WORLD HEALTH ORGANIZATION
REGIONAL OFFICE FOR SOUTH-EAST ASIA

ELEVENTH ANNUAL REPORT
OF
THE REGIONAL DIRECTOR
TO THE
REGIONAL COMMITTEE FOR SOUTH-EAST ASIA
AUGUST 1958 - JULY 1959
WORLD HEALTH ORGANIZATION
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INTRODUCTION

The difficult economic situation mentioned in my last two reports has continued. Some expansion of public health programmes has taken place in spite of this difficulty. The foreign exchange position has been particularly severe, and health departments have found it increasingly hard to obtain essential supplies and equipment.

This situation is likely to go on for some years. It is therefore essential that national health departments as well as outside technical assistance agencies organize their programmes so as to concentrate resources on the essentials, increasing in depth over a somewhat narrow front rather than spreading thinly all along the line. However, such eminently sensible advice is more easily given than taken. Public opinion and local circumstances, often assisted by inadequate planning, create numerous diversions from the straight and narrow path of strict adherence to priorities.

It is generally accepted that only the rich can afford luxuries. Waste is a common luxury which the rich enjoy and can usually afford. For others to indulge in waste is more harmful. The countries of South-East Asia cannot afford avoidable waste of some of their precious public health resources. I give examples of some of the embarrassing problems which baffle health departments:

i. Because we are very short of qualified doctors, we have multiplied medical schools and doubled the admissions to existing schools but without providing adequate teaching staff. The result may well be a vast number of inadequately trained doctors. Medical education is so costly that this is not a good investment.

ii. Although we all deplore the acute shortage of doctors and nurses, it is a common enough sight to see them spending their valuable time and skill on work which can be done more efficiently and economically by clerks, or, in some cases, by domestic workers.

iii. We use thousands of auxiliary medical personnel in support of the doctors and should, therefore, streamline their training to the fewest possible categories of a multipurpose type so as to deploy them in different programmes as required. Instead, we find ourselves training a bewildering variety of little specialists. This is wasteful of our limited training facilities, and all these categories will be difficult to assimilate into the general public health service.

iv. Nature, fortunately, provides that most babies shall be born normally. Poor countries would be expected to exploit this natural provision. And yet we see too little encouragement of domiciliary midwifery. On the contrary, there seems to be a growing ambition that even normal deliveries should take place in some health centre or hospital. This is unnecessary and most uneconomical.
v. To provide health services to our vast rural population, we are putting up hundreds of so-called health centres at a very considerable cost. And yet we do not succeed in obtaining from many of these centres more than a slight amount of curative medical relief. Although they will no doubt be called upon to continue to give such curative services, more strenuous efforts should be made to see that they also fulfil their preventive functions. Far too little has been done so far at these centres to improve sanitation or to give proper health education, especially in nutrition; yet these are the foundations on which public health in this region must be built.

vi. There is very little real enthusiasm about improving sanitation, and this in spite of the fact that the bulk of our child population is riddled with intestinal worms and gastro-intestinal infections! The adult population is not much better off. If a reminder were needed of the sad state of sanitation in this region, the recent fresh epidemics of cholera in Nepal and Thailand and the occurrence in 1958 of almost 5,000 cases of this disease in the city of Calcutta alone should surely suffice. It is inconceivable that with the existing resources we cannot make a better showing against the gross insanitation which prevails almost everywhere. These very same resources are readily available for public health activities of a much lower priority. A mental health service, a dental health service, a school medical service, the rehabilitation of the handicapped, better housing for the poor and radioisotopes for our hospitals are all very desirable objectives, but surely the provision of safe drinking water and elementary drainage and sewerage must come first.

vii. Costly medical equipment, especially x-ray units and other electro-magnetic apparatus, is frequently out of order from lack of proper maintenance. Public health institutions possess millions of dollars worth of such costly equipment, and yet hardly any one of them has properly trained technicians on its staff!

It is fully realized that our countries in South-East Asia are making heroic efforts to improve the health of their people and are struggling against tremendous odds to achieve the desired results. The above instances of uneconomical utilization of resources are therefore submitted in a spirit of humility and in the sincere hope that still greater efforts than ever before will be made to extract full value out of every dollar spent on public health.
During the period under review WHO has assisted governments in South East Asia with about 130 field projects, involving the employment of some 240 WHO field workers. The Regional Office in 1959 is handling a programme which amounts to nearly eight million dollars, inclusive of extra-budgetary funds.

The main fields of assistance have been, as before, the control of communicable diseases, the promotion of rural health services and the training of various categories of health personnel.

Every country in the Region now has a malaria eradication programme, although these programmes are in different stages of development. This is indeed a major advance. If adequate resources and facilities continue to be provided, it should be possible within the next seven years to render an excellent account of this admittedly costly undertaking.

I reported last year that we were awaiting the results of the Tuberculosis Chemotherapy Research Project in Madras as regards a comparison between home and hospital treatment. The first report of this project is being published and gives very encouraging results. We can now hope that the vast majority of cases can be adequately treated at home. This would bring tuberculosis control for the first time well within the resources of countries in South East Asia and of economically under-developed countries elsewhere. During the year, agreement was reached to establish a national tuberculosis training programme in India, and the operational phase has started with the development of a national tuberculosis institution for co-ordination, statistical evaluation and bacteriological reference, with an epidemiological unit and three mobile case-finding and treatment units.

Programmes against yaws, leprosy and trachoma have continued at about the same level as last year. Following a World Health Assembly resolution, a renewed effort has been made to stimulate preparations for a smallpox eradication programme. Also, since economical planning for control of the major communicable diseases is impossible without an understanding of their epidemiology, WHO is assisting the governments in the Region to set up epidemiological units at directorate of health level, with consultant epidemiologists and fellowships for post-graduate training in the subject.

In addition to the considerable amount of support given by WHO and UNICEF to the development of rural health centres in India and Afghanistan, assistance to a small rural health programme has also been started in Indonesia. As a result of our past year's experience of community development health centres in India, a memorandum has been submitted to the Government, suggesting certain urgently needed improvements.

Work in environmental sanitation is being stepped up. At the last session of the Regional Committee it was brought out that defective sanitary conditions in Calcutta directly affect the health of six million people in metropolitan Calcutta, are a hazard to many millions of people in surrounding rural areas to which Calcutta is a focus of infection and are a threat to other countries in contact with the port. Preliminary planning has been initiated to assist the Government of West Bengal in
establishing adequate water supply and sewerage schemes. It is proposed to assign a powerful consultant team in sanitary engineering, to advise on metropolitan and sanitary district organization and administration, the design of water supply and sewerage systems and the epidemiology of water-borne diseases.

There has been considerable appreciation of WHO's assistance in the development of teaching and services in child health, specifically the integration of promotional - preventive and curative - child health services at the academic level. This has been especially noticeable in India, where, during the year, three WHO/UNICEF-assisted paediatric projects - in Madras, Hyderabad and Trivandrum - have shown considerable progress. While there were only two full professors of paediatrics a little over a year ago, there are now six professors and four associate professors in India.

Steady advances in the establishment of health education bureaus has continued throughout the year. WHO continues to stress that the main work of health education of the public must be carried out by health personnel of all categories and that professional health educators should be used only as co-ordinators, as advisers and for training health personnel.

Assistance to medical education has continued to take the form of the provision of professors and the award of fellowships. The shortage of teaching staff is still acute even in existing medical schools, and yet new schools are coming up all the time. The School of Radiography in Ceylon, which is receiving WHO assistance, will be used for training x-ray technicians from all countries of the Region. The Mental Health Institute in Bangalore continues to be a valuable centre for training in psychological medicine and mental health nursing. A team of short-term consultants was recently sent to the All-India Institute of Hygiene and Public Health, Calcutta, to advise on the further improvement and streamlining of its various teaching courses. The Institute has continued to be a training ground for students from India and neighbouring countries.

Some very important conferences and seminars have taken place during the year. In conjunction with IIO, we held, in Calcutta, our first conference on industrial and occupational health, which made valuable recommendations for the development of industrial health services to keep pace with increasing industrialization, especially in respect of training facilities. In Delhi, two regional seminars were held - one on the certification and classification of mortality and morbidity, at which a useful series of recommendations for further improvement was formulated, and the other on auxiliary nursing, which gave rise to guiding principles on the use and training of such auxiliaries which should be of great benefit to the countries of the Region. Finally, the Third Asian Malaria Conference, which was inaugurated by the Prime Minister of India, took place in New Delhi from 16 to 21 March, with participants from twenty countries and territories in the South East Asia and Western Pacific Regions. Although this was third in the series of Asian conferences on malaria, it was actually the first to deal with the concept of eradication. The reports of all these conferences have been circulated.
In addition, two inter-regional training courses were held - one on health physics, organized at the Department of Atomic Energy, Bombay, and the other on public health laboratory techniques for virus and rickettsial diseases, held in Coonoor (India). Further, a study tour was organized for workers in filariasis from four countries in South-East Asia, and a medical education study tour was arranged for a group of physiology teachers.

A detailed enumeration of the extensive training activities which have been assisted during the year appears in Annex 6 to this report.

Close liaison has been maintained with bilateral and international organizations, especially with the Technical Assistance Resident Representatives and the International Co-operation Administration of the United States, the Colombo Plan and the Rockefeller and Ford Foundations. As before, a large portion of our work in this region has been carried out in joint collaboration with UNICEF, which has continued to give major support for health programmes, especially in the field of malaria eradication, maternal and child health services, rural health centres and a large variety of training courses.

* * *

I very much regret to have to inform the Regional Committee of the death of two of our colleagues during the year. Dr. J.R. Blazé, from Ceylon, who was under recruitment for a short-term assignment as professor of internal medicine, Faculty of Medicine, University of Kabul, died in Colombo in November. Dr. Blazé had formerly served WHO in a most useful capacity in 1957, when he undertook the same assignment in Afghanistan. Mr. W. Taylor-Allan, WHO Sanitarian attached to the Malaria Eradication Programme in Burma, died suddenly in New Delhi in March 1959 after attending the Third Asian Malaria Conference. Mr. Taylor-Allan had worked in WHO for the past eight years in Cambodia and East Africa as well as Burma. Both will be sorely missed.

* * *

On behalf of the Regional Office staff, I acknowledge with much gratitude the whole-hearted co-operation that we have received from all governments in the Region, and have the honour to present my Eleventh Annual Report to the Regional Committee.

C. Mani
Regional Director
PART I

GENERAL REVIEW OF ACTIVITIES
1. COMMUNICABLE DISEASES

A great endeavour is under way in South-East Asia. Work has already started towards the eradication of malaric and yaws. There are also those who dare to think in terms of eradication of smallpox, trachoma and leprosy, and several national control programmes are directed towards this end.

Perhaps the most serious public health problem of all in South-East Asia and one which receives the least attention is that of the intestinal infections - typhoids, dysenteries, diarrhoeas, worm infestations and cholera. The control of these diseases is dependent on improvements in water supplies and environmental sanitation, and so requires a long-term solution.

The following are the figures for the incidence of the so-called quarantinable diseases (the only ones for which notifications are required) from countries in the Region for 1958:

<table>
<thead>
<tr>
<th>Country</th>
<th>Cholera</th>
<th>Plague</th>
<th>Smallpox</th>
<th>Typhus</th>
</tr>
</thead>
<tbody>
<tr>
<td>Afghanistan</td>
<td>nil</td>
<td>nil</td>
<td>287</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>nil</td>
<td>nil</td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>Burma</td>
<td>9</td>
<td>76</td>
<td>1,897</td>
<td>nil</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>33</td>
<td>381</td>
<td>nil</td>
</tr>
<tr>
<td>Ceylon</td>
<td>nil</td>
<td>nil</td>
<td>35</td>
<td>nil</td>
</tr>
<tr>
<td></td>
<td>nil</td>
<td>nil</td>
<td>2</td>
<td>nil</td>
</tr>
<tr>
<td>India</td>
<td>66,198</td>
<td>26</td>
<td>167,084</td>
<td>nil</td>
</tr>
<tr>
<td></td>
<td>28,380</td>
<td>10</td>
<td>45,612</td>
<td>nil</td>
</tr>
<tr>
<td>Indonesia</td>
<td>nil</td>
<td>2</td>
<td>5,718</td>
<td>nil</td>
</tr>
<tr>
<td></td>
<td>nil</td>
<td>1</td>
<td>620</td>
<td>nil</td>
</tr>
<tr>
<td>Portuguese</td>
<td>nil</td>
<td>nil</td>
<td>98</td>
<td>nil</td>
</tr>
<tr>
<td>India</td>
<td>nil</td>
<td>nil</td>
<td>11</td>
<td>nil</td>
</tr>
<tr>
<td>Nepal</td>
<td>2,706</td>
<td>nil</td>
<td>nil</td>
<td>nil</td>
</tr>
<tr>
<td></td>
<td>384</td>
<td>nil</td>
<td>nil</td>
<td>nil</td>
</tr>
<tr>
<td>Thailand</td>
<td>11,526</td>
<td>nil</td>
<td>26</td>
<td>nil</td>
</tr>
<tr>
<td></td>
<td>1,733</td>
<td>nil</td>
<td>7</td>
<td>nil</td>
</tr>
</tbody>
</table>

Comparing these figures with those of 1957, which were reported in the Tenth Annual Report, it is evident that there is little cause for satisfaction. The prevalence of smallpox and cholera has been higher than for some years.

1.1 Malaric Eradication

During the year steps have been taken by most national administrations either to initiate eradication programmes or to reorientate the existing programmes for achieving the objective of eradication. In this effort WHO, in collaboration with UNICEF and the United States International Co-operation Administration, has continued to make an effective contribution to the planning
and launching of the programmes. Efforts are being made by all countries to augment their training facilities. In order to meet the increasing commitments of the Organization, the WHO technical staff in this field was increased from 27 in July 1958 to 87 in July 1959.

One of the important functions of WHO has been to stimulate inter-country and inter-regional co-ordination in anti-malarial activities. For example, WHO has taken part in the following meetings:

(i) The Third Anti-Malaria Co-ordination Board Meeting of Burma, Cambodia, Laos, Malaysia, Thailand and Viet Nam, held in Rangoon from 1 to 4 December 1958.

(ii) The Borneo Inter-Territorial Malaria Conference, held in Kuching from 12 to 14 December 1958.

(iii) The Indo-Burma Border Anti-Malaria Co-ordination Conference, held in Myitkyina on 8 and 9 December 1958.

The Regional Office was also represented at the ICA-WHO joint conference held in Manila from 24 to 29 November 1958.

One of the outstanding events of the year was the Third Asian Malaria Conference, sponsored by WHO and held in New Delhi from 16 to 21 March 1959. This conference was attended by 120 participants from 20 countries and territories in the South-East Asia and Western Pacific Regions. The Conference emphasized primarily the organizational and administrative requirements of eradication programmes. Its report has been distributed.

The following is a brief description of the status of plans for malaria eradication in the different countries of the Region:

**Afghanistan:** A detailed plan of operations for 1959 providing for increased assistance from WHO's MESA funds and from UNICEF was signed by the Afghan Government, UNICEF and WHO.

Two WHO teams, each consisting of a malarialogist and a laboratory technician, have been working in the northern and eastern provinces, assisting in the assessment of the programme and in establishing surveillance procedures.

