthening of Laboratory Technology
THA BSM 001 R	Community Water Supply
THA BSM 002 UNDP	Community Water Supply and Sanitation
THA SES 001 R	Strengthening of the Department of Sanitary Engineering, Chulalongkorn University
THA FSP 001 R	Food and Drug Control

12. INTER-COUNTRY

Projects in Operation

Number and Source of Funds	Title
IC CWO 002 R	Liaison with ESCAP
IC RPD 001 R/VL	Biomedical Research
IC RPD 002 R/VD	Collaboration in Biomedical and Health Services Research
IC DGP 001 R	Regional Director's Development Programme
IC DGP 002 R	Urgent and Unpredictable Health Problems
IC PPS 002 UNDP	Strengthening of Health Services Administration through Training in Planning
IC HSD 001 R	Health Research and Development
IC HSD 002 R	Advisory Services
IC HSD 003 R	Medical Rehabilitation
IC HSD 005 R	Traditional Medicine
IC HSD 007 R	National Health Information System Development
IC HSD 008 R	Improvement of National Health Planning through Country Health Programming
IC PHC 001 R	Promotion of Primary Health Care
IC PHC 002 R	Organization and Administration of Primary Health Care
IC PHC 003 R	Development of Appropriate Technology in Relation to Primary Health Care

IC MCH 002 R	Course for Senior Teachers in Child Health
IC MCH 003 R	Education and Studies in Maternal and Child Health
IC MCH 011 FP	Regional Team on Family Health
IC MCH 013 R	Promotion of Family Health (including Nutrition)
IC NUT 002 R	Nutrition Teaching in Educational Institutions for Health Personnel
IC HED 003 FP	Development of Health Education in Family Health Programme
IC HMD 001 R	Continuing Education for Nurses
IC HMD 003 R	Education and Training in Community Health
IC HMD 006 R	Educational Technology
IC HMD 008 FP	Medical Education in Human Reproduction, Family Planning and Population Dynamics
IC HMD 010 R	Development of National Post-graduate Training Centres
IC HMD 011 R	Continuing Education for Health Workers
IC HMD 013 R	Training of Health Personnel (including Community Health Workers) for Primary Health Care
IC ESD 001 R	Dengue Haemorrhagic Fever Surveillance and Control
IC MPD 001 R	Advisory Team on Antimalaria Activities
IC MPD 003 R	Meetings on Antimalaria Operations
IC SPI 001 R	Smallpox Eradication

IC SPI 002 R/UNDP	Development of Expanded Programme on Immunization
IC SPI 003 R/VI	Expanded Programme on Immunization
IC BVD 001 R	Prevention and Control of Diarrhoeal Diseases in Children
IC BVD 002 R	Inter-country Training Activities for Sexually-transmitted Diseases Control
IC VPH 001 R	Training in Veterinary Public Health
IC PBL 001 R	Prevention of Blindness and Visual Impairment
IC PBL 002 R	Prevention of Blindness
IC CVD 001 R	Cardiovascular Diseases
IC MNH 003 R	Regional Meetings on Mental Health
IC IMM 001 R	Training in Immunology
IC DPM 001 R	Development of Drug Policy in Relation to Primary Health Care
IC PHA 001 VK	Quality Control of Biological and Pharmaceutical Products
IC LAB 004 R	Standardization of Diagnostic Material and Laboratory Practice
IC BSM 001 R	Community Water Supply and Sanitation
IC PIP 002 R	Sector Development in Environmental Health
IC CEP 002 R	Environmental Pollution Control
IC HLT 001 R	Health Literature and Teaching Material
IC HLT 003 FP	Regional Centre for Documentation on Human Reproduction, Family Planning and Population Dynamics

13. INTER-REGIONAL ACTIVITIES OUTSIDE THE REGION WITH PARTICIPANTS FROM THE SOUTH-EAST ASIA REGION

(1 May 1977 - 30 April 1978)

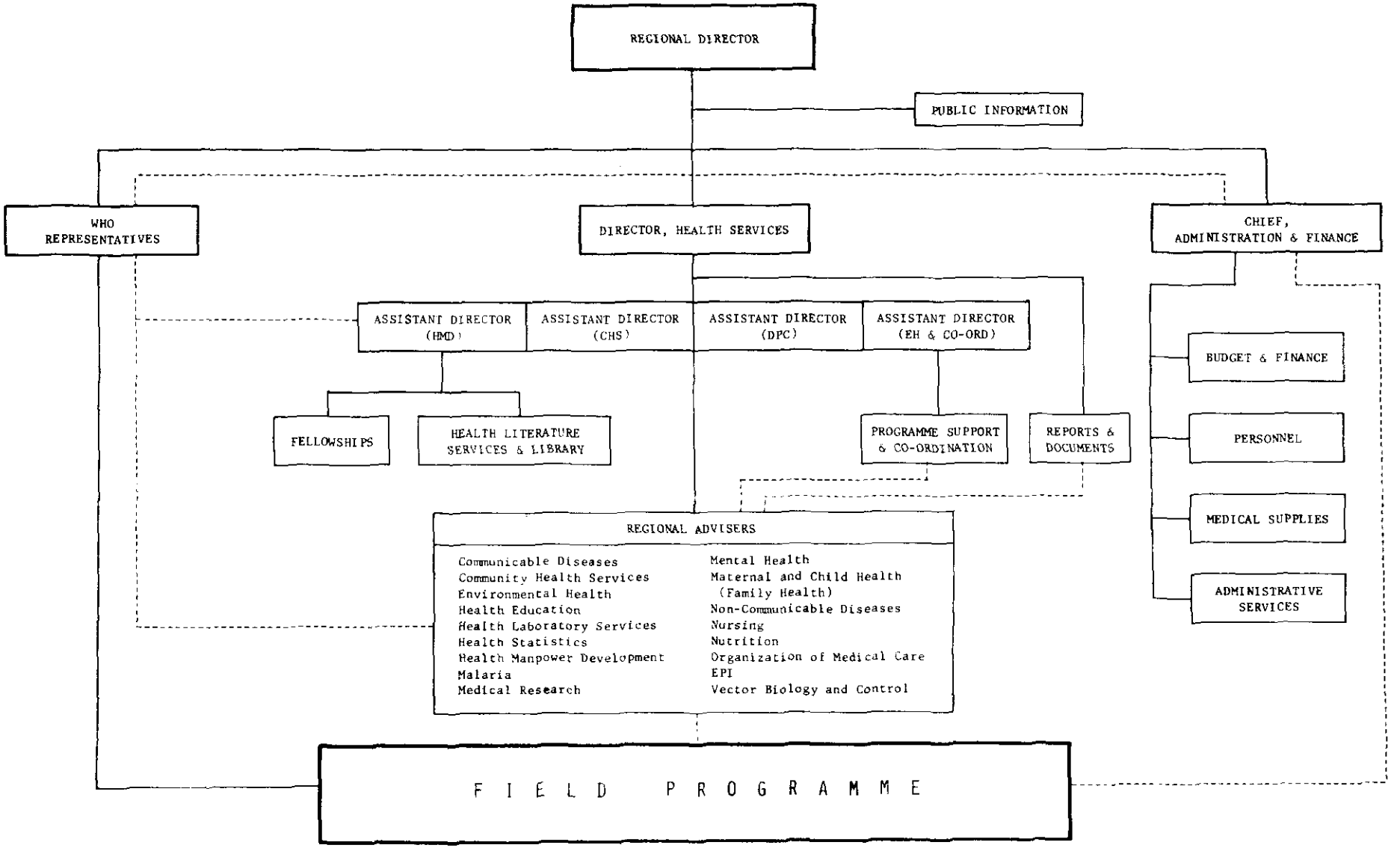
Project No. and Source of Funds	Title	Number of Participants
IR/IRP/HMD/033/FP/77/32.05	Course in Fertility Management and MCH Care for Senior Teachers, Singapore (4 July - 13 August 1977)	2 (1 from India & 1 from Indonesia)
INT/77/010/A/01/14	Study Tour on Traditional Medicine to China (4-24 August 1977)	5 (1 from Bangladesh, 1 from Burma, 1 from India, 1 from Maldives & 1 from Nepal)
ICP/IMM/001	Course on Immunology, Lausanne, Switzerland (21 August - 21 September 1977)	2 (1 from Sri Lanka & 1 from Thailand)
UNDP	Training Course in Acupuncture Treatment, China (3 months from 7 September 1978)	5 (1 from Bangladesh, 1 from Burma, 1 from India, 1 from Nepal, and 1 from Sri Lanka)
IR/IRP/HMD/033/FP/77/32.05	Course in Fertility Management and MCH Care for Senior Teachers, Singapore (12 September - 22 October 1977)	4 (1 from Bangladesh, 1 from India, 1 from Sri Lanka & 1 from Thailand)
IR/IRP/SPI/005/VS/77	Training Course on Planning and Management for Expanded Programme on Immunization, Kuala Lumpur (25 October - 4 November 1977)	14 (1 from Bangladesh, 1 from Burma, 2 from India, 2 from Indonesia, 1 from Maldives, 1 from Nepal, 2 from Sri Lanka & 4 from Thailand)

Project No. and Source of Funds	Title	Number of Participants
ICP/ESD/003/RB/77 Regular	Seminar on Viral Hepatitis, Kuala Lumpur (28 November - 1 December 1977)	5 (1 from Burma, 1 from India, 1 from Indonesia, 1 from Sri Lanka & 1 from Thailand)
SE/IND/MNH/RB.77 SE/INO/LAB/001/RB.73	Second Post-graduate Course in Traffic Medicine, Geneva (7-11 November 1977)	2 (1 from India & 1 from Indonesia)
UNDP	Study Tour on Basic Health Services, China (15 March - 4 April 1978)	3 (1 from Bangladesh, 1 from Maldives & 1 from Nepal)
IR/IRP/HMD/033/FP/78/32.05	Courses in Fertility Management and MCH Care for Senior Teachers, Singapore (10 April - 20 May 1978)	6 (1 from Bangladesh, 1 from Burma, 1 from India, 2 from Indonesia & 1 from Nepal)

ANNEXES

ORGANIZATIONAL STRUCTURE

(As at 30 June 1978)