A Malaria Eradication Advisory Team (No.3) was assigned to Afghanistan for a period of three months from September 1958. The findings of this team showed that, contrary to earlier expectations, transmission had not been fully interrupted. Consequent on these findings, the Government has planned to augment the staff at all levels with a view to securing more effective supervision and achieving total coverage of all malarious areas in the country during the ensuing year. WHO is also providing a malarialogist, an entomologist and a sanitary engineer to assist in strengthening the central organization. The programme is expected to be completed by 1965.

**Burma:** The Burmese Government's malaria eradication programme, assisted by UNICEF and WHO, continued to make satisfactory progress. During the year the assessment of the programme has been improved. Malarial indices in most areas under spraying have dropped to very low levels, and transmission
has been largely interrupted over a considerable part of the country. A special feature of the Burma programme is the limitation of the spraying to three months in every year and the use of the supervisory personnel for active case-finding and treatment for the rest of the year, from the second year of the attack phase of the programme.

Ceylon: The Government’s malaria eradication programme assisted by ICA is progressing satisfactorily. A five-year plan of action for malaria eradication has been formulated. This plan provides for resumption of spraying over a large part of the island and for the institution of effective surveillance measures.

India: The eradication programme in India, which was launched in April 1957, aims at protecting 390 million people, and in magnitude and importance it is the largest single public health undertaking of any government. Although there have been some initial delays in the recruitment of personnel, satisfactory progress was made during the year. Six regional organizations have been formed; out of the 230 units planned, 225.5 have been established, and work has been in progress according to plan. With generous assistance from the ICA, the supply position has been very satisfactory. Arrangements for the training and recruitment of personnel to staff 160 additional units for hypo-endemic areas for the next year have also been completed.

Two WHO malaria eradication advisory teams to assist in the assessment of the programme were assigned to Coonoor and Baroda respectively.

Indonesia: The plan of operations for malaria eradication was signed in February 1959. This programme is to protect 75 million people; in magnitude it is second only to that of India. The plan covers eleven years. It envisages the development of the programme in stages, starting with a population of about ten million in 1959. The total cost is estimated at $100 million, the government share of which aggregates to the equivalent of $60 million. A Malaria Eradication Board has been created under a special decree issued by the Prime Minister and, functioning under the Ministry of Health, has authority to implement the programme. A Malaria Eradication Service has also been formed under a special decree. The training of personnel required for the project is in progress.

WHO commitments to the programme include the provision of 28 international staff members, with vehicles and equipment for their use, and also, in view of the complexity of the technical problems in Indonesia, the provision of four study teams to carry out research on problems having a direct bearing on the eradication of malaria. ICA’s assistance to this programme is very substantial and includes supplies of insecticides, vehicles and technical and administrative advisory personnel.

Nepal: The Government of Nepal has signed plans of operations with WHO and ICA for malaria eradication in Nepal. The country has been divided into three zones - eastern, central and western. It is planned during the first year to operate the central zone, and in subsequent years, as more trained personnel become available, to extend the programme to the other two zones. WHO’s assistance consists of three teams, each with a malariaologist, an entomologist and a sanitary engineer, with the necessary secretarial assistance, equipment and transport.
During the year the Rapti Valley project made satisfactory progress. The WHO team has now been moved to Kathmandu to fit in with the new eradication plan.

Thailand: The Thai Government's malaria eradication programme receives substantial assistance from ICA. This programme has reached such an advanced stage in its development that it is considered that in some of the areas eradication has already been achieved. As a result of discussions, it was decided that a WHO Advisory Team on Malaria Eradication (No.3) should be assigned to Thailand in the last week of May 1959.

Inter-country: Two malaria surveillance study teams have been set up in Mysore (India) and Kurunegala (Ceylon) respectively, in order to determine the surveillance techniques and procedures most suitable under local conditions for achieving the objective of malaria eradication. These teams have already started their preliminary surveys.

1.2 Tuberculosis

The main events in this field have been the movement of the Indian National Tuberculosis Programme into the beginning of its operational stage, the planning of a new type of tuberculosis project in Thailand and the completion of the first report of the tuberculosis chemotherapy project at Madras.

The Indian National Tuberculosis Institute is now located at Bangalore, and the urban and rural programmes of the field arms are to be located in the adjacent portions of three States, namely Madras, Andhra Pradesh and Mysore. Two members of the WHO field staff attached to the project arrived in the field early in 1959; in consultation with the national authorities, they have made detailed plans and have prepared work manuals, etc., on the spot. The remainder of the WHO team will follow. The project is the largest and most ambitious one for the control of tuberculosis with which WHO has been associated; in this project there will be a serious attempt to put into practice the new knowledge which is resulting from the tuberculosis chemotherapy project at Madras and from pilot projects in Africa.

Some of this knowledge has already been used in planning a project for assisting the Government of Thailand with the expansion of a national tuberculosis control programme, and this project is an example of a new trend. Briefly, the project commences with a pilot mass case-finding scheme in a carefully delineated and densely populated area of Bangkok. This will be followed by an intensive chemotherapy treatment programme. It is hoped also to derive experience and epidemiological information from the case-finding programme in Bangkok and to use this information to guide the training of personnel for the second stage of the project. This will consist, in the first instance, of a prevalence survey of an entire province of Thailand and the use of the information derived therefrom in setting up a model provincial tuberculosis control service. It is hoped that the programme in Bangkok will move into its operational stage in the latter part of 1959.

As underlined in the Introduction to this report, the first report from the Tuberculosis Chemotherapy Project at Madras on a comparison of the results of chemotherapeutic treatment in home and hospital patients,
which is being published in the WHO Bulletin, will have a decisive influence on the shape of tuberculosis control projects in various countries for some time to come. The Tuberculosis Chemotherapy Centre is also providing special training facilities for clinical and laboratory workers engaged in tuberculosis control in the South-East Asia Region. In the laboratory sphere it can act as a reference laboratory for WHO-assisted or formerly assisted tuberculosis control projects; at this Centre the bacteriologist will be prepared to receive atypical or otherwise unusual strains of mycobacteria for identification.

1.3 Venereal Diseases and Treponematoses

In the control of venereal diseases, international assistance for the training of personnel and for the provision of supplies and equipment has continued, and in 1958-1959 consultants were provided to Burma and to Ceylon. Generally speaking, no great progress has been achieved in controlling venereal diseases in South-East Asia; the problem admittedly is very difficult in spite of the efficacy of modern treatment. The Regional Office is still of the opinion that the most practicable approach is concentration of major effort on maternal and child health services and on special areas of high endemicity.

The yaws control programmes in India and Indonesia are being carried out satisfactorily by the national health services with assistance in supplies and transport from UNICEF; during the year WHO exports from the Regional Office and Headquarters visited these projects. In Thailand, where WHO and UNICEF have augmented their assistance, further progress has been made. WHO is providing a team of two medical officers, a statistician and a laboratory technician. The Government has revised the administrative arrangements to facilitate a more efficient organization of the treponematosis control programme and is undertaking special training of new health personnel to relieve campaign-weary workers and to provide for further expansion.

In April 1959 a WHO inter-regional meeting on yaws was held in Kuala Lumpur, attended by representatives from Burma, Indonesia and Thailand, from South-East Asia.

1.4 Leprosy

In November 1958 a WHO inter-regional conference on leprosy control was held in Tokyo. From the South-East Asia Region, Burma, Ceylon, India, Indonesia and Thailand sent representatives.

In Burma, the leprosy control service has made good progress during the last year. The case-finding and treatment units in the pilot areas have revealed that prevalence of the disease is far greater than had been estimated, and WHO has offered the services of two experienced workers to assist with organization and training.

In Ceylon, control measures are being undertaken successfully by the national health services, and WHO has provided assistance through fellowships.
In India the Regional Office has been taking great interest in the consideration of revised plans for a country-wide control programme and has participated in conferences and field tours to study the situation. It is expected that all this planning will lead to a new effort and to international assistance in the control measures to be undertaken against this huge problem, created by the existence of not less than two million leprosy patients in the country.

In Indonesia and Thailand the WHO/UNICEF-assisted control projects have been extended to new provinces. In Thailand, the original pilot leprosy control project, covering Khon Kaen Province and 8,809 patients, is near the end of its third year of operation and next year will be integrated with the general health services. To provide for a country-wide leprosy control service the Thai Government has started a leprosy training centre, to which WHO has supplied a leprologist to arrange special training for the staff engaged in leprosy control for all categories of workers in the general health services and for medical students and doctors. In Indonesia, in two medical schools, students not only have didactic and clinical classes in leprosy but are also given practical field experience in control work.

1.5 Other Communicable Diseases

(1) Cholera

The severe epidemics of cholera in India and Thailand, which were referred to in the Annual Report to the eleventh session of the Regional Committee in 1958, were followed in the latter part of the year by an epidemic in Nepal. Cholera control will continue to be a grave problem until safe water supplies with better standards of environmental sanitation can be provided.

(2) Plague

The incidence of human plague continues to be very low, mostly due to the widespread effects of anti-malaria programmes; nevertheless, in January 1959 there was reported an epidemic in India with 20 cases and 9 deaths. It would be a mistake to forget about this once serious problem; the findings of WHO workers in India and Indonesia of a reservoir of infection in wild rodents distant from human habitations have been substantiated by workers in other countries and were endorsed by the WHO Expert Committee on Plague in September 1958. Further work on the investigation and control of such a reservoir is urgent; malaria eradication plans envisage the withdrawal of residual insecticide spraying, and it should be considered now whether such a development may not lead to a recrudescence of epidemic human plague.

(3) Smallpox

A resolution of the Eleventh World Health Assembly in June 1958 and the reported prevalence of the disease during 1958 have focussed renewed interest in South-East Asia on planning for eradication of smallpox through widespread vaccination coverage. The administrative problem is enormous, as shown by replies to a questionnaire issued by the Regional Office in 1958. From the information thus made available it may tentatively be suggested that the best programme so far developed in a highly endemic area is failing

1Resolution WHA11.54
to protect against severe epidemics. The figures from this programme suggest that the total of primary vaccination at all ages reaches 100% of current estimated live births, but vaccination of infants under one year appears to cover only about 30% of such live births. Therefore, any campaign for smallpox eradication should be closely linked with intensive efforts for more complete birth registration.

In India urgent consideration is being given to undertaking a country-wide smallpox eradication campaign, and it is hoped that other countries in the Region will find it possible to take similar measures. In Indonesia, for example, preliminary investigations by the WHO epidemiologist suggest that in several centres the situation is such that there is a grave risk of smallpox in epidemic form.

(4) Trachoma

In India the WHO/UNICEF-assisted trachoma control project will end its pilot phase in the autumn of 1959. The epidemiology of the disease has been studied, and various methods of mass treatment and prevention have been tried out in Uttar Pradesh, Punjab and Rajasthan. In the remaining States of India prevalence surveys have been undertaken in the preparation of a first-hand topographical map of trachoma. Plans have been made for further expansion of trachoma control in five States at the end of 1959.

The WHO/UNICEF-assisted pilot project in Indonesia was completed towards the end of 1958. It revealed a trachoma prevalence of 52% at all ages and 22% of moderate and active trachoma at the age of two years. The findings in general suggest that adequate control could be achieved by covering the age-groups of up to ten years only and by concentrating on the treatment of conjunctivitis in children under ten.

A short-term consultant is visiting Thailand in July 1959.

(5) Other Virus Diseases

The importance of the need for further research on virus diseases and their epidemiology is widely recognized, and WHO is taking steps to assist more widely with research programmes, the development of virus laboratories and training facilities.

In December 1958 a WHO-sponsored inter-regional training course on public health laboratory techniques for virus and rickettsial diseases was arranged in Coonoor (India), for seventeen participants from sixteen countries - nine from South-East Asia, five from the Western Pacific, and three from the Eastern Mediterranean Region. The Pasteur Institute in Coonoor also co-operated in giving this course, which should contribute to the development of virus work in the countries represented.

(6) Filariasis

A one-month study tour of filariasis research and control units in India and Ceylon was arranged, with eight participants from five countries. It succeeded in stimulating a critical preliminary assessment of filariasis and the problem it presents in each country, as well as the continuation of further studies on a national and international basis.
Zoonoses

A preliminary study of the problem of zoonoses, made in the Regional Office, has shown the need for stimulating closer co-ordination between the work of veterinary and health departments. One means of obtaining this aim will be to offer fellowships for the study of veterinary public health.

2. EPIDEMIOLOGY

At the eleventh session of the Regional Committee in 1958 a resolution was adopted stressing the importance of establishing epidemiological units in public directorates.1

Towards this end WHO policy is to provide consultant experts and, through its fellowship programme, training facilities for national personnel.

In Ceylon the WHO epidemiologist completed his assignment in the middle of 1959. An epidemiological unit has been set up under a fully trained national officer. Another expert has been supplied for one year to assist with the organization and upgrading of hospital accommodation and treatment for infectious diseases.

In Indonesia a WHO epidemiologist was assigned in December 1958. It is expected that, in order to ensure that this international assistance is put to good use, there will soon be provided a suitable national counterpart, who will have the opportunity to work with the expert and undertake special training overseas.

3. HEALTH STATISTICS

As in previous years, assistance has been mainly directed to helping countries to improve the collection and processing of basic statistical data. The Regional Seminar on the Certification and Classification of Mortality and Morbidity, held in October, was concerned with the methodology of cause-of-death certification and of morbidity reporting. A programme is being developed to stimulate the teaching of death certification in all medical colleges and their associated teaching hospitals by the provision of teaching materials and in other ways. Much interest was also shown in hospital statistics.

Good national or state-wide vital statistics will take very many years to achieve; yet some progress is being made. A complete detailed plan for the new Burmese system has been submitted for final approval. It is hoped to set up a working model of the new system in Rangoon city and perhaps in a rural area. The Nagpur project in India has demonstrated on a small scale that international rules and procedures are both practical and productive. Also West Bengal is initiating new developments and has received some small assistance from the Regional Office. Progress continues in Indonesia and Thailand.

A very welcome new development during the year has been the appearance of epidemiological studies from some of the field projects. In Ceylon the partnership between the epidemiological and statistical units has produced a series of papers, largely based on ad hoc field work and leading up to a detailed programme for reorganization of notifiable disease reporting, which has been submitted to the Government. In Nagpur the former WHO statistician introduced some improvements in notifiable disease reporting, and the new death notification forms are beginning to yield a wealth of useful

1SE/RC11/2
information. Two studies based on these sources have appeared, and the project has begun to fulfil its major objective - to demonstrate the usefulness of a good statistical service to a health authority.

Though there has been much activity, training of statistical personnel affords little ground for satisfaction. The chief lack is in top-level statisticians with the requisite medical background and practical experience. Training of personnel at intermediate and elementary level continues - both in-service training and organized courses. This type of training is much in demand and appears to be of some value.

4. PUBLIC HEALTH ADMINISTRATION

4.1 Strengthening of National Health Services

The policy of using WHO staff to assist in strengthening the administration of health services at central or provincial levels has been maintained. WHO Area Representatives and Public Health Advisers in the countries of the Region have worked in close contact with national health directorates. WHO's assistance and advice are increasingly being given at the directorate level.

As described elsewhere in this report, progress has been made in the integration of WHO assistance with plans for national development. In community development areas in Indian States, the number of teams, headed by a public health officer and including nursing and other advisory staff, was increased, and comparable teams have been operating in Afghanistan and in the Kalutara area of Ceylon. In the field of nursing, advisers to health directorates were working in Burma, Ceylon, Indonesia and in an augmented number of Indian States. WHO public health engineers assisted in the development of divisions of environmental sanitation in the health directorates in Burma and Ceylon; in Afghanistan the public health engineer assigned to Gulzar was able to lend assistance to the organization of the environmental sanitation section in Kabul Municipality.

As indicated above, WHO epidemiologists assisted in the creation of sections of epidemiology at the directorate level in Ceylon and Indonesia. Assistance designed to strengthen vital and health statistics at the central level was continued in Burma, Ceylon, Indonesia and Thailand, and in India the project in Nagpur was aimed at promoting the development of a model vital statistics section in a corporation health service as well as at training statistical assistants from several states.

WHO health educators assisted in strengthening health education bureaus in Afghanistan, Burma and Indonesia; in India a WHO health educator was working at the Ministry of Health in co-operation with the Ministry of Education, and an active health education section of the directorate was assisted in Bombay State.

4.2 Community Development

The rural health pilot project in Afghanistan is maintaining steady progress and is helping to provide sound patterns for the promotion of rural health. In Indonesia, technical approval has been
given to the provision of UNICEF assistance in the form of supplies and equipment for eight rural health demonstration areas, three of which are related to declared community development districts. Since 1956 the Government of Indonesia has, each year, scheduled sixteen rural districts to be community development areas.

In Thailand, consultations have been held with the local authorities on the further development of rural health services, particularly in relation to areas intended for community development.

Community development is considerably advanced in India. Rural health programmes in connection with community development areas have continued to receive assistance from WHO and UNICEF.

WHO public health teams were in position in six Indian States at the end of the year and recruitment was in train to provide teams in four further states.

Plans have been drafted for three of eighteen demonstration districts scheduled to be developed. A technical circular issued by the Regional Office, "General Guidelines for Establishment of Demonstration Districts", together with a questionnaire, was prepared to assist State Governments in drafting plans. The policy envisages the creation of a demonstration district project in each state during the current plan period.

Progress in growth of rural health services has not been entirely smooth. Experience has shown that evolution of basic health services may be retarded by shortage of trained staff and funds. Adequately trained and orientated staff is necessary to secure integration of health services at all levels. Coupled with this it is essential to provide appropriate supervision and guidance. Only when these requisites are fulfilled is due use being made of referral hospitals and laboratories.

The factor of staff shortage and lack of facilities delayed upgrading of referral hospitals and laboratories. Sufficient hostel accommodation, particularly for female staff, was not always available. Though there was evidence that staff training programmes were gathering momentum, yet some were still handicapped by staff difficulties and, occasionally, shortage of female candidates.

5. SPECIAL PUBLIC HEALTH SERVICES

5.1 Maternal and Child Health

The trend to render maternal and child health services on the field level through all-purpose health centres rather than in special maternal and child health centres continued in all countries of the Region. It is felt that while the concept of integration of services is sound, and reorientation courses for personnel are the only possible way of bringing about at least a limited degree of improvement, the future of the services will depend on better training during the undergraduate period.
The changes required in undergraduate training are mainly in the field of child health. Not only is it essential that more time be devoted to this subject, but the content of the teaching needs considerable revision. The student must learn techniques of the promotion of health and prevention of disease in addition to diagnosis and treatment of already established morbid conditions. He must realize that the treatment of children is in itself a preventive activity for the future adult. In addition, the student must learn how to teach parents to provide the best care for their children within the limitations of their income and degree of development of life in their community.

Based on these considerations, considerable efforts have been made to assist medical schools in the development of paediatric teaching departments. At the same time, efforts to provide service units attached to such departments appeared to be the first and most important step. Thus, the concept of the "peripheral child health clinic" was developed. There is no division between promotional-preventive and curative care, and the child receives both guidance (through the parent) and treatment. Nearest, perhaps, to the ideal type of such a clinic are those developed during this year in Madras.

The teaching of paediatrics to both medical and nursing students has reached near-satisfactory levels in a few institutions, notably in Hyderabad. The national counterparts of a WHO team withdrawn over three years ago have continued to expand and improve teaching and service activities with gratifying results. Based on the experience of Hyderabad, the State Government is now introducing similar improvements in other schools.

During the year a paediatrics manual for medical students in South-East Asia was compiled and edited by the Regional Office and has recently been published.

5.2 Nursing

The need to attract more students of high calibre to undertake nursing training remains. It is acknowledged that auxiliary personnel are an integral and permanent part of a modern nursing service. Throughout the Region diverse training programmes for auxiliary nurses have been established. A WHO conference on the training and use of nursing auxiliaries in November 1958 underlined the need for understanding the use and improved training of such staff. The conference, with representatives of all countries in the Region and with some delegates from the Western Pacific and Eastern Mediterranean Regions, recommended the adoption of certain basic principles regarding the function, training and administration of auxiliary nursing personnel. The report of this conference has been issued and widely circulated.

The number of refresher courses for different categories of nurses was increased. Regular refresher courses have become an established pattern in many countries, and WHO has sponsored or assisted courses for matrons and nursing superintendents, nurse and midwifery tutors, ward sisters and paediatric nurses.

Along with progressive thought on basic training, increasing concern with post-basic education is evident throughout the Region. Courses for training nurse tutors have been established in four countries, and the length and content of these training programmes are being reviewed with a realization of their deficiencies in some directions. Experience has shown that courses for tutors need to include what to teach as well as how to teach.
Experience has proved the value of having a national nursing adviser to assist in promoting overall nursing policy and co-ordinating nursing services and education programmes. Five countries have established, or are in the process of developing, a division of nursing within the health directorate.

WHO assistance in nursing during the year was given chiefly in four directions. International nurses helped with basic nurse training programmes, assisting national nurse tutors to revise curricula in order to include an understanding of the social aspects of disease. Assistance was given to the firm establishment of post-basic education courses, including one programme for training in psychiatric nursing. Support was given at directorate level to national nursing advisers, who have co-ordinated nursing programmes, formulated policies and prepared draft legislation relating to nurse training and practice. Finally, nurse members of international public health teams helped national counterparts to introduce and expand services and to train personnel for rural health programmes.

5.3 Environmental Sanitation

In the context of a document submitted by the Regional Director and after consideration of the resolution of the Eleventh World Health Assembly,¹ the Regional Committee at its eleventh session made a detailed study of environmental sanitation problems and trends in South-East Asia. The Committee agreed that further development in various fields of activity in environmental sanitation was an outstanding and urgent need and requested the Regional Director to explore all possible ways and resources for assisting governments to bring about such a development. It was agreed that priority should be given to provision of safe water supplies and sanitary disposal of human excreta.²

During the period under review, WHO-assisted environmental sanitation projects have been going on in most of the countries of the Region. Assistance emphasized the importance of environmental sanitation aspects of community development projects. Pilot environmental sanitation projects continued to operate satisfactorily. A laudable development was the trend to expand the work initiated in such projects beyond the confines of the original project area.

Scarcity of trained staff is one of the factors which have retarded the furtherance of environmental sanitation activities. In an effort to meet the need, WHO assisted in training programmes for public health engineers and sanitarians in Afghanistan, Ceylon and India. Stress was laid on the importance of a major environmental sanitation content in the training programmes of health assistants and other auxiliary personnel. It is increasingly recognized that public acceptance and demand are essential for a worthwhile advance in environmental sanitation. Due attention was given to these factors in health education programmes, and instruction in methods of health education of the public constituted an important part of training programmes for workers in the field of public health.

¹ Resolution WHA11.27
² Resolution SEA/RC11/R13
Many professions and departments are concerned in the development and advance of environmental sanitation. Co-ordination and direction of activities are necessary. The trend towards creation or strengthening of environmental sanitation divisions at directorate level, notably in Ceylon and Burma, represented a significant evolution.

The provision of adequate water supplies and an efficient means of sewage disposal in Greater Calcutta represented a problem of great and growing complexity and of global import. To assist the Government to arrive at a solution, initial planning to provide an advisory consultant commission was undertaken. The programme is being planned in co-operation with the ICA.

5.4 Health Education of the Public

During the past year increased efforts have been made in the Region to provide effective health education of the public by means of personnel functioning in the national and state (or provincial) health services.

In Ceylon, in addition to a Sub-Division of Health Education at the national level, a decentralized service has been developed with one full-time trained person assisting with health education and training in each of the fifteen areas of Superintendents of Health Services. Health education personnel are also attached to specialized campaigns, demonstration and training centres and special health projects. The establishment of state bureaus in India was further encouraged through a resolution passed by the Central Council of Health in January 1959. Both WHO and ICA are assisting the Government, and it is expected that by the end of the Second Five-Year Plan in 1961, such bureaus will be set up in ten states. In Burma, Ceylon, Indonesia, Thailand and in some States in India, rural training and demonstration centres include a health educator as a member of the staff.

WHO is also giving assistance at the national level to the Governments of Afghanistan, Burma, India and Indonesia by providing advisers in health education. ICA is giving similar help to Ceylon, India, Indonesia (in a rural demonstration area), Nepal and Thailand.

In all the WHO-assisted health education projects in the Region the staff continue to devote a large portion of their time to training activities in health education for various categories of health workers, educators and other community workers. WHO assisted with a one-month national training course in Indonesia, which was attended by twenty-four health workers, half of whom were "kontrolir kesehatan" (sanitary inspectors) working at the provincial level. Special emphasis was given to planning for health education in the provincial services. In Burma, WHO assisted with a four and a half weeks' training course for sixteen health workers, most of whom are working in the districts.

Health education in schools has received special attention in two countries during the past two years. In Ceylon, an ICA health education adviser is assisting the Government in this phase of the programme. In India, a WHO health educator has started a project, with the co-operation of the Ministry of Health and the Ministry of Education, to strengthen the health education aspects of school programmes, giving attention to teacher training in selected teachers' institutions.
The fourth meeting of the Research-cum-Action Projects in Environmental Sanitation, located at Poonamallee, Najafgarh, and Singur, was sponsored by the Government of India, with assistance from the Ford Foundation, in April 1959. WHO was represented. At the same time, the first meeting of health educators working in Indian States was called. A set of recommendations was formulated at the final meeting, and a report has been issued.

Beginning in June 1959 a ten-month post-graduate certificate course in health education, open to university graduates in arts, science and medicine, is being offered at the All-India Institute of Hygiene and Public Health, Calcutta. For the time being the course is divided into two parts, persons having a medical background being exempt from the first part. This course will help to meet the estimated needs for health educators in the Region.

In preparation for the technical discussions on health education of the public which were held during the Twelfth World Health Assembly in May 1959, almost all countries in the Region prepared papers on health education, summarizing discussions with respect to national planning, organization and administration of health education services, training of personnel, and studies in health education.

5.5 Nutrition

In broad outline the factors responsible for the major problem of malnutrition in the Region have been identified. Solutions to the problem are largely social and economic and will only follow rising standards of living. To the extent that ignorance and traditional customs take part in perpetuating conditions of malnutrition WHO assistance to health education can play a useful role.

A report on investigations into protein malnutrition in India, undertaken by the Indian Council for Medical Research through the medium of the Nutrition Research Laboratories, with the assistance of WHO, was completed, and publication in the WHO Bulletin of those sections of the report with the widest global interest was arranged. Assistance was also given to this research programme by the National Research Council of the USA. Research on the problem of nutritional anaemia, undertaken by the Indian Council of Medical Research, also continued to receive WHO assistance.

Technical approval was given for UNICEF assistance to projects for controlling goitre by the iodization of salt and for the manufacture and distribution of shark liver oil capsules.

WHO assistance to a project surveying the nutritional situation and investigating beriberi and endemic goitre in Thailand was completed.

The Medical Officer of the Nutrition Section, from WHO Headquarters, spent over two months in the Region to examine possibilities of further assistance in this field.
5.6 Mental Health

Assistance to the All-India Institute of Mental Health at Bangalore was continued. The training courses available at the Institute compare favourably with the standard in other parts of the world.

A short-term consultant was assigned to Thailand to study the pattern of mental health services and to examine mental health problems. His observations covered a wide field, including organization of services, hospital facilities and procedures, training of staff, influence of social patterns, and such problems as drug addiction and alcoholism.

Five participants from South-East Asia attended a Seminar on Mental Health and Family Life held in the Western Pacific Region in December.

5.7 Social and Occupational Health

The WHO/ILO-sponsored Conference on Industrial and Occupational Health was held in Calcutta from 24 November to 5 December 1958. The Conference focussed attention on the need for the organization of occupational health services and for the education and training of all categories of staff devoted to occupational health work. Its report was widely circulated.

A short-term consultant in physical medicine and rehabilitation was assigned to advise on further development of the Medical Rehabilitation Centre in Bombay. A WHO tutor in physiotherapy was provided to Ceylon to assist the improvement of the training of physiotherapists in Colombo.

5.8 Dental Health

WHO assistance in dental health continued to be expressed in the form of fellowships, mainly for the study of the public health aspects of dentistry. Six fellows participated in a Seminar on Dental Health, held in Adelaide, Australia, which was organized jointly by the Western Pacific Regional Office of WHO and the Australian Government, in conjunction with the Fifteenth Australian Dental Congress.

5.9 Public Health Laboratories and Vaccine Production

WHO continues to assist with the development of public health laboratories by providing international personnel and training facilities. Progress, so far, is very slow.
In Afghanistan assistance to the public health laboratory in Kabul has continued through 1959 with the provision of a laboratory technician to teach in the national technicians' and assistants' training courses, and a fellowship for the national director of the laboratory, who is at present studying overseas.

To Ceylon WHO assigned a laboratory technician in April 1959 to help with the national training school for laboratory technicians.

The development of health services, and particularly the control of communicable diseases, depend on adequate public health laboratory services, and the Organization is eager to stimulate and to help in establishing such services at both directorate and district levels.

As for vaccine production WHO has continued its assistance to the countries of the Region with the provision of expert advice, equipment for existing centres (UNICEF) and supplies of vaccine when local production has been insufficient.

The Vaccine Institute in Kabul is still receiving direct assistance from both WHO and UNICEF, and steps are being taken to augment the production of smallpox vaccine in particular.

During the year WHO supplied a consultant to India and Indonesia to advise on plans for the production of the thermo-stable freeze-dried smallpox vaccine "P". A second consultant was also sent to Indonesia to advise on the production of anti-sera.

In Thailand, WHO and UNICEF are providing assistance by means of consultant advice, training and equipment for the local production of freeze-dried smallpox vaccine "P", to commence at the end of 1959.