GEOGRAPHICAL DISTRIBUTION OF INTERNATIONAL STAFF ASSIGNED TO THE SOUTH-EAST ASIA REGION AS OF 31 MAY 1978

Country	South-East Asia Region			WHO (Global) Total
	Regional Office	Field staff including WRs and Regional Advisers	Total	
Australia	-	2	2	26
Bangladesh	1	1	2	6
Belgium	-	2	2	25
Bolivia	-	1	1	7
Bulgaria	-	3	3	5
Burma	1	5	6	7
Canada	-	2	2	43
Chile	-	2	2	15
Cyprus	-	1	1	4
Denmark	-	2	2	19
Egypt	-	4	4	33
Ethiopia	-	1	1	4
France	1	3	4	100
Germany, Federal Republic of	1	1	2	42
Ghana	-	1	1	15
Guatemala	-	1	1	8
India	3	11	14	59
Indonesia	1	4	5	10
Ireland	-	1	1	6
Italy	-	1	1	35
Jamaica	-	1	1	6
Japan	-	2	2	12
Liberia	-	1	1	4
Malaysia	-	2	2	7
Malta	-	1	1	4
Nepal	-	5	5	10
Nigeria	-	1	1	11
Pakistan	-	1	1	18
Philippines	-	4	4	23
Poland	-	4	4	12
Republic of Korea	-	2	2	11
Singapore	-	1	1	4
Sri Lanka	1	10	11	18
Sudan	-	1	1	16
Sweden	1	1	2	25
Switzerland	-	1	1	35
Thailand	1	6	7	8
Union of Soviet Socialist Republics	-	9	9	47
United Kingdom	3	17	20	133
Tanzania	-	2	2	8
United States of America	-	22	22	176
Yugoslavia	-	4	4	32
Zambia	-	1	1	2
Other countries	-	-	-	408
Grand Total	14	148	162	1499

Not included: Staff on leave without pay.

MEETINGS AND COURSES ORGANIZED BY WHO AND HELD IN THE SOUTH-EAST ASIA REGION (1 July 1977 - 30 June 1978)

1977

1-29 July	Workshop on Health Education for Health Workers (BUR HMD 005)	Rangoon
4-7 July	Summer Workshop on Hospital Health Education (IND HED 003)	New Delhi
11-16 July	Training Course for Integration of Public Health and General Nursing Curricula for Nursing Sister Tutors (BUR HMD 005)	Rangoon
18 July	Seminar on Pathology of Pregnancy (MOG MCH 002)	Mongolia
18-21 July	National Seminar on Primary Health Care (BAN HSD 001)	Dacca
20-22 July	Inter-aimak Seminar on Maternal and Child Health	Bulgan (Mongolia)
26-30 July	Workshop for the Faculty Members of the Family Welfare Visitors Training Institutes to Review the Curriculum (BAN MCH 002)	Dacca
29 July - 1 August	Seminar on Epidemiological Surveillance with Emphasis on Filariasis (BAN ESD 002)	Dinajpur (Bangladesh)
1-27 August	In-service Training of Senior Staff Nurses on Operation Theatre Techniques (BUR HMD 005)	Rangoon
8-12 August	Seminar on Medical Rehabilitation (ICP HSD 003)	New Delhi
9-13 August	Seminar on Documentation in the Field of Human Reproduction, Family Planning and Population Dynamics in the South-East Asia Region (ICP HLT 003)	Jakarta
22-31 August	Workshop on Research Methods for District Public Health Nurses (IND HMD 002)	Cochin (India)
23-26 August	Workshop on Regional Collaborative Studies on Falciparum Malaria Resistant to 4-Aminoquinolines (ICP RPD 001)	New Delhi
5-7 September	Workshop on Maternal and Child Health and Family Planning (BAN MCH 003)	Dacca
5-9 September	Third Educational Seminar for Nurse Teachers (MOG HMD 004)	Ulan Bator
5-17 September	Training Course for Senior Instructors on Ward Teaching and Administration (BUR HMD 005)	Rangoon
5-30 September	Inter-Regional Course on Management for National and WHO Staff	New Delhi

12-17 September	Workshop on Guidelines on Design of Rural Water Systems in Burma (BUR BSM 002)	Rangoon
12-17 September	Inter-country Consultation Meeting on Training in Human Sexuality, including Sex Education	New Delhi
12-23 September	Workshop on Development of In-service Education/ Staff Development Programmes for Nursing Personnel (IND HMD 002)	Jaipur (India)
12-24 September	In-service Training Course for Nurses working in E.N.T. Units in E.N.T. Nursing Care (BUR HMD 005)	Rangoon
12-30 September	Regional Training Course in *in vitro* Test for the Responses of *P. falciparum* to Chloroquine (ICP RPD 001)	Bangkok
12 September - 1 October	Training Course for Nurses working in General Surgical Wards in Oncological Nursing Care (BUR HMD 005)	Rangoon
12 September - 8 October	Training Course for Health Assistants on Vector-Borne Disease Control (BUR HMD 005)	Rangoon
18-20 September	First Training Workshop on the Future Activities of Smallpox Eradication and the Expanded Programme on Immunization (NEP SPI 001)	Kathmandu
19-23 September	National Conference on Primary Health Care (ICP PHC 001)	Kathmandu
19-30 September	Workshop on Research Methods for Graduate-level Nurse Educators (IND HMD 007)	Mussoorie (India)
20-24 September	Seminar on Laboratory Diagnosis of Intestinal Bacterial Infections (MOG ESD 001)	Ulan Bator
21-23 September	Second Training Workshop on the Future Activities of Smallpox Eradication and the Expanded Programme on Immunization (NEP SPI 001)	Kathmandu
26-28 September	Seminar on Epidemiology of Bacterial Intestinal Infections (MOG ESD 001)	Ulan Bator
26-29 September	Symposium on Pathology and Pathogenesis of Tropical Diseases (ICP RPD 001)	Bangkok
26-30 September	National Workshop on Teaching Methodology and use of Audio-visual Aids for Teachers of Health Auxiliaries (BAN HSD 001)	Dacca
26-30 September	Bi-Regional Invitational Seminar on Physician and Population Change	Bangkok
27-29 September	Third Training Workshop on the Future Activities of Smallpox Eradication and the Expanded Programme on Immunization (NEP SPI 001)	Kathmandu

3-7 October	Workshop in Resource Allocation for Provincial Health Planning (THA PPS 001)	Bangkok
3-8 October	Workshop on Family Health/Better Family Living through Integration and Education for Integrated Rural Development (ICP HMD 003)	New Delhi
10-15 October	Seminar on Training in Teaching of Human Reproduction, Family Planning and Population Dynamics in Medical Schools (ICP HMD 008)	Colombo
10-18 October	Workshop on Community Mental Health (BAN MNH 001)	Dacca
10-20 October	Workshop on Community Health-oriented Nursing Education (ICP HMD 001)	New Delhi
10-22 October	Workshop on Clinical and Bio-environmental Measures in Malaria Control (SRL MPD 001)	Sri Lanka
12 October - 23 November	In-service Education in Hospitals for Improvement of Nursing Practice (ICP HMD 001)	Sri Lanka
17-28 October	In-service Training in Public Health Nutrition for Nurses (THA NUT 003)	Chiang Mai (Thailand)
18-21 October	"Reunion" Meeting of Past Fellows of UNICEF/WHO Course for Senior Teachers of Child Health (ICP MCH 002)	New Delhi
23 October - 12 November	Malaria Training Course for Medical Officers (INO MPD 001)	Jakarta
24-29 October	National Workshop on Health Education (BAN HED 002)	Dacca
24-30 October	Workshop on Development of Teaching and Educational Aids for Health Education in Hospitals (IND HED 003)	New Delhi
24 October - 4 November	Inter-Regional Training Course on Air Quality Monitoring (ICP CEP 003)	Bangkok
26-28 October	Consultation Meeting on Community Health-oriented Nursing Education (ICP HMD 001)	New Delhi
31 October - 4 November	First Intra-country Seminar on Leprosy Control for Medical Officers (for Central and Eastern Regions) (NEP BVD 001)	Kathmandu
31 October - 11 November	Course in Educational Science for Teachers of Health Professionals (ICP HMD 006)	Jakarta
31 October - 12 November	Course on Immunology with Special Reference to Leprosy (ICP IMM 001)	New Delhi

31 October - 19 November	Regional Training Course in *in vitro* Test for the Response of *P. falciparum* to Chloroquine (ICP RPD 001)	New Delhi
1-13 November	Seminar on In-service/Continuing Education (ICP HMD 001)	Colombo
7 November - 3 December	In-service Training Course for Staff Nurses working in Neonatal Units in Neonatal Nursing Care (BUR HMD 005)	Rangoon
8 November - 3 December	Workshop on In-service Education (BAN HSD 001)	Dacca
11-14 November	Second Quarterly Workshop for the Faculty Members of Family Welfare Visitors Training Institutes to review the Activities of the Institutes (BAN MCH 002)	Dacca
14-23 November	Regional Seminar on Health Manpower Studies in Relation to Health Care Delivery (ICP PPS 002)	Bangkok
14-25 November	Training Programme in Clinical and Public Health Nutrition for Medical Officers (THA NUT 003)	Bangkok
14 November - 3 December	Training Course for Nurses working in Medical and Surgical Wards in Intensive Nursing Care (BUR HMD 005)	Rangoon
14 November - 10 December	Workshop on Health Education for Health Workers (BUR HMD 005)	Mandalay (Burma)
15 November - 30 December	Course on Child Haematology (MOG MCH 002)	Ulan Bator
21-26 November	Regional Meeting on Primary Health Care (ICP PHC 001)	New Delhi
21 November - 6 December	National Course in the Development and Implementatinn of Nursing Curriculum in Nepal (ICP HMD 006)	Kathmandu
28 November - 2 December	Seminar on Organization and Delivery of Nutrition Activities in Health Sector (ICP NUT 002)	New Delhi
28 November - 2 December	Workshop on Health Education in Institution-based Family Planning Programme (ICP HMD 003)	New Delhi
28 November - 9 December	Regional Seminar on Anti-Malaria Operations (ICP MPD 003)	Aurangabad and Bombay (India)
28 November - 9 December	Development of In-service Education/Staff Development Programmes for Nursing Personnel (IND HMD 002)	Madras
1 December	Seminar on Orthopaedic Rehabilitation (MOG HSD 001)	Ulan Bator