Many fellowships, both regional and international, have been awarded to national doctors and technicians for special training in production methods.
6. EDUCATION AND TRAINING

There is a feeling among medical educators in South-East Asia that such rapid expansion of medical colleges is going on today that the quality of graduates is tending to deteriorate and that the average student is not up to the standard of the one of ten years ago. Reasons given for this include the lack of inducement for suitable graduates to enter the teaching cadres of medical colleges, and the inadequate preparation of those who do come forward. Even where the numbers are up to sanctioned strength, the proportion of those holding post-graduate degrees in their special subjects is very small. Again, the rapid expansion both in numbers of medical colleges and in numbers of admissions has brought its own problems of overcrowded classes (with, consequently, little attention being given to individual students) and of the need for teaching in shifts, which leads to a lack of keenness and energy among the teachers themselves. The excessive workload of teachers also causes abandonment of programmes of research, without which a department or a medical college soon degenerates into a machine for the production of doctors whose only purpose in their medical education has been to pass their examinations as best they can. The solution therefore may lie not in admitting more students than a college can properly instruct, but in a careful selection of entrants and concentration on reducing the failure rate by paying more attention to individual students and improving the teaching facilities. To be more precise, a failure rate of fifty per cent in the final year is an anomaly which should never exist. Heavy failure rates should be inflicted at the beginning of the course and not at its end.

Another contributory factor to the alleged deterioration of standards of medical education in South-East Asia is an inadequate knowledge of the language of instruction.

The training of future teachers has received some attention in India, where two institutions have undertaken this role.

In one country a course in teaching methods has been held, and a WHO seminar on this subject is planned on a regional basis for 1960. More attention is being paid to the co-ordination of allied subjects in the curriculum. The anatomists and physiologists are beginning to adjust their teaching and subject matter to the needs of the pathologists, the physicians and the surgeons in the later years of the course.

In regard to the teaching of preventive and social medicine, there are increasing numbers of medical colleges which are establishing departments in this specialty, and the teaching is being spread over several years up to the full five of the medical course. Several curricula covering the full period have been issued, notably by the Indian Public Health Association, and the concept of both urban and rural field training areas is steadily being adopted, stimulated in part by the requirement that pre-registration graduates (internists) have some months of experience in rural areas.

Libraries in medical colleges in South-East Asia vary widely in the availability of books and the use made of them. WHO has assisted in the provision of books, through the Colombo Plan, in one country (see also page 23, para. 3).
6.1 Direct Assistance to Educational Institutions

During the year WHO has given assistance by providing visiting professors in preventive and social medicine and pediatrics to Afghanistan (Kabul Medical Faculty); in physiology and radiology to Burma (Rangoon Medical College); in obstetrics and gynaecology to Ceylon (Medical Faculty, Colombo); in social medicine (at Topiwala National Medical College, Bombay), and in the organization of a course for teachers of preventive and social medicine (at the All-India Institute of Hygiene and Public Health, Calcutta) to India; and in anatomy, physiology (Medical Faculty, Medan), and pharmacology (Medical Faculty, Surabaya) to Indonesia. The difficulty in providing counterparts still exists, and out of the above projects only two counterparts have been available to be sent abroad for further training.

The second medical education study tour for non-clinical teachers was held in 1958. A group of four teachers of physiology from Burma, Ceylon and Thailand visited selected medical colleges and institutions in India and participated in the annual meeting of the Indian Council of Medical Research at Indore.

A consultant group of three professors was assigned to the All-India Institute of Hygiene and Public Health, Calcutta, to advise on the structure of the teaching courses at the Institute. A consultant professor of preventive and social medicine was also assigned to this Institute to assist in preparing a special course for teachers in this group of subjects, which has been started in 1959.

6.2 Fellowships

WHO Programme

During the period under review, a total of 131 new awards were issued. Statements showing (1) the number of fellowships awarded by country, source of funds and break-down between regional and international fellowships, and (2) the distribution of fellowships by subject of study and by country are given in the tables in Annex 5.

Awards generally have been concentrated on environmental sanitation, nursing education, health education, mental health and medical education, particularly in non-clinical subjects. Fellowships in malaria eradication continue to be very large in number.

In communicable disease control, a new trend has been towards the award of fellowships in epidemiology to prepare epidemiologists for the Health Directorates. Fellowships have also been awarded in modern methods of production of freeze-dried smallpox vaccine. Other new fields for WHO fellowships in this region are radiation medicine and hospital physics.

Sustained efforts have been made towards increasing the use of facilities available within the Region both for training courses and for in-service training of personnel in various fields such as leprosy control, rural health and laboratory techniques, and for the training of health assistants. The problem of mutual recognition of basic medical degrees, however, continues to present difficulties in the full utilization of centres such as the All-India Institute of Hygiene and Public Health and the All-India Institute of Mental Health.
Sixty-eight fellowships were awarded for training within the Region. Fellowships were also awarded for a one-month's orientation of tuberculosis officers at the WHO-assisted Tuberculosis Chemotherapy Centre, Madras. A one-month's field practice was arranged for a group of thirteen health assistants from Nepal at the Orientation Training Centre, Najafgarh in Delhi. Finally, fellowships were arranged for a group of fourteen recently graduated Nepalese nurses for twelve months' training in midwifery at the Irwin Hospital, New Delhi.

In addition, nineteen fellows from other countries (Egypt, Kenya, Korea, Malaya, Nigeria, West New Guinea, Tanganyika, the Philippines, Pakistan, Sudan, Papua and New Guinea, Mexico, New Zealand and the USA) visited the South-East Asia Region on study tours varying from one to twelve weeks. Placements were arranged for seven fellows from outside the Region (from Egypt, Iran, Liberia and Sudan) to undergo regular courses of study in institutions in South-East Asia.

The following is a brief analysis of 306 reports so far received on the utilization of the services of former WHO fellows:

- 291 (95.1%) are employed in the subject of their fellowship studies.
- 163 (53.3%) have assumed greater responsibilities.
- 81 (26.5%) have begun new activities.
- 183 (59.8%) have imparted the knowledge gained to others by means of conferences and by articles in medical journals.
- 253 (82.7%) are engaged in training activities.
- 189 (61.8%) have been able to introduce new methods.
- 126 (41.2%) have established new services.
- 77 (25.2%) are engaged in some type of research.
- 35 (11.4%) have maintained some degree of contact with other fellows and officials whom they came to know during their studies.
- 11 (3.6%) have been on international assignments.

**Fellowships from Other Sources**

Under the UNICEF fellowships programme, three nurses were placed at the All-India Institute of Hygiene and Public Health, Calcutta.

According to available information, the Colombo Plan granted 15 fellowships in health or medical subjects to Burma, 30 to Ceylon, 41 to India, 8 to Indonesia, 41 to Nepal and 30 to Thailand, in medical and allied subjects. ICA has awarded 1 fellowship to Afghanistan, 7 to Ceylon, 50 to India, 53 to Indonesia, 12 to Nepal and 25 to Thailand. In addition, India received 29 fellowships from the Rockefeller Foundation; Burma and Thailand received 2 fellowships each from the British Council; Thailand also received 1 fellowship each from the American Presbyterian Mission and from the Governments of France and West Germany, 2 fellowships from the China Medical Board and 1 SEATO research fellowship.
7. SOCIO-ECONOMIC ASPECTS OF WHO'S PROGRAMME

Assistance given by WHO is closely integrated with national development plans for social and economic progress.

A full comprehension of the socio-economic impact of WHO activities demands a study of the total list of WHO-assisted projects in Part III of this report. However, a few outstanding examples may be cited, such as the results arising from successful malaria eradication programmes, since malaria has so long been a predominant cause of wastage and devitalization of human effort. Also, recent advances in the treatment of tuberculosis have greatly improved the outlook for the individual sufferer, but the need for provision of long-term in-patient care has imposed a heavy strain on the public economy. In this context the research project on the adaptation of modern therapeutics to domiciliary care promises a considerable economic gain.

In the field of environmental sanitation WHO's contribution to the provision of safe and adequate water supplies in rural areas has helped towards the removal of an obstacle to rural progress.

8. RADIATION AND ISOTOPES

A five-week course for health physicists was conducted in the Department of Atomic Energy, Bombay. Fourteen participants from the Department attended the course, and a further nine candidates from countries in South-East Asia and the Western Pacific participated. The course director and two lecturers were provided by the Atomic Energy Commission of the USA, and a lecturer from the Atomic Energy Authority of the United Kingdom assisted during the last week of the course. The staff of the Department of the Atomic Energy Commission, Bombay, took part in the training.

Three WHO fellows who were awarded international one-year fellowships in different aspects of the subject completed their studies. Placement was arranged for a candidate who was granted a Government of India fellowship in health physics.

9. ASSISTANCE TO RESEARCH

As a result of the resolutions of the World Health Assemblies in 1958 and 1959, WHO is planning to widen the sphere of its assistance to research programmes. In the meantime activities have been continued on the established pattern of direct assistance mostly to field research and of indirect assistance to research laboratories through the supply of standard biologicals, the interchange of biological specimens, the dissemination of information and the provision of training facilities.

In epidemiological and field research, help is given to pilot projects in trachoma and leprosy control designed to try out various therapeutic regimens. In the field of tuberculosis, especially, important investigations on treatment and control are continuing, with WHO co-operation, in Madras and Madanapalle.

Field studies in India in protein malnutrition and on the public health aspects of anaemia have continued; a final report on the former study was produced and published during the year.
The Ramanagaram Family Health Survey has reached the stage of preparation of the report; the accumulated data is being processed, and WHO has made a grant to help with this and with the production of the report.

Following the recommendations of a WHO consultant, the Malaria Institute of India has continued research on genetic factors in the development of resistance to insecticides on the part of mosquitoes. Mosquito colonies have been raised; markers for genetic studies have been isolated; cross-breeding experiments with a view to linking up the marker genes with resistant genes are in progress. It is proposed to send a member of the Institute on a WHO fellowship to carry out further work on the subject. There are also plans to assist the Institute in the development of studies on the biochemical aspects of resistance by assigning a short-term consultant.

Experimental studies on the resistance of bed-bugs are in progress in the Malaria Organization Laboratory, Poona (Bombay State). Colonies of resistant and non-resistant bugs have been raised for this purpose; a grant of $1,000 was made by WHO.

One of the practical problems in the consolidation phase of malaria eradication programmes is the determination of surveillance procedures by which the maximum number of parasite carriers can be uncovered before they give rise to secondary cases. In order to solve this problem under field conditions, WHO has set up two surveillance study teams in Ceylon and in India (Mysore), and preliminary survey work is in progress.

As mentioned elsewhere in this report, in the plan of operations for malaria eradication in Indonesia signed early in 1959, provision is made for four study teams to carry out field research on topics that have a direct bearing on the eradication programme. These field studies are to be undertaken in collaboration with the ICA. In view of the development of resistance of some of the vectors and the complexity of the problems in Indonesia, it is essential that field research should keep pace with the developing programme so that timely action can be taken to modify the methods to suit local conditions.

The Regional Office has, during the year, continued its scheme for fostering the exchange of information among research institutes in South-East Asia (see page 24, para. 3).

10. TECHNICAL PUBLICATIONS, DOCUMENTS AND REFERENCE SERVICES

In 1958/59 the efforts which have been made in the past years to make WHO technical publications better known to the appropriate institutions and health workers in this region have started to bear fruit. In addition to the publicity being carried out by Headquarters, the Regional Office has written reviews and has distributed them, along with catalogues and other information on WHO publications, to an increasingly long list of medical schools, research institutes, and medical associations in South-East Asia. Such information has also been sent to government departments, to government medical and health officers and to other health workers as far down as on the district level. As a result, large numbers of orders have been received.
The greatest number of demands has been for: (1) a special WHO publication — "An Annotated Bibliography of Medical Education", (2) a reprint from the International Digest of Health Legislation on "Notification of Communicable Diseases", and (3) WHO Monograph Series No. 41, on "Nursing Administration".

There is a trend on the part of medical colleges and public health administrations in South-East Asia toward looking on WHO as a sort of clearing house for technical information. Many requests are being received not only for WHO publications or bibliographical material which WHO might be able to supply, but for books, reprints, photocopies and all types of literature issued by private or government publishing houses all over the world. This presents a problem for the Regional Office. Although WHO can and does — produce material of its own, both mimeographed and printed, for free distribution and can furnish at special discounts, where applicable, WHO publications issued by Headquarters, it cannot, within its present policies, obtain publications from other sources, either free or against payment except as part of its field projects.

In this connection, it is pointed out that under the Colombo Plan substantial aid in the provision of medical books is now being offered to medical schools in all the countries of the Region that are participating in the Plan.

The scheme of selling WHO publications at concessional rates to selected institutions, medical schools, etc., was continued and, during the year, more widely availed of. These sales are principally handled by the Regional Office. In 1959 this offer was also extended to Indonesia, and is now therefore being applied to all the countries in South-East Asia. Also, to meet the special need for low-cost publications in this region, Headquarters has decided to bring out, as an experiment, cheap editions of selected WHO publications, for distribution by the Regional Office.

In addition to the increase in sales of publications and the free distribution of documents, in answer to a growing number of requests, the Regional Office has also distributed a large number of its own regional publications according to lists maintained for each country in the Region. Such bulk distribution was made, notably, of (1) the Report of the WHO/ILO-sponsored Regional Seminar on Industrial and Occupational Health, (2) the Report of the Third Asian Malaria Conference, (3) the Report of the Conference on Auxiliary Nursing, (4) the Report of the Regional Seminar on Certification and Classification of Mortality and Morbidity, (5) the Regional Director's Tenth Annual Report, (6) a printed booklet entitled "Notes for the Practising Midwife", compiled by a member of the field staff and prepared for printing by the Regional Office, (7) quarterly issues of the Medical Education Bulletin, and (8) seven Technical Circulars, on the subjects of public health administration, health education of the public, and vital and health statistics.

During the period under review, 77 reports on WHO field projects were edited, sent to the relevant governments and, in some cases, widely circulated. In addition, a large number of documents were edited and distributed in connection with the regional conferences, seminars, and training courses organized by the Regional Office during the year.
At the end of 1958, a complete list of all documents issued by the Regional Office from 1949 to 1958 was compiled.

About 650 books and pamphlets were added to the Regional Office Library. Some 150 periodicals are regularly received.

In the scheme for fostering the exchange of technical information on medical research, the Regional Office has continued to enlist the aid of the research institutes of several countries in South-East Asia. Copies were obtained of (1) the Review of Activities during the years 1950-57 of the Indian Council of Medical Research, (2) the Asian Medical Journal, Vol. I, No.1, Tokyo, and (3) the Abstract of Papers Presented at the Scientific Symposia, held on the occasion of the Diamond Jubilee Celebration of the Haffkine Institute, Bombay, and were sent to research institutes outside India. One more issue of the bulletin "Research News" - a list of medical research projects which are in progress in the countries of South-East Asia - was also brought out by the Regional Office during the year. It is hoped to be able to issue this bulletin more frequently in future.
PART II

ORGANIZATIONAL AND ADMINISTRATIVE MATTERS
1. REGIONAL COMMITTEE

The eleventh session of the Regional Committee for South-East Asia was held in the Regional Office in New Delhi from 24 to 30 September 1958. Eight Member States from the Region were represented. There were also present representatives from the United Nations, UNICEF, FAO, the International Committee of Military Medicine and Pharmacy and nine nongovernmental organizations. Observers from several bilateral and governmental agencies also attended.

The Committee discussed the tenth annual report of the Regional Director, and was gratified to note that a greater place was being given to the strengthening of health administrations. It expressed concern that some projects were not being fully developed because of inadequate national support, and that some others showed signs of regression after technical assistance had been withdrawn. The Committee approved WHO's policy of integration of school health and maternal and child health services. It welcomed the continued attention to programmes of education and training, especially for medical students. It discussed the reasons for the continued high incidence of cholera and smallpox in the Region, and pointed out that even the use of a stable and potent smallpox vaccine would not bring about complete control unless the organizational problems of large vaccination programmes could be solved. It fully endorsed the regional malaria eradication programme. The Committee suggested greater activity in viral diseases and filariasis, and hoped that the chemotherapy project in Madras would soon produce findings of value to the control of tuberculosis.