5-6 December	Workshop on Problem Solving for Nursing Hospital Administrators (IND HMD 007)	New Delhi
5-8 December	National Seminar on Teaching of Human Reproduction, Population Dynamics and MCH-based Family Planning (BAN HRP 001)	Mymensingh (Bangladesh)
5-8 December	Inter-Regional Consultation on Appropriate Technology for Health	New Delhi
5-10 December	Consultation on the Development of Intervention Strategies for High Risk Mother and Young Child applicable to SEAR (ICP MCH 011)	Rangoon
5-10 December	Workshop on Cancer Control (BAN CAN 001)	Dacca
5-22 December	Fourth National Orientation Course for Hospital Administrators (SRL HSD 004)	Colombo
6-10 December	Inter-country Group Meeting on Mental Health (ICP MNH 003)	New Delhi
6-16 December	Country Course in National Health Planning (SRL PPS 001)	Colombo
15-17 December	First WHO/AIIMS Follow-up Workshop on the Strengthening of Integrated Teaching of Human Reproduction, Family Planning and Population Dynamics in Medical Schools in India (ICP HMD 008)	Hyderabad (India)
19-23 December	Sixth WHO/AIIMS Workshop on the Strengthening of Integrated Teaching of Human Reproduction, Family Planning and Population Dynamics in Medical Schools in India (ICP HMD 008)	Hyderabad (India)
19-26 December	Workshop on Strengthening of Family Health Education in the Pre-service Training in Health and Allied Personnel (ICP HED 003)	Colombo
19-31 December	Workshop on Health Education for School Teachers (BUR HMD 005)	Rangoon
20-24 December	National Seminar on Zoonoses (BAN HSD 002)	Dacca
26 December 1977 - 9 January 1978	National Course for Training and Orientation in Occupational Toxicology (IND HWP 001)	Ahmedabad (India)
27 December 1977 - 2 January 1978	Workshop on Planning Development of Textbooks and other Learning Resource Materials for Training in Family Health Education (ICP HED 003)	Colombo
29 December 1977 - 10 January 1978	Orientation Course for Medical Officers on Nutrition	Rangoon
30 December 1977 - 18 January 1978	Fifth National Orientation Course for Hospital Administrators (SRL HSD 004)	Colombo

1978

16-20 January	Workshop on Quality Control of Drugs (ICP PHA 001)	New Delhi
6-18 February	Course on Neurological Nursing Care (IND HMD 013)	Bangalore (India)
8-10 February	Inter-country Border Malaria Co-ordination Meeting (Bangladesh, Burma and India) (ICP MPD 003)	Rangoon
20-24 February	Training Course for Ninth Revision of the ICD (ICP ESD 003)	New Delhi
27 February - 8 March	Inter-Regional Seminar on Veterinary Public Health	New Delhi
13-18 March	Seminar on Management of Diarrhoeal Diseases in Children as an Integral Part of Community Health Services (ICP MCH 003)	Bangkok
14-17 March	Workshop on South-East Asia Regional Programme for Research in Epidemiology and Control of Malaria (ICP RPD 001)	New Delhi
20-24 March	Seminar on Strategy for Restoring Sight to the Curable Blind (ICP PBL 001)	New Delhi
20-25 March	Seminar on Drug Policies and Management (ICP DPM 001)	Colombo
3-4 April	Inter-country Border Malaria Co-ordination Meeting (India, Maldives and Sri Lanka) (ICP MPD 003)	Colombo
11-13 April	Consultative Meeting on Planning Regional Self-Sufficiency in Vaccine Production for Expanded Programme of Immunization in South-East Asia (ICP LAB 004)	New Delhi
11-23 April	Inter-country Workshop on Sexually-Transmitted Diseases Control (ICP BVD 002)	Bangkok
17-19 May	Inter-country Border Malaria Co-ordination Meeting (India and Nepal) (ICP MPD 003)	Kathmandu
22-27 May	Second Inter-country Workshop on Field Operation Research into Delivery of MCH/FP Services (ICP MCH 011)	Surabaya (Indonesia)
29 May - 2 June	Consultation on the Development of Teacher Training Programmes for all Categories of Health Workers and the Role of the Regional and National Teacher Training Centres (ICP HMD 006)	Rangoon
26-30 June	Inter-country Seminar on the Role of Pre-clinical Sciences in the Teaching of Community Health in the Medical Curriculum (ICP HMD 003)	New Delhi
June	Follow-up Workshop on Field Operation Research on MCH/FP (ICP MCH 011)	Colombo
June	Workshop on PHN Curriculum Planning (NEP HMD 001)	Kathmandu

CONFERENCES AND MEETINGS IN THE SOUTH-EAST ASIA REGION CALLED BY THE UNITED NATIONS AND ITS RELATED SPECIALIZED AGENCIES AT WHICH WHO WAS REPRESENTED
(1 July 1977 - 30 June 1978)

1977

5-10 September	ESCAP: Expert Group Meeting on Socio-economic Measures Affecting Fertility Behaviour, with Special Emphasis on Actionable Programmes	Bangkok
1- 5 November	ILO: Regional Workshop on Education and Motivation of Rural Workers for Family Welfare Planning	Bangkok
8 November-20 December	Asian Development Institute: Seminar on Demographic, Economic and Social Investments	Bangkok
21-26 November	International Institute for Hydraulic and Environmental Engineering: UNEP/UNESCO/ICRO Panel on Microbiology	Bangkok
1- 7 December	ESCAP: Committee on Development Planning (Second Session)	Bangkok
8-12 December	ESCAP: First Regional Preparatory Meeting for the United Nations Conference on Science and Technology for Development	Bangkok
19-22 December	ESCAP: Inter-governmental Meeting on Post-MTS Training Activities and Developmental Perspectives	Bangkok

1978

9-13 January	ESCAP: Meeting of the National Liaison Officers with the Inter-agency Committee on Integrated Rural Development for Asia and the Pacific	Bangkok
7- 9 February	UNESCO: Sub-Regional Meeting of Experts for Preparation of National Papers for the United Nations Conference on Science and Technology	New Delhi
21-30 March	UNESCO: APEID Associated Centres' Consultation Meeting	Bangkok
22-25 March	Regional Organization for Inter-governmental Co-operation and Co-ordination in Population and Family Planning in South-East Asia: Workshop on Linkages Between University-based Population Activities and National Population/Family Planning Programmes	Bangkok
4-10 April	ESCAP: Expert Group on Water Resources Data Systems	Bangkok
5-10 April	ESCAP: Seminar on Statistics for Rural Development	New Delhi
18-25 April	UNDP: Meeting of Regional Representatives of UNDP in Asia and the Pacific	Colombo

CONFERENCES AND MEETINGS OF GOVERNMENTAL, NON-GOVERNMENTAL AND OTHER ORGANIZATIONS HELD IN THE SOUTH-EAST ASIA REGION AT WHICH WHO WAS REPRESENTED
(1 July 1977 - 30 June 1978)

1977

24-25 September	Indian Psychiatric Society: West Zone VIII Annual Conference	Baroda (India)
10-18 October	Government of Bangladesh: First National Workshop on Mental Health	Dacca
24-29 October	Lady Hardinge Medical College and Hospital/ Central Health Education Bureau, India: National Workshop on Development of Teaching Aids for Health Education in Hospitals	New Delhi
30 October-3 November	The International Association for Child Psychiatry and Allied Professions, USA: International Study Group Meeting	Ahmedabad (India)
6-11 November	Federation for the Mentally Retarded: III Asian Conference on Mental Retardation	Bangalore (India)

1978

16-18 January	Indian Psychiatric Society: XXX Annual Conference	New Delhi
19-20 January	World Psychiatric Association: Regional Symposium	New Delhi
21 January	Group for the Advancement of Mental Health in Asia, New Delhi: Inaugural Meeting	New Delhi
23-25 January	Institute of Home Economics, University of Delhi: Seminar on "Dietetics in India Today"	New Delhi
6-10 February	Ministry of Health, Republic of Indonesia: National Workshop on Community Mental Health	Jakarta
22-28 May	Government of India, Ministry of Agriculture and Irrigation, Department of Rural Development: National Workshop on Population Education in the context of Agricultural Extension and Rural Development	Bangalore (India)

FELLOWSHIP TABLES

Table 1. Fellowships Awarded* by Source of Funds, Type of Fellowship and Country of Origin of the Fellow
(1 May 1977 - 30 April 1978)

Country of Origin	Period**	Regular Funds	UNDP Funds	UNFPA Funds	Total	Regional	Inter-Regional
Bangladesh	1977	25	6	9	40	18	22
	1978	11	11	16	38	33	5
	Total	36	17	25	78	51	27
Burma	1977	54	14	3	71	12	59
	1978	18	6	-	24	3	21
	Total	72	20	3	95	15	80
DPR Korea	1977	12	-	-	12	-	12
	1978	-	-	-	-	-	-
	Total	12	-	-	12	-	12
India	1977	146	2	-	148	32	116
	1978	44	1	-	45	2	43
	Total	190	3	-	193	34	159
Indonesia	1977	78	7	1	86	39	47
	1978	19	6	-	25	11	14
	Total	97	13	1	111	50	61
Maldives	1977	3	-	-	3	3	-
	1978	3	-	-	3	3	-
	Total	6	-	-	6	6	-
Mongolia	1977	38	4	-	42	1	41
	1978	1	-	-	1	-	1
	Total	39	4	-	43	1	42
Nepal	1977	39	-	4	43	29	14
	1978	9	-	-	9	8	1
	Total	48	-	4	52	37	15
Sri Lanka	1977	78	1	43	122	61	61
	1978	13	-	1	14	2	12
	Total	91	1	44	136	63	73
Thailand	1977	45	-	13	58	5	53
	1978	47	-	-	47	13	34
	Total	92	-	13	105	18	87
Grand Total		683	58	90	831	275	556

*Extensions are not included.

**The figures are broken down into two parts: for the periods from 1 May to 31 December 1977 and from 1 January to 30 April 1978.