The Committee suggested certain modifications in the proposed programme and budget estimates for transmission to the Director-General.

Technical discussions were held on the health aspects of community development programmes, and recommendations were adopted on the scope and extent of health work in community development, on difficulties to be overcome in promoting health services in community development programmes, on the training of personnel, and on the periodical assessment of requirements and resources as well as of progress. The subject chosen for the technical discussions in 1959 was "The role of immunization in communicable disease control" and for those to be held in 1960, "Evaluation of training programmes of paramedical personnel in the South-East Asia Region".

The Committee recommended the setting up of epidemiological units with WHO assistance. It agreed with the proposal for exchange of information on rural health matters. It requested the Regional Director to assist governments in their programmes of training in preventive and social medicine.

The Regional Director presented a ten-year review of the work in the South-East Asia Region, which was noted with interest.

The twelfth session of the Regional Committee will be held in Ceylon. It was decided to hold the thirteenth session in Indonesia and the fourteenth session in India (at Simla or Ootacamund), at the special invitation of the Indian Government.
2.1 Organizational Structure

In order to meet the heavy increase in the workload from the general expansion of activities as well as from the implementation of the malaria eradication programme, the Director-General approved the establishment of some additional professional and general service posts, which are now being filled. A management survey team deputed by Headquarters made a preliminary survey of the staffing, organization and work methods of some of the units in the Regional Office.

2.2 Personnel

The following table shows the number of professional and general service category posts established and actually filled during the period under review, both in the Regional Office and in the field:

1. Regional Office Staff
   Established posts for 1959
   Professional
   Regional Office
   Regional Advisers 14
   Area Representatives 21
   General Service
   Regional Office
   Clerical 5
   Custodial 37
   Area Representatives
   Clerical 5
   Custodial 3
   Posts actually filled as on 30 June 1959
   Regional Office
   Regional Advisers 12
   Area Representatives 4
   General Service
   Regional Office
   Clerical 89
   Custodial 20
   Area Representatives
   Clerical 5
   Custodial 2

2. Project Staff
   Established posts
   Professional
   Regular and TA 263
   MESA 68
   General Service
   Regular and TA 5
   MESA 9
   Auxiliary Staff
   Regular and TA 3
   MESA 12
   Posts actually filled
   Professional
   Regular and TA 131
   MESA 32

3. Unassigned Pool
   Established posts
   MESA (Professional)
   Posts actually filled
   MESA 6

4. Staff on leave without pay
   Established posts
   Professional
   Posts actually filled
   Professional 7

A list of the professional staff attached to the Regional Office is given in the "Organizational Chart", reproduced as Annex 1.

*Two additional posts were filled in July
There has been a considerable turn-over in the professional staff of the Regional Office during the course of the year, as will be seen from the following:

**New Positions and Positions Falling Vacant During the Year**

<table>
<thead>
<tr>
<th>Post</th>
<th>Filled by</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Administrative Officer, Regional Director's Office</td>
<td></td>
</tr>
<tr>
<td>(2) Director, Office of Health Services</td>
<td>Dr. L. Bernard</td>
</tr>
<tr>
<td>(3) Administrative Assistant, Office of Health Services</td>
<td></td>
</tr>
<tr>
<td>(4) Malarialogist</td>
<td>Dr. D.R. Mehta</td>
</tr>
<tr>
<td>(5) Malarialogist</td>
<td></td>
</tr>
<tr>
<td>(6) Entomologist</td>
<td>Dr. R.C. Muirhead-Thomson</td>
</tr>
<tr>
<td>(7) Regional Adviser on Tuberculosis</td>
<td></td>
</tr>
<tr>
<td>(8) Regional Adviser on Nursing</td>
<td>Miss F.L. Lillywhite</td>
</tr>
<tr>
<td>(9) Nursing Officer</td>
<td></td>
</tr>
<tr>
<td>(10) Regional Adviser on Health Education</td>
<td></td>
</tr>
<tr>
<td>(11) Regional Adviser on Environmental Sanitation</td>
<td>Mr. W.C. Tabosa</td>
</tr>
<tr>
<td>(12) Public Health Officer</td>
<td></td>
</tr>
<tr>
<td>(13) Regional Adviser on Nutrition</td>
<td></td>
</tr>
<tr>
<td>(14) Sanitary Engineer (Malaria)</td>
<td></td>
</tr>
</tbody>
</table>

As will be seen from the above, nine vacancies existed in the Regional Office at the time of writing. The post of Nursing Officer was temporarily filled by the reassignment of a staff member from a project.

The number of departures was very large indeed this year, and the interval between the departures of Regional Office personnel and the arrival of replacements was (for the most part, because of recruitment difficulties) a long one; the Regional Office thus found itself handicapped in its work by shortage of staff for long stretches during one of the busiest periods of the year.

On 30 June 1959 the total number of professional staff members (Regional Office staff, Area Representatives and field staff) was 205 including five short-term consultants. The usual difficulties are continually experienced with regard to the recruitment of professional staff, in the field as well as the Regional Office, and this tends to dislocate the programme in the Region as planned and approved.
The geographical distribution of the professional staff as on 30 June 1959 is shown in Annex 2. Additional countries represented this year are: Burma, Cuba, Japan, Lebanon, Federation of Rhodesia and Nyasaland, Switzerland, Turkey and the USSR.

At the end of June 1959 there were 180 WHO project staff members in the field (including five consultants) assigned to the various countries in the Region. This includes 45 staff members working on MESA projects.

The Area Representative for India, who took up his duties in July 1958, left in July 1959, on reassignment to the Region of the Americas.

The position of Area Representative in Indonesia was filled by new recruitment. The position of Area Representative in Ceylon was vacant for some months but is being filled on 1 August 1959. From the same date the WHO Public Health Adviser to the Government of Burma will act as Area Representative to that country.

In accordance with recommendations of the Regional Committee, the Regional Office, when requested, has continued to help countries to recruit specialists from neighbouring countries within the Region.

Post adjustments in the Region were increased during the year in the cases of both India and Burma.

2.3 Staff Welfare

Proposals for a new health insurance scheme providing better coverage were discussed with the staff, and comments of the Staff Society were communicated to Headquarters. The scheme, if accepted, will provide coverage for the dependants of the staff members as well as for themselves.

Education grant rules for the staff were liberalized.

During the period covered by the report four professional and one general service staff members were given career service appointments.

The staff periodical, SEARO NEWS AND VIEWS, continued to be issued from time to time.

The Staff Society remained active during the year. A survey of the housing conditions of the general service staff was continued.

The Staff Society took a keen interest in the canteen services of the Regional Office building, and co-operated with the administration in reviewing and commenting on the proposed new health insurance scheme. It also sponsored French classes, which were given voluntarily by two of the professional staff members, in turn.
2.4 Accommodation of the Regional Office

As stated in the last annual report of the Regional Director, the Government of India allotted a site of approximately one acre on which it will construct the permanent accommodation for the Regional Office and for which it has assigned one of the architects of the Ministry of Works, Housing and Supply to design the building.

The architect produced general drawings, which were agreed in principle and from which he prepared working drawings and detailed quantity estimates. These drawings and estimates have been submitted to the Government for their consideration. In this connection, joint meetings have been held at which the need for starting work on the foundation as soon as possible has constantly been stressed. A separate document on the permanent establishment of the Regional Office for South-East Asia is being presented to the Regional Committee.

2.5 Legal and Constitutional Matters

New basic agreements have already been concluded with the Governments of the Union of Burma, the Republic of Indonesia and Afghanistan. Negotiations are continuing for the conclusion of similar agreements with the Governments of Ceylon and Thailand. In the period covered, 49 supplementary agreements (including 11 exchanges of letters) were concluded.

2.6 Implementation of Projects by Governments

Difficulties in implementing projects, as reported last year, continued more or less in the same measure. Efforts to solve them have continued.

A recurring problem has been the delay in the actual recruitment of project staff. Often there is considerable difficulty in locating the right type of technically qualified staff member. Every effort is made to avoid delays in the recruitment stage. The second phase of the delay — sometimes prolonged — occurs when governments are informed of selected candidates and when recruitment action cannot be completed until they acknowledge WHO communications about the candidates proposed. Letters were written last year to governments suggesting that, in order to remedy this situation, where the Regional Office does not receive a reply within a specified number of weeks, it will assume that the Government accepts the candidate selected. Some governments have and some have not yet conveyed their agreement to this arrangement. Where they have agreed to it, recruitment delays have been reduced.

The signing of plans of operations by governments is still often being delayed, and this, in turn, causes delays in recruitment because a project cannot be implemented until the plan of operations is signed.
The following are examples of delays which have occurred in the past year:

<table>
<thead>
<tr>
<th>Date plan of operation sent to government</th>
<th>Date signed by government</th>
<th>Approximate delay</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.1.1958</td>
<td>9.9.1958</td>
<td>7 months</td>
</tr>
<tr>
<td>15.4.1958</td>
<td>23.9.1958</td>
<td>5 months</td>
</tr>
<tr>
<td>3.3.1958</td>
<td>10.10.1958</td>
<td>7 months</td>
</tr>
<tr>
<td>8.9.1958</td>
<td>14.1.1959</td>
<td>4 months</td>
</tr>
<tr>
<td>17.9.1958</td>
<td>25.2.1959</td>
<td>5 months</td>
</tr>
</tbody>
</table>

Difficulties are still often experienced in obtaining essential small items of equipment and office supplies from the local government offices concerned, and also with respect to adequate provision of local transport for the WHO project staff.

Closer co-operation is sought from governments in future in tackling the above problems.

3. PROCUREMENT OF SUPPLIES AND EQUIPMENT

During the year procurement action covered a wide range of items of supplies, equipment and literature to a value of approximately $348,000. This procurement was effected under the Regular funds, those of the Expanded Programme of Technical Assistance, the Malaria Eradication Special Account and on a reimbursable basis.

Procurement action for a launch for the yaws control project in Indonesia has been completed. Supply lists were also compiled for a large number of items and for vehicles for the malaria eradication projects in different countries.

Procurement has covered a certain number of housing amenities and services for the Organization's staff in malaria eradication projects in isolated areas. Such items cover aluminium pre-fabricated houses, a certain amount of household furniture, and refrigerators, fans and diesel generating sets for providing electricity to offices and laboratories as well as for the personal accommodation of staff.

Despatches of DCG vaccine and tuberculin from Guindy (Madras) to the Tuberculosis Centre, Kabul, at the request of the Government of Afghanistan, were made during 1958 and are continuing during 1959.

The Government of India very kindly sanctioned a special reduced rate for Member Countries of the Region for the procurement of vaccines and sera through the Organization.

On the withdrawal of WHO staff, supplies were handed over to the respective governments for the continuation of the following projects:

- Assistance to Medical College, Rangoon (Burma 26)
- Health Education, Singur (India 94)
- Cholera Control, Kathmandu (Nepal 7)
- Vital and Health Statistics, Bangkok (Thailand 37)
4. COLLABORATION WITH OTHER AGENCIES

As in previous years, the Regional Office has maintained close relations with other agencies working in the field of health by consultations, joint meetings and mutual participation in conferences on subjects of mutual interest. A most useful means of co-ordination is offered by the co-ordinating committees which have been set up by many of the health ministries.

4.1 United Nations

Efforts have continued to bring about even closer collaboration with the United Nations and with its specialized agencies. This subject was discussed in some detail at the Regional Director's annual meeting with the Area Representatives. Both the Regional Office and the Area Representatives have maintained close working liaison with the Resident Representatives. It is not only necessary to prevent any further reductions in the overall financial participation of the Organization in the Expanded Programme of Technical Assistance, but, as and when possible, to support health projects by assuring them the necessary priority.

With UNICEF, which remains WHO's closest partner in this region, day-to-day co-operation is particularly necessary in view of the volume of supplies and equipment which UNICEF is providing for joint WHO/UNICEF activities. For 1959 the total UNICEF contributions to joint activities are in the neighbourhood of 34,038,500. This has had its repercussions on the workload of the Regional Office, which is responsible for technical advice and for technical approval of all supplies provided by UNICEF for these joint activities. These joint projects in fields such as tuberculosis, public health, maternal and child health, nursing, leprosy and malaria control, are being carried on in all countries of the Region except Nepal (with which UNICEF is now negotiating an agreement) and Portuguese India.

In addition to the joint WHO/UNICEF activities, the Regional Office has continued to give technical assistance to UNICEF with respect to a large number of supply projects for which WHO is not providing personnel (see Introduction to Part III, page 38).

WHO maintains co-operation with ECAFE. The Regional Office was represented at four ECAFE conferences or seminars - one on housing, one on statistics, another on industry and natural resources (session on housing and building materials), and a fourth on a hydrologic network.

In October a United Nations team of experts on land settlement, on a study tour of Asia and the Far-East, visited the Regional Office, and in December another such team came on a mission to evaluate community development in India. Because of its expanding programme in rural health and community development, WHO is vitally concerned with other national and international work being done on these subjects.
Other fields in which there has been continued co-operation with the United Nations have been social welfare, fellowships, statistics, public information, and community development. In community development, in addition to the joint UNICEF/WHO projects mentioned above, WHO took part in the "Six Countries" Seminar on the Planning and Administration of National Community Development, which was held in Bangkok in February/March under the auspices of the United Nations.

4.2 Specialized Agencies

The Regional Office has continued to co-operate with several of the specialized agencies of the United Nations in aspects of their work which relate to health, particularly FAO, ILO and UNESCO.

FAO

In November WHO was represented at the Regional School Feeding Seminar for Asia and the Far East, which was held in Tokyo under the joint sponsorship of FAO and UNICEF. WHO’s work in nutrition in Thailand has been carried out in conjunction with FAO.

ILO

The main result of co-operation with ILO during the year was the jointly sponsored Conference on Industrial and Occupational Health, which was held in the All-India Institute of Hygiene and Public Health in Calcutta in November/December (see under Part III, SEARO 6).

UNESCO

WHO maintains its interest in the UNESCO Research Centre on the Study of Social Implications of Industrialization in Calcutta. The Regional Office was represented at the Seminar on Visual Aids in Fundamental Education on Community Development in New Delhi in September.

International Atomic Energy Agency

Representatives of WHO met with members of a Preliminary Assistance Mission of IAEA, which visited Burma, Ceylon, Indonesia and Thailand in February. Since then, a programme has been started in Burma, where fellowships have already been awarded, and in Thailand, where an IAEA consultant has instituted a programme of instructions in the medical uses of radioisotopes. The course for health physicists organized by WHO in India is described elsewhere.