Table 2. Fellowships Awarded, by Subject of Study and Country of Origin of the Fellow
(1 May 1977 - 30 April 1978)

Group No.	Subject	Bangladesh	Burma	DPR Korea	India	Indonesia	Maldives	Mongolia	Nepal	Sri Lanka	Thailand	Total
1	Public Health Administration	4	10	-	18	20	-	9	12	5	26	104
2	Sanitation	8	11	-	42	16	1	2	11	15	7	113
3	Nursing	1	4	-	5	3	1	1	7	10	8	40
4	Maternal and Child Health	28	22	-	28	16	1	8	5	41	19	168
5	Communicable Diseases and Laboratory Control											
	Communicable diseases	2	1	-	-	-	-	-	-	1	-	4
	Dermatology	-	-	-	1	-	-	-	-	-	-	1
	Epidemiology	7	6	-	-	7	-	2	-	6	-	28
	Entomology	-	-	-	-	6	-	-	-	-	-	6
	Gastro-enterology	-	-	-	1	-	-	-	-	-	-	1
	Immunology	-	2	-	1	3	-	-	1	-	-	7
	Laboratory	6	2	2	10	1	1	3	1	13	8	47
	Leprosy	-	1	-	4	-	-	-	1	2	-	8
	Liver diseases	-	-	-	1	-	-	-	-	-	-	1
	Malaria	-	1	-	4	4	-	-	2	2	4	17
	Parasitology	1	-	-	-	-	-	-	-	-	-	1
	Pesticides analysis	-	-	-	-	1	-	-	-	1	-	2
	Port health	-	-	-	-	-	-	-	-	2	-	2
	Smallpox	-	-	-	-	3	-	-	-	-	-	3
	Tropical medicine	1	-	-	-	5	-	-	-	2	-	8
	Tuberculosis	-	5	-	1	2	-	-	4	-	2	14
	Vaccine production and control	-	1	-	-	4	-	-	-	-	-	5
	Vector-borne diseases	-	1	-	-	-	-	-	-	-	-	1
	Veterinary public health	-	-	-	2	1	-	-	-	-	-	3
6	Clinical Medicine											
	Anaesthesiology	-	-	-	-	-	-	-	-	-	1	1
	Cancer	-	1	-	5	2	-	-	-	4	-	12
	Cardiovascular diseases	1	-	4	6	-	-	-	-	3	-	14
	Endocrinology	1	-	-	-	-	-	-	-	-	1	2
	Electronics	-	1	-	-	-	-	-	-	-	-	1
	Forensic medicine	-	1	-	-	-	-	1	-	-	-	2
	Haematology	-	-	-	3	-	-	-	-	2	2	7
	Neurology	-	1	-	-	-	-	1	-	2	-	4
	Ophthalmology	1	1	-	2	-	1	-	-	-	-	5
	Oto-rhino laryngology	-	-	-	-	-	1	2	1	-	-	4
	Radiation therapy	-	-	-	4	-	-	-	-	-	-	4
	Radiography	1	-	-	-	-	-	-	1	-	-	2
	Surgery	-	1	-	1	-	-	-	-	-	1	3
	Toxicology	-	-	-	2	-	-	-	-	-	-	2

Table 2 (continued)

Group No.	Subject	Bangladesh	Burma	DPR Korea	India	Indonesia	Maldives	Mongolia	Nepal	Sri Lanka	Thailand	Total
7	Basic Medical Sciences and Education											
	Anatomy	1	-	-	-	-	-	-	-	-	-	1
	Biochemistry	1	-	-	1	-	-	1	1	-	-	4
	Histology	-	-	-	-	-	-	-	1	-	-	1
	Language course	-	-	6	-	-	-	2	-	-	-	8
	Medical education	1	4	-	18	-	-	-	-	7	13	43
	Mycology	1	-	-	-	-	-	-	-	-	-	1
	Neurology	-	-	-	1	-	-	-	-	-	-	1
	Pathology	-	-	-	2	-	-	1	-	-	-	3
	Pharmacology	-	1	-	2	-	-	-	-	-	-	3
	Physiology	1	-	-	-	-	-	-	-	-	1	2
	Preventive and Social Medicine	1	1	-	-	-	-	-	-	-	-	2
	Undergraduate medicine	-	-	-	-	-	-	-	1	1	-	2
8	Others											
	Audiology	-	-	-	-	1	-	-	-	-	-	1
	Drug addiction	-	-	-	5	-	-	2	-	-	-	7
	Drug production and control	1	-	-	1	6	-	-	-	-	3	11
	Emergency care	-	-	-	-	-	-	1	-	-	-	1
	Ergonomics	-	-	-	-	-	-	-	-	1	-	1
	Health education	4	5	-	1	-	-	2	3	4	3	22
	Health statistics	-	4	-	6	2	-	-	-	-	1	13
	Industrial and occupational health	1	2	-	2	1	-	1	-	2	-	9
	Medical rehabilitation	-	4	-	1	-	-	-	-	5	1	11
	Mental health	2	1	-	6	2	-	-	-	-	1	12
	Nutrition	1	-	-	6	3	-	-	-	2	2	14
	Oral health	1	-	-	-	2	-	-	-	3	1	7
	Orthopaedics	-	-	-	-	-	-	1	-	-	-	1
	Re-animation	-	-	-	-	-	-	1	-	-	-	1
	Speech therapy	-	-	-	-	-	-	1	-	-	-	1
	Therapeutics	-	-	-	-	-	-	1	-	-	-	1
		78	95	12	193	111	6	43	52	136	105	831

Table 3. Fellowship Programmes in Other Regions Arranged by SEARO and Those in This Region Arranged by Other Regional Offices
(1 May 1977 - 30 April 1978)

	Number of fellowships
I. *From the South-East Asia Region to:	
(a) African Region	26
(b) Region of the Americas	52
(c) European Region	339
(d) Eastern Mediterranean Region	33
(e) Western Pacific Region	164
Total number of fellowships involved: 556	
II. To the South-East Asia Region from:	
(a) African Region	2
(b) Eastern Mediterranean Region	27
(c) Western Pacific Region	14
Total number of fellowships involved: 43	

*This includes studies arranged for a single fellow in more than one Region.

Table 4. Utilization of Former WHO Fellows by Country
(Analysis of 86 reports received from
1 May 1977 - 30 April 1978)

Subject	Bangladesh	Burma	DPR Korea	India	Indonesia	Maldives	Mongolia	Nepal	Sri Lanka	Thailand	Total	
											Number	Percentage
Utilization reports	8	14	-	12	21	4	-	2	6	19	86	100
Employed suitably	6	11	-	11	21	4	-	2	5	19	79	92
Assumed greater responsibilities	5	6	-	11	11	3	-	1	5	17	59	69
Began new activities	2	3	-	10	9	3	-	1	6	13	47	55
Introduced new methods	5	8	-	10	13	2	-	2	5	14	59	69
Established new services	4	3	-	10	12	3	-	1	5	11	49	57
Imparted knowledge	5	10	-	10	14	3	-	2	6	17	67	78
Trained others	4	10	-	10	17	3	-	2	4	12	62	72
Engaged in research	4	8	-	4	10	-	-	1	5	7	39	45
Maintained contact with others	-	1	-	3	3	-	-	2	1	2	12	14
International assignment	-	-	-	-	2	-	-	1	1	3	7	8

LIST OF TECHNICAL REPORTS ISSUED BY THE REGIONAL OFFICE
(1 July 1977 - 31 May 1978)

Document	Title	Author
	Biomedical Research	
SEA/RPD/MAL.MEET.2	Approaches to the study of the spreading of *P.falciparum* Resistance to 4-amino-quinolines and measures to control drug-resistant malaria (based on a report of a WHO SEARO Research Study Group)	*Regional Office*
SEA/RACMR/78.1	Regional Advisory Committee on Medical Research, Fourth Session, New Delhi, 3-6 April 1978: Report to the Regional Director	Regional Office
	Cancer	
SEA/Cancer/29	Assignment report on oncosurgery in Mongolia (MOG OCD 001), 10 July - 10 September 1977	Dr V.I. Plotnikoff
SEA/Cancer/30	Assignment report on cancer control in Bangladesh (BAN CAN 001), 6 November - 24 December 1977	Dr W.K. Jasinski
SEA/Cancer/31	Assignment report on cancer control in Indonesia (INO CAN 001), 9 October - 7 December 1977	Dr C.R. Gillis, and Dr A.T. Sandison
SEA/Cancer/32	Assignment report on cancer epidemiology and research (SRL CAN 001), 28 December 1977 - 18 February 1978	Dr Thomas M. Mack
	Cardiovascular Diseases	
SEA/CVD/19	Assignment report on the pattern of morbidity and mortality in Bangladesh due to cardiovascular diseases (BAN CVD 001), 3 April - 25 May 1977	Dr J.G. Sloman
SEA/CVD/20	Assignment report on cardiovascular diseases in Sri Lanka (SRL CVD 001), 12 June - 7 September 1977	Prof. A.T. Hansen
	Communicable Diseases	
SEA/CD/69	Assignment report on tropical dermatology in Thailand (THA HMD 005), January-February 1977	Dr Orlando Canizares
SEA/CD/70	Assignment report on vector-borne disease control in Burma (BUR VBC 001), 18 March - 8 June 1977	Dr C.P. Pant

Document	Title	Author
SEA/CD/71	Assignment report on cerebrospinal meningitis and its control in Mongolia (MOG ESD 001), 7-27 August 1977	Dr B. Cvjetanovic
SEA/CD/72	Assignment report on dermatology services in Maldives (MAV HSD 001), 18 July - 17 August 1977	Dr L.K. Bhutani
SEA/CD/73	Assignment report on research in communicable diseases ecology in Indonesia (INO ESD 002), February 1974 - September 1977	Dr B.C. Dazo
SEA/CD/74	Assignment report on epidemiological surveillance and national health intelligence system development, India (SE ICP ESD 003), 12-26 September 1977	Prof. R.S. Desowitz
SEA/CD/75	Assignment report on laboratory diagnosis of bacterial intestinal infections in Mongolia (MOG ESD 001), 5 September - 9 October 1977	Dr M. Rusinko
	Diarrhoeal Diseases	
SEA/RES/6 SEA/DD/4	See SEA/RES/6	
	Dental Health	
SEA/DH/46 and Corr.1	Assignment report on dental health in Thailand (THA ORH 001), 8 January - 6 February 1977	Prof. I.J. Møller
SEA/DH/47	Assignment report on oral health in Sri Lanka (SRL ORH 001), 11 July - 11 October 1977	Dr Odd P. Lind
SEA/DH/48	Assignment report on child stomatology in Mongolia (MOG HMD 004), January-February 1978	Prof. T.F. Vinogradova
	Drugs	
SEA/Drugs/24	Assignment report on quality control of drugs in Mongolia (Phytochemistry) (MOG PHA 001), March-May 1977	Dr Z. Jung
SEA/Drugs/25	Assignment report on quality control of pharmaceuticals in Bangladesh (BAN PHA 001), 28 August 1976 - 29 August 1977	Prof. N.H. Choulis