4.3 Bilateral Agencies

WHO’s relations with two bilateral agencies in particular, the United States International Co-operation Administration (ICA) and the Colombo Plan, have become even closer during the year both in the Regional Office and in the field.
ICA

ICA has increased its assistance to health programmes in this region to a considerable degree, particularly in the field of malaria eradication. Close co-operation between ICA and WHO takes place first in the planning stage of malaria programmes at the regional and country level; then at the implementation and assessment stage at the peripheral level, and thirdly at the conference table. Other fields of joint work with ICA have been nursing, in which co-operation with WHO is also developing both at the higher administrative level and in the field, health education, health statistics, sanitation and the control of insect-borne diseases. ICA and WHO are now making plans to assist jointly with the Calcutta Water Supply Programme. Medical education is another subject to which ICA gives support, and a number of fellowships which cannot be accommodated under WHO programmes have been offered by ICA.

Colombo Plan

The Colombo Plan is providing substantial assistance to the same six countries by way of equipment to hospitals, training of nurses and fellowships. Its work in most countries is closely co-ordinated with that of WHO, and Colombo Plan and WHO experts have worked side by side. Co-operation with the Colombo Plan was particularly close during the cholera epidemic in Nepal. The assistance which the Colombo Plan is starting to give to medical libraries has been mentioned elsewhere in this report (see Part I, page 22).

4.4 Non-Governmental and Other Organizations

Contacts have been maintained with the local branches of affiliated regional associations (where they exist) of the forty-six non-governmental organizations which are now in official relations with WHO. Among such local associations are those working in the fields of tuberculosis, nursing, dental health, pediatrics, leprosy, health education, social welfare, and housing and town planning, as well as the Red Cross societies, the national medical associations and the World veterans' associations.

The Burma Medical Association was particularly active in organizing a Cancer Week in August 1958. The Indian National Red Cross gave appreciable assistance to Nepal during the cholera epidemic, and Nepal is now considering the possibility of joining the International Red Cross and setting up its own association.

Of the many other organizations with which useful work is being done, the most noteworthy are the Rockefeller Foundation and the Ford Foundation, particularly in the fields of medical education and fellowships. In India, the Rockefeller Foundation is, notably, assisting the All-India Institute of Medical Sciences, the Indian Institute of Child Health and the Medical Colleges in Ludhiana and Vellore. The Ford Foundation has given grants to Nepal and Thailand and substantial aid to India, where it has concentrated on orientation and training centres and research-cum-action projects in environmental sanitation. WHO has provided some advice on health education to these projects and was represented at the Conference on Environmental Sanitation organized by the Ford Foundation at Najaafgarh in April.
Other organizations working in the field of health with which WHO has maintained contact are the Asia Foundation (which grants fellowships in Burma and is coming into the health field in Thailand), CARE (assisting with school-feeding in Thailand), and the India Aid Mission (which is giving some assistance to health programmes in Nepal).

For a complete list of meetings organized by other organizations in this region at which WHO was represented, see Annexes 3 and 4.

5. PUBLIC INFORMATION

The gap between the ever-increasing demand for information material on WHO and the capacity to supply it continued to be a problem during the year. The policy of meeting the shortage, at least partly, by stimulating production of material by private and public sources was found to work satisfactorily.

An example of this cooperation was the picture book "It Happened To Me", brought out by a publisher at very little cost to WHO. This booklet, aimed at promoting recruitment of eligible girls in the nursing profession, has had very favourable comments from health authorities and from nursing and health education workers in the Region as well as elsewhere. Further language editions - the booklet is already published in three languages - are to be produced.

On similar lines, another picture-book on health developments in Nepal, stressing particularly the economic benefits of malaria eradication, has been accepted by a firm of publishers for production entirely at their own expense.

The programme of publishing abridged language editions of "Mankind Against the Killers", launched in 1957, continued to make headway. The book is now available in four Indian languages; the Nepali edition is ready to go to press, and the publishers are negotiating publication of Burmese and Sinhalese editions. The Indian editions have been approved as textbooks or recommended for libraries by several State governments.

A film script on trachoma control, written in collaboration with the WHO trachomatologist in India, has been approved by the Government of India and is now in course of production. WHO has no financial commitments in this case, but UNICEF has offered a certain amount of raw film.

Several Member Governments gave valuable support in distributing the picture-set "World Health Advances" and in overprinting it in their respective languages at their own expense. Private organizations such as medical associations, which were offered sets without captions, also brought out their own language editions of the set.

Orders were received for more than 10,000 picture sets. The suggestion to overprint the set in local languages - at the recipients' expense - was accepted. With captions in local languages the pictures can reach more people and have more meaning for the layman. Sets were produced in Burmese, Gujarati, Hindi, Marathi, Oriya and Sinhalese.
In accordance with the recommendation made at the eleventh session of the Regional Committee, the "Rural Health Digest" was launched as a mimeographed quarterly publication. There was a demand for 1,400 copies in the first quarter; in the second the circulation reached 2,000.

Relations with the press, radio and film newsreel cameramen continued to be excellent.

Observance of World Health Day showed even better organization and careful planning in 1959. This year's theme was "Mental Illness and Mental Health in the World of Today". The medical profession showed keen interest. As in the past, most of the countries set up national committees to organize the observance of the day; a new development this year was the setting up of many more ad hoc committees at the provincial, district and town levels.
PART III

ACTIVITIES UNDERTAKEN BY GOVERNMENTS WITH THE HELP OF WHO
INTRODUCTION

This part of the report contains a list of the projects for which WHO has given assistance during the whole or part of the period under review, listed by country. A short review of health developments during the year is also given for each country to which the Regional Office has assigned an Area Representative or Public Health Advisor. Inter-country projects are given at the end.

The "Aim of the project" states the purpose for which it was undertaken by the government concerned, and is not related to the form or extent of WHO's assistance.

In the first column (under "Project No., Source of Funds, Co-operating Agencies") "R" means the regular budget; "TA" means Technical Assistance funds; "UNICEF" the United Nations Children's Fund, and "MESA" the Malaria Eradication Special Account. Names of other co-operating agencies, whether or not they have contributed funds, are given in parentheses.

The "Probable duration of assistance" cannot, of course, always be accurately stated, particularly in the case of some programmes which have to be fitted in with governments' national plans for development but in many cases may continue longer than originally planned.

The sub-heading "Fellowships" is used for fellowships considered as projects in themselves; other fellowships are shown under the title of the project of which they form part.

Projects for which technical advice from the Regional Office or from Headquarters was the only assistance given during the year, and some projects assisted only by grants-in-aid are not included in this list.

However, it should be noted that the projects for which UNICEF is furnishing supplies and WHO technical advice only (with no special personnel being provided) are becoming more numerous. In the period covered by this report WHO has given advice or approval to two projects in Afghanistan - one on typhus control and one on maternal and child health; two in Burma - on BCG vaccination and on maternal and child health and district health expansion; three in India - on BCG vaccination, goitre control, and fellowships at the All-India Institute of Hygiene and Public Health, Calcutta; six in Indonesia - on BCG vaccination, tuberculosis chemotherapy, treponematosis control, rural health, maternal and child health, and nutrition; four, finally, in Thailand - a BCG programme, the production of freeze-dried smallpox vaccine, a maternal and child health and district health expansion project, and a shark liver oil encapsulation plant. Advice of this type is becoming a fast growing responsibility of the Regional Office.
During the year the gradual progress being made in the improvement of health conditions and services in Afghanistan was maintained. There is an increasing awareness among the people of the importance of clean water supply and environmental sanitation. A health education conference, the first of its kind ever held in Afghanistan, was organized in Kabul in April 1959.

Amongst matters of health significance, the most important is the acceptance by the Government of the concept of malaria eradication. A law requiring compulsory vaccination against smallpox has been enacted, and the Government is considering a nation-wide mass vaccination campaign. In September 1958 a precedent was established when a group of six auxiliary nurse-midwives entered the Shararah Hospital for training; this was the first time that female students in this category agreed to live away from their homes and families. It is hoped that this will encourage more and more female auxiliaries to come forward for service in the country.

The Government's programme for expansion of hospital facilities is going forward. The new Women's Hospitals in Mazar-i-Sharif and Kandahar are nearing completion. Construction of a 300-bed hospital in Kabul has started. New hospitals are also under construction in Lashkar and Nad-i-Ali. Some progress has also been made in the construction of the building for the Institute of Public Health, although it is not likely to be completed for another year.

The major problem in public health administration, however, continues to be the shortage of trained personnel of all categories.

The University of Kabul has established a College of Pharmacy with a four-year course; thirty-five students have already been selected.
PROJECT LIST

Aim of the project. To improve public health administration and services; to train medical and para-medical personnel; to co-ordinate national and internationally assisted health programmes.

Assistance provided by WHO during the year. (a) A public health officer and an administrative assistant; (b) Supplies and equipment.

Probable duration of assistance. Indefinite.

Work done during the year. A general review of all WHO-assisted projects has been carried out, and discussions have been held with the national health authorities on the future shape of WHO assistance. The lack of trained personnel in all fields continues as a major handicap to improvements in the technical services of the country.

The public health adviser attended a meeting with the Chairman of the Rural Development Commission and other officials to discuss the future plans of the Rural Development Commission. He paid visits to Kandahar and the Helmand Valley area in order to have a more accurate idea of the conditions prevailing in these areas as far as health of the inhabitants is concerned. The increase in population in the Helmand Valley area means that careful planning will be required in order to supply the necessary health facilities.

Aim of the project. To consolidate the malaria control campaign which has been carried out under project Afghanistan 1 since 1949; to convert it by stages into a campaign for malaria eradication throughout the country.

Assistance provided by WHO during the year. (a) Three malariologists, an entomologist, two technicians and two secretary-stenographers; (b) An advisory team for four months; (c) Four regional fellowships of six weeks each; (d) Supplies and equipment.

Probable duration of assistance. Until 1965.

Work done during the year. A total of 1,57 million people have been protected by residual spraying and about 485,000 people by antilarval measures. Surveillance carried out during the non-spray season covered a population of 257,484 in Kataghan and 190,000 in Nangarhar up to April 1959. The earlier promise of complete interruption of transmission in certain parts of the country was not fulfilled on account of inadequate
staff at various levels and lack of sufficient technical direction. It is also possible that *A. sacharovi* is a secondary vector in some parts of the northern provinces.

Based on the findings of Advisory Team No. 3, which assessed the programme in the northern and eastern provinces, a new plan of operations for malaria eradication has been developed by the Government in consultation with the Regional Office; this plan envisages increased WHO assistance by way of personnel, transport and supplies.

Training of national personnel in the Malaria Institute, Kabul, was continued. They were also trained in laboratory and field work.

Further UNICEF aid by way of DDT, transport, sprayers, drugs, etc., for 1960 was approved by the UNICEF Executive Board in March 1959.

### Afghanistan 13

**Assistance to Faculty of Medicine, University of Kabul**

*(Jan. - Aug. 1952; Sept. 1953 - )*

**Aim of the project.** To develop on sound lines the Departments of Anatomy, Physiology, Preventive Medicine, Internal Medicine and Paediatrics at the Faculty of Medicine and to train national counterparts.

**Assistance provided by WHO during the year.** (a) A professor of paediatrics and a professor of preventive and social medicine; (b) Supplies and equipment.

**Probable duration of assistance.** Indefinite.

**Work done during the year.** The visiting professor of paediatrics completed his assignment at the end of 1952. The Paediatrics Department is now headed by national professors, for the first time in the history of Afghanistan. During the period of WHO's assistance, new case history charts and laboratory forms were introduced. The number of doctors and nurses rose to two professors, two assistant professors, three assistants and eight nurses. A major difficulty is the lack of textbooks.

The paediatric out-patient clinic, located outside the hospital premises, is poorly equipped. The WHO professor started a small clinic in the Paediatrics Department, since his efforts to improve the town clinic were not successful. The training of medical students in paediatrics was increased and now consists of about 120 lectures during the fourth and fifth years.

The visiting professor of preventive and social medicine continued his courses as part of the curriculum of the third, fourth and fifth years. Examination results have been very satisfactory. New buildings nearing completion will provide adequate accommodation for the office, museum and laboratory of the Department. A bus is being used for field work. The counterpart will leave on a two year Fellowship in late 1959; a second assistant has been assigned.
Afghanistan 20  Vaccine Production, Kabul
TA  
UNICEF  
(Jan. 1955 - )

Aim of the project. To reorganize, expand and improve facilities for vaccine production in order to provide adequate supplies of vaccine for the national health programmes; to train local personnel in the production of biological substances; to organize a suitable system for the distribution and use of vaccines.

Assistance provided by WHO during the year. (a) A laboratory specialist; (b) Supplies.

Probable duration of assistance. Until the end of 1963.

Work done during the year. The laboratories in the Vaccine Institute are producing smallpox, cholera, DTP and rabies vaccines, and the work has continued to be satisfactory. It has now been agreed by the Government, WHO and UNICEF that international assistance will last for several more years.

The laboratory specialist (bacteriologist) who had been attached to the project since its beginning was repatriated during December 1958, and another bacteriologist succeeded him. The latter made certain recommendations for improving and maintaining the standards of procedure in production of vaccines, and these have been implemented.

Legislation for compulsory vaccination against smallpox was introduced during the year. Steps are being taken to gear the production capacity of smallpox vaccine to cope with increased requirements.

Afghanistan 22  Environmental Sanitation, Kabul Municipality
TA  
(Nov. - Dec. 1955; March 1956 - )

Aim of the project. To develop a sanitation section in Kabul Municipality; to plan and carry out a sanitation programme, including the design, operation and maintenance of sanitary installations; to train sanitation personnel.

Assistance provided by WHO during the year. (a) A twelve-month international fellowship; (b) Assistance from the sanitary engineer assigned to the Rural Health and Training Unit, Gulzar (see below).

Probable duration of assistance. Until the end of 1963.

Work done during the year. Efforts were continued to recruit a sanitarian. The sanitary engineer assigned to the Rural Health and Training Unit, Gulzar (project Afghanistan 26), gave guidance to the Municipality in its sanitation problems.

The counterpart of the former WHO sanitary engineer completed his fellowship studies in the USA in August 1958.
Afghanistan Refresher Courses for Medical Officers
(Third course: 1 May - 21 Aug. 1958)

Aim of the project. To provide provincial medical officers with theoretical and practical training in modern methods of public-health practice.

Assistance provided by WHO during the year. (c) Thirty per cent of the cost of travel and of subsistence allowances of three medical officers from outside Kabul; (b) Assistance from WHO project staff and secretarial help; (c) Teaching equipment and textbooks.

Work done. The third course was attended by seven medical officers from Kabul and the provinces. A comprehensive programme in public health was carried out, with more emphasis on field work than in the two previous courses. As before, the participants showed great interest in public health, since they were following this group of studies for the first time.

Further courses of this nature will be organized in 1960 and subsequent years under a new project number.

Afghanistan Health Education Adviser
TA (Oct. 1958 - )

Aim of the project. To develop health education in the area of the rural community development project; to collaborate with the Ministry of Education in promoting health education in teacher-training institutes and other educational institutions; to assist public health and education authorities with short courses in health education; to develop a national system of health education, using the personnel of various agencies.

Assistance provided by WHO during the year. (a) A health educator; (b) A two-week international fellowship; (c) Supplies and equipment, including a vehicle.

Probable duration of assistance. Until the end of 1961.

Work done during the year. Plans were drawn up for developing health education in relation to schools (particularly with respect to teacher education), various training courses, special campaigns such as for malaria, and community development. Attention will be given to the preparation of materials for health programmes.

The health educator and her counterpart assisted in planning a course on personal hygiene and community health, to be given at the boys' teacher-training school. The participants will include practice teachers located in urban, suburban and rural schools. A similar course is being planned for girl student-teachers.

A first two-day health education conference, with seventy persons participating, was held in Kabul in mid-April. After short reports on current activities in health education were given, small groups considered specific ways of extending and improving these activities.
The WHO health educator gave a course in health education methods at the School for Sanitarians and, starting in April, began work with sanitarians in five villages in the community development project. Plans were made for educational meetings with mothers in the Shawaki area.

**Afghanistan 25**  
**Assistance to Public Health Laboratory, Kabul**  
(May 1956 - )

**Aim of the project.** To consolidate the work of the public-health laboratory at Kabul; to give further training to laboratory technicians.

**Assistance provided by WHO during the year.** (a) A laboratory technician; (b) Two six-month regional fellowships; (c) Supplies and equipment.

**Probable duration of assistance.** Until the end of 1960.

**Work done during the year.** The post of laboratory technician, which fell vacant in April 1958, could be filled only in January 1959. The WHO expert's first assessment revealed a serious shortage of even essential materials and equipment in the laboratory. The Government is taking necessary measures to equip the laboratory properly, at least with essential items.

The duration of international assistance to the project has been extended as is shown above. The Director of the Laboratory is in the United Kingdom on a WHO fellowship for further specialized study.

Revised syllabi for training laboratory technicians and assistants were prepared by the new laboratory technician and submitted to the Government.

**Afghanistan 26**  
**Rural Health and Training Unit, Gulzar**  
(April 1956 - )

**UNICEF**

**Aim of the project.** To establish a rural health training unit; to develop the environmental sanitation programme; to promote health education work.

**Assistance provided by WHO during the year.** (a) A public health officer, a public health nurse, a sanitary engineer and a sanitarian; (b) Supplies and equipment.

**Probable duration of assistance.** Indefinite.

**Work done during the year.** The full WHO team is in position, and the project has made steady progress.

The staff participated in conducting refresher courses for medical officers, sanitarians, fundamental education workers and village level workers. A new curriculum for village level workers was drawn up. The senior WHO officer took part in a sub-committee formed to work out a plan for a national training centre for rural development workers.
Training facilities were better organized. The Government continued to send various categories of health workers for training at the health unit, and doctors, nurses and sanitarians were also given some field training at the project area.

Attention was paid to the improvement of ante-natal care and domiciliary midwifery services. Mass campaigns against typhus and smallpox were conducted. The records of the patients examined for tuberculosis were analysed.

The sanitation programme is developing satisfactorily, with a number of new latrines constructed and many improved. The village of Kishlak was provided with a piped water supply, and a length of concrete drain was laid in the bazaar area of Kamari. Three kinds of sanitary latrines were designed at the request of the Ministry of Education. A chain pump made from local resources and capable of delivering 1,200 gallons of water per hour was constructed on a well in Benihsar village.

The Government is still unable to provide an adequate number of national staff for the centre, and the necessity of using the students for service work at the Unit continues to affect their training. Transport limitations remain a problem.

Afghanistan 28 School for Sanitarians, Kabul
TA (July 1955 ----)

Aim of the project. To train sanitarians for community health services.

Assistance provided by WHO during the year. (a) Two sanitarians;
(b) Supplies and equipment.

Probable duration of assistance. Until the end of 1961.

Work done during the year. Fourteen students of the first course qualified on completion of their in-service training. Nineteen of the twenty-one students of the second course were successful in the final examination and were posted for in-service training. Students of the third course continued to receive instruction in hygiene and sanitation, English and mathematics. The fourth course began on 21 January 1959, with twenty-one recruits.

The second sanitarian took up his appointment in March 1959.

The counterpart to the WHO sanitarian left for studies on a WHO fellowship (see Afghanistan 22). A substitute and a second counterpart to work with the second WHO sanitarian were appointed.

As the present school building was under a contract of lease which expired, makeshift arrangements had to be made to acquire another suitable structure. These frequent moves tended to retard progress.

The principal objectives of this project are progressively being implemented, though the target of twenty-five graduating students annually has not yet been reached.
Afghanistan 30

Assistance to X-Ray Department,
Faculty of Medicine, Kabul
(Nov. 1956 - )

Aim of the project. To upgrade facilities and to improve the standard of teaching in the X-Ray Department of the Faculty of Medicine; to train x-ray technicians in the operation and maintenance of equipment; to improve diagnostic facilities at the Allabud Hospital, and to give training to doctors.

Assistance provided by WHO during the year. A short-term consultant (x-ray engineer).

Probable duration of assistance. Until the end of 1961.

Work done during the year. The x-ray equipment supplied by WHO was installed by the WHO x-ray engineer attached to the Tuberculosis Chemotherapy Project, Madras. A consultant x-ray engineer for the project was recruited in May 1959, to inspect the x-ray unit already supplied and to train national personnel in radiography and in the maintenance of the x-ray equipment.

Afghanistan 31

Assistance to Institute of Public Health, Kabul
(April - May 1956; Nov. 1958 - )

Aim of the project. To establish an Institute of public health for investigation, research and training of public health workers.

Assistance provided by WHO during the year. (a) A consultant for one month; (b) A twelve-month international fellowship.

Probable duration of assistance. Until the end of 1962.

Work done during the year. A short-term consultant was assigned in November 1958. He made certain recommendations regarding the functional organization of the premises of the Institute and suggested some minor alterations in design. Advice was given on the equipment required, and a programme of fellowship training for the staff of the Institute was discussed.

Some progress was made with the construction of the building.

Afghanistan 33

Tuberculosis Country Adviser
(June 1958 - )

Aim of the project. To review the work of the Tuberculosis Control and Training Centre, Kabul, and to make recommendations for its further development and expansion.

Assistance provided by WHO during the year. A consultant for eight weeks.

Probable duration of assistance. Until the end of 1961.
Work done during the year. In 1958 the consultant paid two visits, each of four weeks duration. He submitted a report in respect of each visit. The following are some of the recommendations which he made for the future development of the tuberculosis service in Afghanistan:

(1) Since the Kabul Tuberculosis Centre is not functioning as a teaching and administrative centre, a team consisting of a doctor, a laboratory technician, an X-ray technician and a health visitor should be given advanced training in an area with an economic background similar to that of Afghanistan.

(2) A nucleus of teaching staff (both doctors and technicians) should be permanently posted to the Centre.

(3) Facilities should be provided for systematic relief to the patients attending the Centre; domiciliary services should be extended and contact activities increased.

(4) A central registry should be set up at the Chaman Clinic for tuberculosis cases, particularly those which are infective. Systematic use should be made of such diagnostic facilities as are available in provincial towns.

(5) A BCG team should be sent for group-training in India, and if a transportable mass X-ray unit is procured, staff to operate the unit should receive similar training.

Afghanistan 35 Nursing Education (June 1957 – )

Aim of the project. To develop the training of male and female nurses and midwives; to establish a training programme for auxiliary nurse-midwives; to plan the country's needs in nursing services.

Assistance provided by WHO during the year. (a) A senior nurse, a public health nurse and two nurse tutors; (b) A twelve-month international fellowship; (c) Supplies and equipment.

Probable duration of assistance. Until the end of 1963.

Work done during the year. Training of the three groups of students in the Aliabad School for Male Nurses was continued according to the syllabus. The children's ward was taken over from the Surgical Department to be developed as a teaching ward.

At the School for Female Nurses, Mazoorat Hospital, a new class of eleven students was enrolled. A survey of the sanitary facilities and water supply in the hospital was carried out, and recommendations for improvement were made. A refresher course for the head nurses and diploma nurses was carried out.

The training programmes for midwives at the Shararah Hospital School of Midwifery continued satisfactorily. A new class of fifteen students was admitted in January. Better methods of examination of patients are
being slowly accepted by the midwives, and follow-up visits after domiciliary
confinement are now being made on the first, second, fourth, sixth, eighth
and twelfth days, instead of the first six days, after delivery. A programme
for training auxiliary nurse-midwives was started, with seven students from
two sections of the community development area near Kabul. This was the
first time in Afghanistan that female students had lived in a hostel. A
full-time tutor has been appointed.

A series of lectures in elementary anatomy and physiology and first aid
was given in the School for Sanitarians.

The senior WHO nurse educator joined the project in October, and the
fifth nurse tutor is under recruitment. Two additional acting counterparts
have been provided, making a total of three.

**Afghanistan 36**

Fellowships

- **Health Statistics**: A three-month fellowship for study in India.
- **Nursing**: A twelve-month fellowship for study in Switzerland.
- **Laboratory Technique**: A six-month fellowship for study in India.
- **Sanitation**: Four twelve-month fellowships for study in Lebanon.

**Afghanistan 38**

Domiciliary and Hospital Supplies

(Oct. - Nov. 1958)

Aim of the project. To supply equipment for the expansion of hospital
services.

Assistance provided by WHO during the year. Supplies and equipment, includ-
ing ambulances, instruments, sewing machines and hospital linen.

**Afghanistan 45**

Typhus Control

(Oct. - Nov. 1958)

Aim of the project. To evaluate the typhus control measures in operation
in the country.

Assistance provided by WHO during the year. (a) A short-term consultant;
(b) Supplies.

Work done. The consultant arrived in Afghanistan in October 1958 after
making a survey of anti-typhus measures in Pakistan. He completed his
assignment in mid-November 1958.
According to his report, the organization for the dusting operations in Afghanistan is satisfactory. No cases of typhus have been reported for the last three years, but, since over 25% body louse infestation is still being found, the potential for further cases exists. Resistance tests have shown a lowered susceptibility by the louse to 10% DDT in the Kabul area but not in Kandahar.

In view of his recommendations, WHO has accorded technical approval to the Government's plan to extend the coverage to an additional two million people over and above the two million now being protected. Special attention will be paid to nomads. Operations in 1959/60 will include a change from DDT to BHC in the Kabul area, but a continuation of 10% DDT in Kandahar and other new areas. UNICEF will continue to provide insecticides and equipment.
2. BURMA

In Burma changes have occurred in the health portfolio and other key administrative and technical personnel. Financial stringency has necessitated a drive for economy, and a five percent cut in the sanctioned budget allocations has been imposed. A temporary embargo has been placed on the filling of vacant posts and creation of new ones. The Government is, however, alive to the necessity of improving the standard of medical care and prevention of ill-health. With this in view, the National Health Council, a statutory advisory body constituted in 1950 has been revived. The question of harnessing the available manpower in the country to meet the need for trained personnel is being examined. Recently a National Service Act was passed.

At present the registration of vital statistics in Burma is more or less restricted to municipalities with a population of about 2.5 million, which is roughly 10% of the entire population of the Union. The reporting system has yet to be re-established in the rural areas. The latest figures for 1957 for the urban areas indicate that the improvements noticed during recent years in the reported rates have been maintained.

Considerable progress has been made in the programme of expansion of hospital facilities. A new out-patient department, a separate block for the clinical laboratory and x-ray and physiotherapy departments and a tuberculosis ward are under construction for the Rangoon General Hospital, and a new surgical unit was recently opened at the Ramakrishna Mission Hospital in Rangoon. Extensions are being made to the Mandalay General Hospital. A 200-bed hospital is under construction at Taunggyi. The plan for expanding existing district hospitals is being gradually implemented. Plans for the construction of a new Medical College Building at Mandalay have been finalized.

A new intensive "clean-up campaign" has been launched in all the larger towns of Burma. In Rangoon, the former occupants of the slum areas have been moved to three satellite townships, in which it is estimated that a population of about 150,000 will be re-settled by the middle of 1959.

The management of the Burma Pharmaceutical Industry has been taken over by the Government, which has also assumed control over the import of all drugs into the country. A Drug Council has been established.
**Project List**

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<td>TA</td>
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<td>Venereal-Disease Control (Sept. - Dec. 1958)</td>
<td>To appraise the work of the venereal-disease control programme since the end of 1954 (when WHO staff was withdrawn and the campaign continued by national workers) and to determine how venereal-disease control can best be integrated into the public health services.</td>
<td>A consultant for three months.</td>
<td>The venereal-disease control project in Burma, now being carried on by national personnel, was started in 1950 with the assistance of WHO and UNICEF as part of the joint maternal and child health/venereal-disease control programme. WHO staff was withdrawn at the end of 1954.</td>
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**Burma 10**

**Tuberculosis Country Adviser**

(Asian 1955 - June 1957; Nov. 1959 - )

**Aim of the Project.** To organize and expand the national tuberculosis service; to give lectures on tuberculosis to undergraduates and graduates at the Rangoon Medical College; to give further training to counterparts so that they may carry out both the above functions.

**Assistance Provided by WHO During the Year.** Three regional fellowships - one for one month, one for two months and one for three months.

**Probable Duration of Assistance.** Until the end of 1962.
Work done during the year. The Regional Adviser on Tuberculosis visited Burma during the early part of 1959. He reviewed the position of the consolidation of BCG vaccination and made observations on the general matter of tuberculosis control. His recommendations have been submitted to the Government.

Three regional fellowships varying from one to three months were awarded to two medical officers and a public health nurse for study at the Tuberculosis Chemotherapy Centre, Madras.

**Burma 20**  
School for Health Assistants, Rangoon  
(Jan. 1954 - Dec. 1955; March - May 1956)

**Aim of the project.** To improve the training of paramedical personnel at the School for Health Assistants, Rangoon; to improve the method of employment and supervision of health assistants; to train a counterpart to take over the work of the WHO specialist.

**Assistance provided by WHO during the year.** (a) Four regional three-month fellowships; (b) Supplies and equipment.

**Probable duration of assistance.** Until the end of 1961.

**Burma 21**  
Strengthening of Health Education Bureau, Rangoon  

**Aim of the project.** To strengthen the Health Education Bureau, Rangoon; to develop the health education programme in the Teachers' Training Institute; to train all categories of health personnel in health education; to improve health education throughout the country.

**Assistance provided by WHO during the year.** (a) A health educator; (b) Supplies and equipment.

**Probable duration of assistance.** Until mid-1960.

Work done during the year. The Health Education Bureau moved to its new quarters, making it possible for staff members to work together as a unit. The Bureau has now been established in the Directorate of Health Services on a permanent basis.

The WHO and national health educators took part in teaching health education in pre-service training courses for different groups. They helped with (1) a one-month course for assistant health personnel from the districts, (2) a meeting on school-health education, (3) the preparation of the syllabus for a course in public health and health education for mass educationists (social workers), (4) a three-week course on school health education for primary, middle and high-school teachers in Moulmein, and (5) a course for students of the Burma Divinity School at Insein.
A considerable amount of field work was done with health personnel in Kachin and Shan States, in the Mandalay area, and in districts neighbouring on Rangoon city.

At the Aung San Myo Health Demonstration Centre, health education has been integrated into the training programme.

The School Health Education Council continues to assist in planning and co-ordinating the activities carried out in co-operation with the Department of Education.

**Burma 22 Vital and Health Statistics, Rangoon**

(Dec. 1955...)

**Aim of the project.** To establish machinery for prompt notification of accurate statistical data; to improve the processing of the information and to train staff in statistical methods.

**Assistance provided by WHO during the year.** (a) A specialist in vital statistics; (b) A twelve-month International fellowship; (c) Supplies and equipment.