Document	Title	Author
SEA/Drugs/26	Assignment report on food and drug control in Bangkok, Thailand (THA FSP 001), 14 August - 13 October 1977	Mr King Zee
SEA/Drugs/27	Report on a seminar on drugs policies and management, Colombo, Sri Lanka (ICP DPM 001), 20-25 March 1978	Regional Office
SEA/Drugs/28	Report on a workshop on the quality control of drugs, New Delhi (ICP PHA 001), 16-20 January 1978	Regional Office
	Ear, Nose and Throat	
SEA/ENT/2	Assignment report on organizing relief from ENT diseases in the Maldives (MAV HSD 001), 22 April - 16 May 1977	Dr S. Kameswaran Dr T.A. Thirumalai
SEA/ENT/3	Assignment report on organizing relief from ENT diseases in the Maldives (MAV HSD 001), 3 December 1977 - 2 January 1978	Dr S. Kameswaran Dr T.A. Thirumalai
	Education	
SEA/Educ./22	Assignment report on strengthening of the Electro-Medical Engineering Division, Colombo, Sri Lanka (SRL HSD 003), October 1974 - September 1977	Dr G. Grau
SEA/Educ./23 SEA/MCH/FP/68	Strengthening of teaching of human reproduction, population dynamics and family planning in educational programmes for nursing and midwifery in India (IND HMD 010, UNFPA Project No. IND/71/P05 for 1977) - final report by WHO as Executing Agency for UNFPA	Regional Office
	Environmental Health	
SEA/EH/186	Assignment report on prevention and control of water pollution in India (IND CEP 001), 1 November 1976 - 31 January 1977	Mr Frank O.C. Hodges
SEA/EH/187	Report on a regional workshop on manpower planning in environmental and public health services, Colombo (ICP HMD 002), 30 December 1975 - 10 January 1976	Mr P. Hornby Dr D. Ray Dr W.L. Reyes

Document	Title	Author
SEA/EH/188	Agency terminal report on community water supply in Thailand - report prepared for the Government of Thailand, by WHO acting as Executing Agency for UNDP (Project THA BSM 001, UNDP THA/72/16)	
SEA/EH/189	Assignment report on air pollution in Mongolia (MOG SES 001), 1-29 December 1976	Dr B.K. Bajkov Dr I.A. Pinigina
SEA/EH/190 and Corr.1	Assignment report on air pollution in Thailand (THA SES 001), 5 April - 3 May 1977 and 28 July - 2 September 1977	Dr Roger Perry
SEA/EH/191	Assignment report on rural water supply designs in Burma (BUR BSM 002), 27 July - 26 September 1977	Mr M.L. Gupta
SEA/EH/192	Rural water supply and sanitation in Thailand (A mid-decade status report - UNDP decade - 1971-1980)	
SEA/EH/193	Assignment report on development of bio-gas system in Burma (BUR BSM 002), 27 September - 25 October 1977	Dr M.N. Islam
SEA/EH/194	Assignment report on water pollution control in the State of Maharashtra (IND CEP 005, UNDP No. IND/75/044), 19 September - 15 November 1977	Mr J.E. Beddoe
SEA/EH/195	Water supply and sanitation in Maldives - Mid-decade report (ICP BSM 001)	Regional Office
SEA/EH/196	Rural water supply and sanitation in Burma - Mid-decade report (ICP BSM 001)	Regional Office
SEA/EH/197	Water supply and sanitation in Nepal - Mid-decade report (ICP BSM 001)	Regional Office
SEA/EH/198	Water supply and sanitation in Bangladesh - Mid-decade report (ICP BSM 001)	Regional Office
SEA/EH/199	Rural water supply and sanitation in Sri Lanka - Mid-decade report (ICP BSM 001)	Regional Office
SEA/EH/200	Assignment report on development of documentation, information, management systems and staff structure in connexion with NEERI's status as a WHO collaborating Centre for South-East Asia in the field of Environmental Engineering (IND SES 001), 19 August - 30 September 1977	Mr Noel J. Hughes

Document	Title	Author
SEA/EH/201	Rural water supply and sanitation in Indonesia - Mid-decade report (ICP BSM 001)	Regional Office
SEA/EH/202	Assignment report on hydrogeological conditions in selective areas of Indonesia with special reference to the national community water supply and sanitation programme (INO BSM 001), September - November 1977	Dr K.V. Raghava Rao
SEA/EH/203	Report on hydrogeological conditions in selective regencies in East Java and recommendations regarding drilling and ancillary equipment needed for the implementation of the rural water supply project, East Java, Indonesia (INO BSM 001)	Dr K.V. Raghava Rao
SEA/EH/204	Report on a Government of India/WHO seminar on improvement and maintenance of existing water supply systems, Kanpur (Uttar Pradesh) (IND BSM 002), 31 October - 4 November 1977	Regional Office
SEA/EH/205	Rural water supply and sanitation in India - Mid-decade report (ICP BSM 001)	Regional Office
	Epidemiology	
SEA/Epid/78	Assignment report on strengthening of epidemiological surveillance and control of taeniasis and filariasis in Indonesia (INO ESD 003), 6 January - 24 February 1977	Dr R.S. Desowitz
SEA/Epid/79	Assignment report on strengthening of epidemiological services in Sri Lanka (SRL ESD 002), 25 December 1976 - 24 March 1977	Dr J. Cervenka
SEA/Med.Educ./315 SEA/Epid/80	See SEA/Med.Educ./315	
SEA/Epid/81	Assignment report on epidemiology and control of dengue haemorrhagic fever in Thailand (ICP ESD 001), October 1977	Dr S.B. Halstead
SEA/Epid/82	Assignment report on epidemiology and control of dengue haemorrhagic fever in Burma (ICP ESD 001), October 1977	Dr S.B. Halstead

Document	Title	Author
SEA/Epid/83	Assignment report on epidemiology of bacterial intestinal infections in Mongolia (MOG ESD 001), 6 September - 7 October 1977	Prof. G.N. Kalmykov
	Filariasis	
SEA/Fil/18	Assignment report on epidemiological surveillance of filariasis in Sri Lanka (ICP ESD 003), 27 September - 10 October 1977	Prof. R.S. Desowitz
	Food Hygiene	
SEA/Food Hyg/1	Assignment report on food hygiene in catering establishments in Indonesia (INO BSM 001), 5 September - 4 October 1977	Mr Reginald Johnson
	Haemorrhagic Fever	
SEA/Haem.Fever/21	Assignment report on surveillance and control of dengue haemorrhagic fever in Burma (ICP ESD 001), 31 October - 30 November 1976	Dr Sujarti Jatanasen
SEA/Haem.Fever/22	Assignment report on dengue haemorrhagic fever in Indonesia (ICP ESD 001), 9-22 October 1977	Dr Suchitra Nimmannitya
SEA/RES/7 SEA/Haem.Fever/23 SEA/Vaccine/91	See SEA/RES/7	
SEA/RES/9 SEA/HLM/143 SEA/Haem.Fever/24	See SEA/RES/9	
SEA/Haem.Fever/25	Assignment report on dengue haemorrhagic fever in Sri Lanka (ICP ESD 001), 31 October - 12 November 1977	Dr S. Nimmannitya
	Health Education	
SEA/HE/87	Assignment report on health education in India (IND HED 003 - UNDP No. IND/68/030), August 1974 - September 1976	Mr P.P. Shrestha
SEA/HE/88	Report on a workshop on health education services in family health, New Delhi (ICP HED 003), 13-23 December 1976	

Document	Title	Author
SEA/HE/89	Assignment report on curriculum development, training and evaluation in health education (Faculty of Public Health, University of Indonesia) (INO HMD 003), 2 July - 16 September 1977	Dr Helen S. Ross
SEA/HE/90	Assignment report on health education in environmental sanitation, Burma (BUR BSM 002), 1 January - 9 August 1977	Mr S. Dangalle
SEA/HE/91	Assignment report on health education in India (IND HED 003 - UNDP No. IND/68/0301) - 30 November 1977 - 28 February 1978	Dr N.B. Korostelev
SEA/HE/92	Assignment report on education in Mongolia (ICP HED 001), 22 June - 23 August 1977	Dr N.B. Korostelev
	Health Laboratory Methods	
SEA/HLM/134	Assignment report on rickettsial diseases (rickettsial disease research and rikettsiology laboratory facilities) in Indonesia (ICP ESD 003), 20-26 January 1977	Dr Charles L. Wisseman
SEA/HLM/135	Assignment report on rickettsial diseases (rickettsial disease research and rikettsiology laboratory facilities) in Burma (ICP ESD 003), 27 January - 5 February 1977	Dr Charles L. Wisseman
SEA/HLM/136	Assignment report on mycological laboratory in the National Health Laboratory, Rangoon (formulation of a programme for development (BUR LAB 001), 29 December 1976 - 21 January 1977	Dr L. Ajello
SEA/HLM/137	Assignment report on promotion of health laboratory technology (brucellosis) in Burma (BUR LAB 003), 27 January - 7 April 1977	Dr J. Kolar
SEA/HLM/138	Improvement of the work of the Department of Rickettsiae, Virus Research Centre, Poona, India (IND VIR 001), 21 March - 19 April 1977	Dr R. Brezina
SEA/HLM/139	Assignment report on promotion of health laboratory technology (leptospirosis) in Burma (BUR LAB 003), 30 July - 31 August 1977	Dr Hans Dikken

Document	Title	Author
SEA/HLM/140	Report of a workshop on quality control in clinical chemistry in India (IND LAB 003), 18-22 April 1977	Seminar Report
SEA/HLM/141	*Assignment report on brucella vaccine* production in Mongolia (MOG BLG 001), 1 October 1973 - 31 December 1977	*Dr Gabor Nagy*
SEA/HLM/142	Assignment report on expansion of epidemiological surveillance in community health services, National Health Laboratory, Rangoon, Burma (BUR ESD 003), *31 October - 30 December 1977*	Dr K.M. Pavri
SEA/RES/9 SEA/HLM/143 SEA/Haem.Fever/24	See SEA/RES/9	
	Health Literature	
SEA/MCH/FP/67	Report of a seminar on documentation in the field of human reproduction, family planning and population dynamics, Jakarta (ICP HLT 003), 9-13 August 1977	Regional Office
SEA/HLT/3	Directory of some computer retrieval systems in biomedical and allied fields in the United States of America, 1977	Mr S.K. Anand
	Health Services Development	
SEA/RES/3 SEA/HSD/1	See SEA/RES/3	
SEA/RES/8 SEA/HSD/2	See SEA/RES/8	
	Immunology	
SEA/Immun./14	Assignment report on immunization services *(including smallpox), Indonesia* (INO SPI 001), 28 October 1976 - 29 January 1977	Mr C.R. Moser
SEA/Immun./15	Assignment report on immunization programme in Mongolia (ICP SPI 002), August-September 1977	Dr S. Tomaszunas and Dr B. Cvjetanovic
	Leprosy	
SEA/Lep/63	Assignment report on leprosy control in Burma (BUR BVD 002), July-September 1977	Dr J.M.H. Pearson

Document	Title	Author
SEA/Lep/64	Assignment report (preliminary report) on the evaluation of the Mahasarakam Leprosy Project, Thailand (THA PHC 001), October 1977	Dr K.S. Seal
SEA/RES/2 SEA/Lep/65	See SEA/RES/2	
SEA/Lep/66	A report on the BCG/Rifampicin Trial in Burma (BUR PHC 001), February-March 1978	Dr J.H.M. Pearson
	Liver Diseases	
SEA/RES/5 SEA/Liver Diseases/1	See SEA/RES/5	
	Malaria	
SEA/Mal/113	Assignment report on improvement of malaria laboratory services in Nepal (ICP MPD 001), 1 March - 13 June 1977	Mr W. Rooney
SEA/Mal/114	Assignment report on National Malaria Eradication Training Centre (NMETC), Colombo (SRL MPD 001), March 1972 - June 1977	Dr B. Bisseru
SEA/Mal/115	Report of a mission on malaria training programme in India and its future development (IND MPD 001), 16 August - 30 September 1977	Dr M.A. Farid and Dr G. Gramiccia
SEA/Mal/116	Assignment report on malaria laboratory services (external cross-checking of blood films) in Indonesia (ICP MPD 001), February 1973 - November 1977	Mr W. Rooney
SEA/Mal/117	Malaria laboratory services: Report on visit to Thailand (ICP MPD 001), 20 November - 2 December 1977	Mr W. Rooney
SEA/RES/11 SEA/Mal/118	See SEA/RES/11	
SEA/RES/12 SEA/Mal/119	See SEA/RES/12	
	Maternal and Child Health	
SEA/MCH/115	Assignment report on perinatology in Mongolia (MOG MCH 002), 30 June - 30 July 1977	Dr O.G. Frolova

Document	Title	Author
SEA/MCH/116	Child health programme for the Region	Regional Office
SEA/MCH/117	Assignment report on readability of a child care manual for Indonesia (INO HSD 001), 26 February - 26 May 1977	Mr Peter Godwin
SEA/MCH/118	Assignment report on development of family and child health services in Bangladesh (BAN MCH 001), December 1976 - June 1977	Prof. R.S. Dayal
SEA/MCH/119	Assignment report on maternal and child health programme in Maldives (MAV HSD 001), 4-18 April, 1-16 August 1976; 7-22 January, 3-17 April, 24 July - 13 August 1977	Dr M.C.J. Hunt
SEA/MCH/120	Report of the meeting of the Committee on the education and training of undergraduate medical students and interns in maternal and child health care and the review of a draft of a handbook on maternal and child health and family planning care, Delhi (IND MCH 001), 19-23 September 1977	Dr F.J.W. Miller
SEA/MCH/121	Report of a meeting of the *ad hoc* committee on education and training in child health to consider the preparation of a handbook on child care, New Delhi (IND MCH 001), 26-28 September 1977	Dr F.J.W. Miller
SEA/MCH/122	Report on the development of intervention for high-risk mother and young child applicable to South-East Asia (ICP MCH 011), 6-10 December 1977	Dr Helen M. Wallace
SEA/MCH/123	Assignment report on child haematology in Mongolia (MOG MCH 002), 4 November 1977 - 3 January 1978	Dr Shimon Ninjo
	Maternal and Child Health and Family Planning	
SEA/Med.Educ./307 SEA/MCH/FP/65	See SEA/Med.Educ./307	
SEA/MCH/FP/66	Assignment report on an intra-country training programme in surgical techniques in family planning in Nepal (ICP MCH 011), September - December 1976	Dr M.C.J. Hunt

Document	Title	Author
SEA/MCH/FP/67	Report of a seminar on documentation in the field of human reproduction, family planning and population dynamics, Jakarta (ICP HLT 003), 9-13 August 1977	
SEA/Educ./23 SEA/MCH/FP/68	See SEA/Educ./23	
SEA/MCH/FP/69	Assignment report on development of family and child health services in Bangladesh (BAN MCH 001), November 1977 - January 1978	Dr D. Burman
SEA/Med.Educ./330 SEA/MCH/FP/70	See SEA/Med.Educ./330	
	Medical Education	
SEA/Med.Educ./306	Assignment report on development of a curriculum for the diploma course in general and community medicine at the Institute of Medicine, Tribhuvan University, Kathmandu, Nepal (NEP HMD 001), 15 September - 15 December 1976	Dr B.L. Hulbert
SEA/Med.Educ./307 SEA/MCH/FP/65	Report on a training course in human reproduction, family planning and population dynamics, New Delhi (ICP HMD 008), 29 November - 10 December 1976	
SEA/Med.Educ./308	Report on a workshop on primary roles of doctors and other health personnel in community health care, New Delhi (ICP HMD 003), 31 January - 5 February 1977	Dr G.S. Mutalik Dr S.M. Marwah Miss T. Khan
SEA/Med.Educ./309 SEA/Rad/92	Assignment report on teaching of radiography in Nepal (NEP HMD 001), 29 September 1976 - 22 March 1977	Miss E. Smith
SEA/Med.Educ./310	Report on a meeting on the training of voluntary health workers in South-East Asia (ICP HMD 003), 27 June - 1 July 1977	Dr G.S. Mutalik
SEA/Med.Educ./311	Assignment report on a systems approach to medical education in Burma (BUR HMD 005 - UNDP No. UNDP/BUR/71/520), 6 December 1976 - 27 January 1977	Dr B. Moores
SEA/Med.Educ./312	Assignment report on clinical radiology in Burma (BUR HMD 005 - UNDP No. BUR/71/520), 29 December 1976 - 15 February 1977	Dr William M. Park

Document	Title	Author
SEA/Med.Educ./313	Assignment report on human genetics in Burma (BUR HMD 005 - UNDP No. BUR/71/520), 3 February - 27 March 1977	Dr P.J.L. Cook
SEA/Med.Educ./314	Assignment report on the feasibility of setting up a neurological centre in Kandy, Sri Lanka (SRL HMD 001), January-March 1977	Dr L.S. Illis
SEA/Med.Educ./315 SEA/Epid/80	Assignment report on the teaching of epidemiology at the University of Sri Lanka (SRL HMD 008), December 1976 - May 1977	Prof. L. Bencic
SEA/Med.Educ./316	Assignment report on the development of a curriculum for the medical sciences diploma course in general and community medicine, Tribhuvan University, Kathmandu, Nepal (NEP HMD 001), 20 December 1976 - 5 March 1977	Dr Melville Kerr
SEA/Med.Educ./317	Assignment report on the development of a curriculum plan for the medical science diploma course in general and community medicine at the Institute of Medicine, Tribhuvan University, Kathmandu, Nepal (NEP HMD 001), 11 September - 10 October 1977	Dr Prapont Piyaratn
SEA/Ment./41 SEA/Med.Educ./318	See SEA/Ment./41	
SEA/Med.Educ./319	Assignment report on radiography training in Nepal (NEP HMD 001), 18 July 1977 - 17 January 1978	Miss P. Goodchild
SEA/Med.Educ./320	Report on a seminar on human reproduction, family planning and population dynamics (ICP HMD 008), 10-15 October 1977	
SEA/Med.Educ./321	Assignment report on the development of a curriculum in clinical medicine for the medical sciences diploma course in general and community medicine at the Institute of Medicine, Tribhuvan University, Kathmandu, Nepal (NEP HMD 001), 5 November - 4 December 1977	Dr E.B. French
SEA/Med.Educ./322	Assignment report on the present status of the teaching of human reproduction, family planning and population dynamics in medical schools in Bangladesh (ICP HMD 008), 8 August - 7 November 1977	Dr K. Bhasker Rao

Document	Title	Author
SEA/Med.Educ./323	Assignment report on the present status of the teaching of human reproduction, family planning and population dynamics in medical schools in India (ICP HMD 008), 8 August - 7 November 1977	Dr K. Bhasker Rao
SEA/Med.Educ./324	Assignment report on the present status of the teaching of human reproduction, family planning and population dynamics in medical schools in Indonesia (ICP HMD 008), 8 August - 7 November 1977	Dr K. Bhasker Rao
SEA/Med.Educ./325	Assignment report on the present status of the teaching of human reproduction, family planning and population dynamics in medical schools in Nepal (ICP HMD 008), 8 August - 7 November 1977	Dr K. Bhasker Rao
SEA/Med.Educ./326	Assignment report on the present status of the teaching of human reproduction, family planning and population dynamics in medical schools in Sri Lanka (ICP HMD 008), 8 August - 7 November 1977	Dr K. Bhasker Rao
SEA/Med.Educ./327	Assignment report on the present status of the teaching of human reproduction, family planning and population dynamics in medical schools in Thailand (ICP HMD 008), 8 August - 7 November 1977	Dr K. Bhasker Rao
SEA/Med.Educ./328	Assignment report on teaching of forensic medicine in Burma (BUR HMD 005), 28 November - 30 December 1977	Dr Alan A. Watson
SEA/Med.Educ./329	Assignment report on medical education in Bangladesh (BAN HMD 005), 4 August 1977 - 3 February 1978	Dr J.S. Guleria
SEA/Med.Educ./330 SEA/MCH/FP/70	Report on an inter-country consultation meeting on training in human sexuality, including sex education, New Delhi (ICP HMD 003), 12-17 September 1977	Regional Office
SEA/Med.Educ./331	Assignment report on medical education in Indonesia (INO HMD 001), 18 February 1975 - 31 December 1977	Mr P.J. Blizard
	Mental Health	
SEA/Ment/36	Assignment report on mental health services in Bangladesh (BAN MNH 001), 28 September - 28 October 1977	Dr H.G. Edgell

Document	Title	Author
SEA/Ment/37	Assignment report on psychiatric epidemiology in Indonesia (INO MNH 001), 21-30 July 1977	Dr Zebulon Taintor Dr A. Jablensky
SEA/Ment/38	Report on an inter-country group meeting on mental health in South-East Asia Region (ICP MNH 003), 6-10 December 1977	Regional Office
SEA/Ment/39	Assignment report on organization and management at the National Institute of Mental Health and Neurosciences, Bangalore (IND MNH 002), 5 October - 30 November 1977	Dr William Boyd and Mr Ross Mitchell
SEA/Ment/40	Assignment report on child and family psychiatry at the National Institute of Mental Health and Neurosciences, Bangalore, India (IND MNH 002), 30 December 1977 - 3 March 1978	Dr Ian Menzies
SEA/Ment/41 SEA/Med.Educ./318	Assignment report on clinical psychology in Sri Lanka (SRL MNH 001), 1 August - 31 October 1977	Dr D.F. Clark
SEA/Ment/42	Assignment report on strengthening the development of community mental health services in Indonesia (INO MNH 001), 1 February - 6 March 1978	Prof. W.M. Bolman
	Nursing	
SEA/Nurs/283	Assignment report on public health nurse practitioner training in Thailand (THA HMD 003), 28 August 1976 - 27 August 1977	Miss K.A. Dier
SEA/Nurs/284	Report of a workshop on community health-oriented nursing education, New Delhi (ICP HMD 001), 10-20 October 1977	Dr Ruth Harner
SEA/Nurs/285	Report on a consultation meeting held in New Delhi (ICP HMD 001), 26-28 October 1978	Dr Ruth Harner
SEA/Nurs/286	Assignment report on a course on development and implementation of a basic nursing curriculum in Nepal (ICP HMD 006), 21 November - 6 December 1977	Mr R.L. Swann and Dr M. Khemmani

Document	Title	Author
	Nutrition	
SEA/Nut/63	Assignment report on public health nutrition in Sri Lanka (SRL NUT 001), 21 November - 26 December 1976	Dr R. Buzina
SEA/Nut/64	Assignment report on research into nutritional anaemia, intestinal absorption and diarrhoeal diseases in Burma (BUR DHS 002), 27 February - 29 March 1977	Dr S.J. Baker
SEA/Nut/65	Report of a seminar on organization and delivery of nutrition activities in the health sector, New Delhi (ICP NUT 002), 28 November - 2 December 1977	Regional Office
	Occupational Health	
SEA/Occ.Hlth/13	Assignment report on occupational health in Bangladesh (BAN HWP 001), 6 December 1976 - 25 March 1977	Dr Mohmoud M. El-Attal
SEA/Occ.Hlth/14	Assignment report on occupational health and work safety in health establishments in Mongolia (MOG PPS 001), 19 August - 29 September 1977	Dr L. Petrova
	Organization of Medical Care	
SEA/OMC/17	Assignment report on resuscitation and intensive therapy in Mongolia (MOG HSD 002), 26 April - 25 June 1977	Dr J.G. Jordanov
SEA/OMC/18	Assignment report on building up and reorganizing the infectious disease hospital in Tanjung Priok, Indonesia (INO ESD 003), 4 November - 26 December 1977	Dr W.M. Jamieson
	Public Health Administration	
SEA/PHA/191	Assignment report on strengthening of national health services in Indonesia (research and development) (INO SHS 001), 20 October 1973 - 10 January 1977	Mr C.R. Snyder
SEA/PHA/192	Report on a WHO/NIHAE Project on implementation, monitoring and evaluation - Health and family planning (ICP SHS 012), 3-25 January 1977	

Document	Title	Author
SEA/PHA/193	Report on a course in health planning and medical care administration, Colombo (ICP SHS 012), 28 December 1976 - 8 January 1977	Dr K.H. Notaney Mr R.A. Bristow
SEA/PHA/194	Assignment report on development of health services in Bhutan (BHU HSD 001 - UNDP No. BHU/72/006), December 1975 - January 1977	Dr L.M. St. G. Wertheim
SEA/PHA/195	Assignment report on development of health services in Bhutan (BHU SHS 001 - UNDP No. BHU/72/006), January 1975 - December 1976	Miss I.M. Lovedee
SEA/PHA/196	Assignment report on food hygiene, revising food legislation, strengthening the Food Control Unit and food analytical laboratories and training staff, Sri Lanka (SRL FSP 001), 10 November 1976 - 16 June 1977	Mr P.J. Aiyar
SEA/PHA/197	Health information systems with special reference to primary health care and community development - report and working/information papers of the technical discussions held during the thirtieth session of the WHO Regional Committee for South-East Asia, 2-8 August 1977, Bangkok	Regional Office
SEA/PHA/198	Assignment report on strengthening of health planning in Indonesia (INO HSD 001) 15 November - 12 December 1976	Dr C. Montoya-Aguilar
SEA/PHA/199	Assignment report on development of health services in Nepal (NEP HSD 001), March 1971 - February 1977	Dr I.M. Kozlov
SEA/PHA/200	Report of a national workshop on health programme planning in relation to the formulation of the third five-year plan (PELITA III) (ICP PPS 002 - UNDP Project No. RAS/73/027), 23 July - 10 August 1977	
SEA/PHA/201	Report on the WHO/UNICEF Joint Regional Meeting on Primary Health Care, New Delhi, (ICP PHC 001), 21-26 November 1977	Regional Office
SEA/PHA/202	Assignment report on strengthening of surgical services in the Maldives (MAV HSD 001), 3-30 November 1977	Dr Atm Prakash, and Dr G.R. Gode
SEA/PHA/203	Report on "A Learning Unit on Health Manpower Planning", Indonesia (INO HSD 001), January 1978	Dr C. Montoya-Aguilar and Dr Hapsara

Document	Title	Author
SEA/PHA/204	Report on quality control of food, Indonesia (INO PHA 001), 25 July - 24 September 1977	Dr F.R.E. Davies
SEA/PHA/205	Report on health manpower planning in relation to the national twenty-year plan and country health programme in Burma (BUR HMD 005), 12 July - 11 December 1977	Dr V.J. Petrinsky
SEA/PHA/206	Report of a regional seminar on health manpower studies in relation to health care delivery (ICP PPS 002 - UNDP No. RAS/73/027), Bangkok, 14-23 November 1977	Dr K.H. Notaney, and Dr Dev. K. Ray
	Rabies	
SEA/Rabies/8	Assignment report on control of rabies in Sri Lanka (SRL VPH 001), 28 October 1977 - 30 January 1978	Dr J. Kolar
	Radiation	
SEA/Med.Educ./309 SEA/Rad/92	See SEA/Med.Educ./309	
SEA/Rad/93	Assignment report on radiation health in Sri Lanka (SRL RAD 001), 29 August - 8 October 1977	Dr Folke Edsmyr
SEA/Rad/94	Assignment report on maintenance and repair of hospital equipment, Burma (BUR HSD 002), 14 September - 6 December 1977	Mr C. Hutchinson
SEA/Rad/95	Assignment report on development of radio-immuno-assay at the Radiation Medicine Centre, Bombay, India (IND RAD 002), 27 December 1977 - 25 January 1978	Dr (Mrs) Rosalyn S. Yalow
SEA/Rad/96	Assignment report on maintenance and repair of electro-medical equipment, Mongolia (MOG RAD 001), 31 December 1977 - 28 February 1978	Mr W. Grzelinski
SEA/Rad/97	Assignment report on radiation protection in Indonesia (INO RAD 001), 15 August - 3 October 1977	Mr B.S. King

Document	Title	Author
	Rehabilitation	
SEA/Rehab/28	Assignment report on rehabilitation of the handicapped in Burma (BUR SHS 001), 6 January - 12 February 1977	Mr A.N. Hopker
SEA/Rehab/29	Report on a seminar on medical rehabilitation, New Delhi, 8-12 August 1977 (ICP HSD 003)	Regional Office
SEA/Rehab/30	Assignment report on medical rehabilitation services in Sri Lanka (SRL HSD 001), 12 September - 9 November 1977	Dr C.F. Vreese
SEA/Rehab/31	Assignment report on rehabilitation services in Mongolia (MOG HSD 001), 24 October - 13 November 1977	Dr Nowak-Szulckrystyana B.
SEA/Rehab/32	Assignment report on orthopaedic and rehabilitation services in Mongolia (MOG HSD 001), 1 November - 10 December 1977	Dr F.G. Bukhtoya
	Research Study - Research/Training, etc.	
SEA/RES/1 SEA/Mal/118	Research study group meeting on approaches to the study of the resistance of *P.falciparum* to 4-Aminoquinolines and measures to control drug-resistant malaria (ICP RPD 001)	Regional Office
SEA/RES/2 SEA/Lep/65	Research study group meeting on leprosy, 16-18 February 1978 (ICP RPD 001) - report to the Regional Director	Regional Office
SEA/RES/3 SEA/HSD/1	Research study group meeting on alternative strategies for the delivery of health care, New Delhi, 21-30 February 1977 - report to the Regional Director (formerly published as SEA/RPD/HSD/77.1) (ICP RPD 001)	Regional Office
SEA/RES/5 SEA/Liver Diseases/1	Research study group meeting on chronic liver diseases including liver cancer - report to the Regional Director, 28 February - 1 March 1977 (formerly published as SEA/RPD/Can.Meet.4) (ICP RPD 001)	Regional Office
SEA/RES/6 SEA/DD/4	Research study group meeting on diarrhoeal diseases of children, 12-16 September 1977 (ICP RPD 001) - Report to the Regional Director	Regional Office

Document	Title	Author
SEA/RES/7 SEA/Haem.Fever/23 SEA/Vaccine/91	Research study group meeting on the development of dengue virus vaccines, 6-8 February 1978 - Report to the Regional Director (ICP RPD 001)	*Regional Office*
SEA/RES/8 SEA/HSD/2	Research study group meeting on alternative strategies for the delivery of health care, 20-24 February 1978 - Report to the Regional Director (ICP RPD 001)	Regional Office
SEA/RES/9 SEA/HLM/143 SEA/Haem.Fever/24	Research study group meeting on the characterization of arboviruses, 9-11 February 1978 - Report to the Regional Director (ICP RPD 001)	Regional Office
SEA/RES/10 SEA/Trad.Med./2	Research study group meeting on traditional medicine, New Delhi, 7-8 March 1978 - Report to the Regional Director (ICP RPD 001)	Regional Office
SEA/RES/11 SEA/Mal/118	Report on a workshop on the Regional Programme for applied research in malaria control, New Delhi, 14-17 March 1978 - Report to the Regional Director (ICP RPD 001)	Regional Office
SEA/RES/12 SEA/Mal/119	Research study group meeting on approaches to the study of the resistance of *P.falciparum* to 4-aminoquinolines and measures to control drug-resistant malaria, New Delhi, 9-16 February 1978 (ICP RPD 001)	Regional Office
	Smallpox	
SEA/Smallpox/78	Eradication of smallpox from India - report of the International Commission for Assessment (IND SPI 001), 6-20 April 1977	
SEA/Smallpox/79	Eradication of smallpox from Nepal - report of the International Commission for Assessment (NEP SPI 001), 6-13 April 1977	
SEA/Smallpox/80	Eradication of smallpox from Bhutan - report of the International Commission for Assessment (BHU SPI 001), April 1977	
SEA/Smallpox/81	Eradication of smallpox in Burma - Report of the International Commission for Assessment (BUR SPI 001)	

Document	Title	Author
SEA/Smallpox/82	Eradication of smallpox in Bangladesh - report to the International Commission for Assessment (BAN SPI 001)	
SEA/Smallpox/83	Report of the International Assessment Commission on Smallpox Eradication in Burma (BUR SPI 001), 21-30 November 1977	
SEA/Smallpox/84	Report of the International Assessment Commission on smallpox eradication in Bangladesh (BAN SPI 001), 4-13 December 1977	
	Traditional Medicine	
SEA/Trad.Med./1	Report on a seminar on traditional medicine programme, Colombo (ICP PHC 001), 1-5 April 1977	Dr P.N.V. Kurup
SEA/RES/10 SEA/Trad.Med./2	See SEA/RES/10	
	Tuberculosis	
SEA/TB/142	Assignment report on mycobacterial disease control programme in Bangladesh (BAN BVD 001), 14 January 1975 - 12 April 1977	Mr A.G. Beer
SEA/TB/143	Assignment report on tuberculosis control activities in Indonesia (INO MBD 001), 28 October - 30 November 1976	Dr K. Toman
SEA/TB/144	Assignment report on the tuberculosis control programme, Burma (ICP ESD 003), 13 January - 21 February 1977	Dr J.N. Giri
SEA/TB/145	Assignment report on the tuberculisis control programme in Sri Lanka (ICP ESD 003), 13 March - 6 April 1977	Dr J.N. Giri
SEA/TB/146	Assignment report on the tuberculosis control programme in Thailand (ICP ESD 003), 10-15 April 1977	Dr J.N. Giri
SEA/TB/147	Assignment report on Tuberculosis Chemotherapy Centre, Madras (IND BVD 004), 29 November - 20 December 1977	Dr Wallace Fox

Document	Title	Author
	Trachoma	
SEA/Trach/33	Report on a visit on trachoma control and prevention of blindness in Burma (BUR VIR 001), 1-13 March 1977	Dr M.L. Tarizzo
	Vaccine	
SEA/Vaccine/89	Assignment report on brucella vaccine production in Mongolia (MOG BLG 001), October 1974 - September 1977	Dr J. Kolar
SEA/Vaccine/90	Assignment report on production and control of freeze-dried BCG vaccine in India (IND BLG 002), 17 July - 25 August 1977	Dr T. Hashimoto
SEA/RES/7 SEA/Haem.Fever/23 SEA/Vaccine/91	See SEA/RES/7	
	Venereal Diseases and Treponematoses	
SEA/VDT/27	Assignment report on venereal disease control programme in Indonesia (INO ESD 003), December 1976 - March 1977	Dr B.S. Verma
SEA/VDT/28	Assignment report on campaign for control of yaws in sub-district of North Morotai, Indonesia (INO BVD 003), 14 July - 5 September 1977	Dr A.Z. Meheus
	Veterinary Public Health	
SEA/VPH/18	Assignment report on a regional programme in veterinary public health (ICP VPH 001), December 1976 - February 1977	Dr M. Abdussalam
SEA/VPH/19	Assignment report on veterinary public health in Bangladesh (ICP VPH 001), 27 January - 1 February 1977	Dr M. Abdussalam
SEA/VPH/20	Assignment report on veterinary public health in Burma (ICP VPH 001), 15-19 January 1977	Dr M. Abdussalam
SEA/VPH/21	Assignment report on veterinary public health in India (ICP VPH 001), 6-14 December 1976; 20-25 January 1977 and 9-17 February 1977	Dr M. Abdussalam

Document	Title	Author
SEA/VPH/22	Assignment report on veterinary public health in Indonesia (ICP VPH 001), 21-30 December 1976	Dr M. Abdussalam
SEA/VPH/23	Assignment report on veterinary public health in Nepal (ICP VPH 001), 3-8 February 1977	Dr M. Abdussalam
SEA/VPH/24	Assignment report on veterinary public health in Sri Lanka (ICP VPH 001), 16-20 December 1976	Dr M. Abdussalam
SEA/VPH/25	Assignment report on veterinary public health in Thailand (ICP VPH 001), 4-12 January 1977	Dr M. Abdussalam

STATEMENT SHOWING THE IMPLEMENTATION OF 1977 PROGRAMMES
UNDER THE REGULAR BUDGET IN THE SOUTH-EAST ASIA REGION

(Expressed in US Dollars)

Programme Sector/Programme	Revised Budget as per *Off. Rec.* 236	Obligations incurred	Percentage of obligations to revised estimates
1.1 Organizational Meetings			
1.1.3 Regional Committee	25 000	23 397	93.6
2.1 Executive Management			
2.1.3 Office of the Regional Director	105 100	113 090	
2.2 Coordination			
2.2.2 Coordination with other Organizations	5 700	66 815	
2.3 General Programme Development			
2.3.2 Research Promotion and Development	148 100	194 080	
	258 900	373 985	144.5
3.1 General Health Services			
3.1.1 Programme Planning and General Activities	683 100	573 053	
3.1.2 Health Services Development	1 845 000	1 614 063	
3.1.3 Primary Health Care and Rural Development	498 300	496 075	
	3 026 400	2 683 191	88.7
3.2 Family Health			
3.2.2 Maternal and Child Health	409 100	363 976	
3.2.4 Nutrition	160 000	105 690	
3.2.5 Health Education	238 600	201 657	
	807 700	671 323	83.1
4.1 Health Manpower Development	1 889 300	2 026 906	107.3

(Expressed in US Dollars)

Programme Sector/Programme	Revised Budget as per *Off. Rec.* 236	Obligations incurred	Percentage of obligations to revised estimates
5.1 Communicable Disease Prevention and Control			
5.1.2 Epidemiological Surveillance	488 200	547 550	
5.1.3 Malaria and other Parasitic Diseases	1 279 900	1 826 728	
5.1.4 Smallpox Eradication and Expanded Programme on Immunization	1 016 700	522 694	
5.1.5 Bacterial and Virus Diseases	194 900	190 186	
5.1.6 Veterinary Public Health	30 300	35 480	
5.1.7 Vector Biology and Control	201 300	187 130	
5.1.9 Prevention of Blindness	31 300	32 209	
	3 242 600	3 341 977	103.1
5.2 Non-communicable Disease Prevention and Control			
5.2.1 Programme Planning and General Activities	47 700	45 739	
5.2.2 Cancer	227 700	255 491	
5.2.3 Cardiovascular Diseases	87 300	130 629	
5.2.4 Other Chronic Non-communicable Diseases	44 000	57 666	
5.2.5 Oral Health	73 500	64 259	
5.2.6 Mental Health	160 300	195 830	
5.2.7 Biomedical Aspects of Radiation	122 000	108 306	
5.2.9 Immunology	19 500	15 046	
5.2.10 Health of Working Populations	70 200	79 699	
	852 200	952 665	111.8

(Expressed in US Dollars)

Programme Sector/Programme	Revised Budget as per *Off. Rec.* 236	Obligations incurred	Percentage of obligations to revised estimates
5.3 Prophylactic, Diagnostic and Therapeutic Substances			
5.3.2 Drug Policy and Management	-	666	
5.3.3 Pharmaceuticals	145 300	174 733	
5.3.4 Biologicals	53 300	102 641	
5.3.5 Health Laboratory Technology	485 600	513 754	
	684 200	791 794	115.7
6.1 Promotion of Environmental Health			
6.1.1 Programme Planning and General Activities	87 800	106 055	
6.1.2 Provision of Basic Sanitary Measures	900 600	920 327	
6.1.4 Control of Environmental Pollution and Hazards	133 800	171 854	
6.1.5 Establishment and Strengthening of Environmental Health Services and Institutions	172 800	129 575	
6.1.6 Food Safety Programme	24 400	59 431	
	1 319 400	1 387 242	105.1
7.1 Health Statistics			
7.1.1 Programme Planning and General Activities	43 000	21 421	
7.1.4 Development of Health Statistical Services	98 700	98 736	
	141 700	120 157	84.8

(Expressed in US Dollars)

Programme Sector/Programme	Revised Budget as per *Off. Rec.* 236	Obligations incurred	Percentage of obligations to revised estimates
7.2 Health and Biomedical Information			
7.2.2 Health Literature Services	29 300	31 500	
7.2.3 WHO Publications	104 900	71 789	
7.2.4 Health Information of the Public	58 500	12 824	
	192 700	116 113	60.3
9.1 Regional Programme Planning and General Activities	370 800	342 604	92.4
9.2 Assistance to Country Programmes	794 900	886 966	111.6
9.3 Regional General Support Services	720 900	651 207	90.3
9.4 Regional Common Services	394 000	354 223	89.9
GRAND TOTAL	14 720 700	14 723 750	100.02