**Probable duration of assistance.** Until the end of 1960.

**Work done during the year.** A comprehensive report on the recommendations for a new vital registration service for Burma, giving full details of all changes in procedures and new forms, has been sent to the Government for final approval. In the meantime, preparations are being made to implement the new system in the city of Rangoon.

The Annual Health Reports for 1955 and 1956, which were prepared in 1957 with the assistance of a WHO consultant, have been revised, supplemented and sent to the press. The project staff prepared a statistical appendix for the 1957 Report which was considerably fuller than that for previous years.

A number of ad hoc reports on the incidence of various diseases was prepared at the request of the Health Directorate. The statistician still finds it necessary to devote much of his attention to training the project staff in the accurate compilation and checking of statistical tables.

The medically certified deaths in Rangoon city in 1956 were coded and tabulated according to the International Detailed List, and the work on 1957 deaths is in progress. Although the quality of the certification is poor, the work has provided a means of training the staff in medical coding, and also a basis for evaluating the improvement in certification which it is hoped will follow the introduction of the International Form of Medical Certificate, and adequate instructions to the certifying physicians.

The work of the project is hampered by shortage of staff, which, for various reasons, has seldom been up to sanctioned strength.

An assistant statistician returned from a fellowship in England. The chief statistician has been accepted for an M.P.H. course at the University of Michigan, USA.
Burma 25  
Post-Graduate School of Nursing, Rangoon  
(Jan. - Nov. 1955; Aug. 1956 - July 1957;  
Aug. 1957 - )

Aim of the project. To give post-graduate training to nurse tutors, public-health nurses and midwife tutors in order to meet the requirements of the integrated health services.

Assistance provided by WHO during the year. (a) A nurse educator; (b) Two twelve-month international fellowships.

Probable duration of assistance. Until the end of 1961.

Work done during the year. The course for nurse tutors continued as planned and was completed in May 1959. Eleven students attended the course, and all were successful in the final examination. During the progress of the course, class and assignment schedules were followed and several field trips made. A programme of observation and practice teaching was arranged. The students were posted singly to various wards and departments of Rangoon General Hospital for practical experience in the clinical subjects covered by lectures. They attended two public lectures given by the United Nations Social Welfare Adviser and made two village trips with a team of workers conducting a nutrition survey.

Nurses' Day was celebrated on 17 December 1958, and the students participated in a panel discussion on health education in nursing.

The midwife tutor has been recruited and is expected to take up her assignment shortly.

Burma 28  
Assistance to Medical College, Rangoon  
(Feb. 1955 - Feb. 1959; )

Aim of the project. To upgrade the Departments of Pharmacology, Physiology and Preventive Medicine in the Medical College of Rangoon University, as part of a long-term programme for upgrading the Medical Faculty as a whole.

Assistance provided by WHO during the year. (a) A professor of physiology and a consultant professor of radiology; (b) A twelve-month international fellowship and a two-year regional fellowship.

Probable duration of assistance. Indefinite.

Work done. The professor of physiology continued his teaching programme until October 1958, when he was transferred to another post. During his assignment, improved teaching methods and the tutorial system were introduced; a practical handbook was prepared and put into use, and a programme of research exercises instituted. A system of giving special attention to students who had failed produced better results in subsequent examinations. The block system of practical classes and supervised reading gained students' interest and co-operation. Additional work undertaken
covered special instruction in physiology for post-graduates under training as demonstrators in biology, and a course in laboratory techniques for the non-teaching staff of the Department.

The final report of the visiting professor in physiology was sent to the Government. Taking into consideration the overcrowded classes in basic medical subjects due to the uncontrolled admission of students, the high failure rate, and the inadequate staff, it may be said that the project had more than average success in attaining its objectives. It achieved a high standard of teaching in medical physiology and established a programme which should continue to produce satisfactory results. It is noteworthy that two counterparts received training abroad and returned during the operation of this part of the project.

The consultant professor of radiology made a survey of the radiological equipment at the Rangoon General Hospital and advised on its maintenance. He conducted courses of instruction for students, and paid special attention to the problems of radiation hazard in the x-ray department.

Both the professors also gave short courses in their respective subjects at the Mandalay Medical College.

Burma: 30
TA: Development of Environmental Sanitation Division,
Ministry of Health
(March 1956 - )

Aim of the project. To develop and strengthen the Division of Environmental Sanitation in the Ministry of Health; to plan a country-wide programme in environmental sanitation; to develop a demonstration and training centre in the Aung San Myo area.

Assistance provided by WHO during the year. A sanitary engineer.

Probable duration of assistance. Until the end of 1959.

Work done during the year. Efforts to develop the Environmental Sanitation Division were continued. A committee was formed to study co-ordination of environmental sanitation activities of the different departments interested. A proposal of this committee to form a Central Sanitation Board at the ministerial level has been submitted to the Government.

A decision has been taken to appoint personnel in the Environmental Sanitation Division on a permanent basis.

Attention continued to be given to the Aung San Myo Demonstration and Training Centre, and a plan for the extension of sanitation work to the satellite townships of Rangoon was prepared.
Burma 31

TA

Malaria Eradication
(May 1954 - )

UNICEF

Aim of the project. To strengthen the Malaria Division of the Central Government; to train personnel; to plan and implement a malaria eradication programme for the whole country.

Assistance provided by WHO during the year. (a) A malariologist, an entomologist and two sanitarians; (b) Two regional two-and-a-half-month fellowships and an international four-month fellowship; (c) Supplies and equipment.

Probable duration of assistance. Until 1967.

Work done during the year. Out of a total population of twelve and a half million in malarious areas, the spraying programme which started in February 1959 has a target of 9.55 million. Ninety-five field teams employing over 3,000 spraymen and 760 supervisors (285 temporary) have been operating in the field. Except for the Arakan coast, where dieldrin is used, DDT is used in all regions. Adequate precautions against the hazards of dieldrin poisoning have been taken, and so far no complaint has been received.

Malariometric surveys were continued. Training activities included the training of inspectors at the Malaria Institute, refresher courses on the identification of anophelines, and training of foremen and supervisors on insecticide spraying and surveillance procedures.

A review of the malariometric data collected during the closing months of 1958 tends to confirm the view that there is a low degree of malaria transmission in the country as a whole. In certain areas where spraying has been in progress for five years or more, there is evidence of an almost complete interruption of transmission, which made it possible to launch a programme of intensive surveillance from June 1959.

Co-operation from the Army Medical Directorate and Railway Medical Services is being enlisted to achieve the goal of eradication.

Burma 34

TA

Strengthening of Environmental Sanitation
(March 1956 - )

UNICEF

Aim of the project. To establish in the Aung San Myo area a pilot demonstration area where rural water supplies and excreta disposal will be improved; to devise simple, practical and cheap schemes for rural water supply and latrine construction; to provide services and facilities for extending sanitation to all rural areas; to train sanitation personnel.

Assistance provided by WHO during the year. (c) Pumping equipment; (b) Assistance from the sanitary engineer attached to Burma 30.
Probable duration of assistance. Until the end of 1961.

Work done during the year. This project continued to maintain progress. A survey of Intestinal parasitism carried out in two villages showed a high percentage of positive cases.

A construction programme of 45 and 47 latrines in the two villages respectively was undertaken. Work was completed in the first village.

In the rural water supply programme, construction of deep wells and reconditioning of old ones continued, with materials supplied by the Government.

Field training in environmental sanitation was given to twenty health workers in the project area.

In August 1958 the WHO sanitary assigned was transferred. Another is under recruitment. Supervision of WHO assistance to the project was undertaken by the sanitary engineer attached to project Burma 30.

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Public Health Administration, Rangoon

(March - Oct. 1955; April - Nov. 1956; Nov. 1958 - )

Aim of the project. To strengthen the administration of the Directorate of Health Services; to assess health problems and to co-ordinate the planning of health services.

Assistance provided by WHO during the year. (a) A public health adviser; (b) Four regional fellowships - one for twelve months and three for four months.

Probable duration of assistance. Until the end of 1961.

Work done during the year. A public health adviser was assigned in November 1958. After studying the organization and administration of health services and the pattern of international assistance, he examined problems relating to rural health services, health education, leprosy, nutrition and medical education, paying visits to the Aung San Myo Health Demonstration Centre, to rural health centres, to Mandalay and to some other districts.

Recommendations concerning the organization and functional operation of the Maternal and Child Health Division of the Directorate were made, and advice was given on the structure of the Health Assistants' Training School. Lectures were given to health assistants undergoing orientation training at the Aung San Myo Centre.

Plans for a smallpox eradication scheme and for a study of filariasis have been initiated.
Burma 53 National Training Course in Health Education
(First course: 1 Dec. 1958 - 3 Jan. 1959)

Aim of the project. To provide further orientation in health education to selected health workers and to persons responsible for teaching health education drawn from different districts.

Assistance provided by WHO during the year. Half the cost of board, lodging and travel of sixteen participants from outside Rangoon.

Probable duration of assistance. To be repeated in 1959-60.

Work done. A four-and-a-half-week national training course in health education for sixteen participants was started in Rangoon in December 1958. Included in the group were assistant health educators, child welfare officers and malaria workers. The course was conducted in co-operation with the Post-Graduate School of Nursing, the Environmental Sanitation Division, the School Health Education Council, the Mass Education Council, the Nutrition Division and the school health services. Arrangements were made for the trainees to obtain field experience at the Aung San Myo Health Centre. In addition to field visits and lecture-discussions, teaching methods such as puppets, role-playing, production of a radio programme over the Burma Broadcasting Corporation, etc., were used.

Burma 54 Fellowships

Nursing: Two twelve-month fellowships for study in New Zealand.

Leprosy Control: One twelve-month fellowship for study in India.

Tuberculosis: Three three-month fellowships for study of tuberculosis prevalence survey techniques in India.

Port Health and Quarantine: A four-and-a-half-month fellowship for study in Singapore and Hongkong.

Public Health: A ten-month fellowship for study in India.

Burma 55 Fellowships

Mental Health: Three twelve-month fellowships for study in India.

Burma 56 Nursing Advisory Services
(March 1959 - )

Aim of the project. To assist the Division of Nursing of the Health Directorate in upgrading nursing and midwifery training schools, particularly the schools in district hospitals.
Assistance provided by WHO during the year. A nurse educator.

Probable duration of assistance. Until the end of 1962.

Work done during the year. The nurse educator took up her assignment in March 1959.

She assisted the Selection Committees in choosing students for the nursing and midwifery schools.

Visits were paid to training institutions in and outside Rangoon.

The need for adequate supervision of junior nursing staff members and students in training and for raising the basic educational standard for entry into nursing schools is receiving attention.
In Ceylon there has been no marked change in the pattern of disease since malaria and other major communicable diseases have been brought under control. A five-year anti-malaria programme aimed at wiping out malaria completely from the island has been formulated. This is to be the last stage of the battle against this disease.

According to the demographic records, the mortality rates are the lowest ever reached in Ceylon: the birth rate is 35.3 while the crude death rate is 9.7 per 1,000.

Of the notifiable diseases, typhoid fever and the dysenterics still maintain their high incidence. A division of communicable diseases has been set up within the Health Directorate, and epidemiological investigations into the outbreaks of typhoid, dysentery, smallpox, etc., have been made.

The most important public health problems of the country are (1) unsatisfactory water supply and environmental sanitation, and (2) poor nutrition. The need for urgent action in these fields is being felt. It has been decided to set up a National Water Resources Board to take over the control of water supplies, sewerage and drainage. In order to improve the nutritional standard, the Government is taking co-ordinated action with the various departments and ministries such as those of Food and Agriculture, Health, Education, and Fisheries.

Considerable building activities have been undertaken by the Government for the expansion of hospital and other public health facilities in the island.
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<td>UNICEF</td>
<td></td>
<td>Rural Health Development, Kalutara (Sept. 1955 - )</td>
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Aim of the project. To upgrade the Children's Department of the Kalutara Health Unit Hospital; to integrate the preventive and curative sides of child care at the hospital and in the field; to improve public-health nursing in the Health Unit and train various categories of health personnel.

Assistance provided by WHO during the year. (a) A paediatrician and a public health nurse; (b) An international twelve-month fellowship.

Probable duration of assistance. Until the end of 1963.

Work done during the year. The original objectives were reached at the beginning of 1956, and the scope of the project was then widened. As a result, assistance was given to six paediatric departments in provincial hospitals in their efforts to develop consultative services for nearby peripheral units and health units. Some of the practices and procedures developed at Kalutara were introduced into other hospitals.

A special clinic for follow-up of protein malnutrition cases was started in Kalutara. Preliminary findings indicated that protein malnutrition was uncommon in children who regularly visited the child welfare clinics.

Groups of nurses were given refresher courses in paediatric nursing. Several lectures and demonstrations were also given in Kalutara in connection with training courses for public-health educators and public-health nurses.

The paediatrician completed his term of service in February 1959 and left the project after handing over his duties to his WHO successor. The public health nurse proceeded on study leave in August 1958, and a suitable replacement is under recruitment.

| Ceylon 5 R | Venereal-Disease Control (Nov. - Dec. 1958) |

Aim of the project. To assess the work of the national venereal-disease control programme since the end of 1953 (when WHO staff was withdrawn).

Assistance provided by WHO during the year. A consultant for six weeks.

Work done. The venereal-disease control project in Ceylon started in July 1951 with assistance from WHO. At the end of 1953, the WHO staff was withdrawn, and since then the programme has been carried on successfully.
by national personnel. WHO assigned a short-term consultant in November 1958 for a period of six weeks to assess the control programme. According to his observations:

(a) The Central Clinic, Colombo, now provides a high standard of diagnosis, treatment and case-finding facilities and is a satisfactory training centre for all grades of staff required for the expansion of the anti-venereal-disease campaign. Its figures show a decrease in cases of early, acquired and congenital syphilis, whilst the seropositivity rates in expectant mothers has fallen from 5% in 1951 to 1% in 1957. The problem of controlling gonorrhoea remains, however, a difficult one.

(b) There are eight major outstation venereal-disease centres, and another seven are aimed at. Smaller peripheral clinics are also in operation. The rate of progress in outstation clinics has varied, since it depends upon the availability of staff for recruitment and training. A satisfactory reduction in all stages of syphilis and some decline in gonorrhoea have taken place.

(c) Routine ante-natal serological testing and prevention of congenital syphilis have progressed well in Colombo; progress is slower elsewhere but should achieve comparable results in due course.

(d) A well-sited port clinic in Colombo was opened in October 1958 and has made a promising start.

Recommendations for further improvements in the administrative and technical aspects of anti-venereal-disease work in Colombo, the outstation clinics and the port clinic were made by the consultant, and his report was submitted to the Government.

Ceylon 23

Medical Stores Management

Aim of the project. To develop the organization and administration of medical stores.

Assistance provided by WHO during the year. A consultant for three months.

Work done. A short-term consultant was assigned from October to December 1958. During his earlier assignment as medical stores management officer from 1952 to 1954 he had assisted the Government in improving the organization and administration of civil medical stores. The present visit was intended as a follow-up of his previous recommendations.

He found that considerable improvements in stores management had been effected in the period between the two assignments. Further study of the administration of the department showed a need for delegation of greater responsibility to the Superintendent of Civil Medical Stores and for more flexibility in the machinery of tender boards and boards of survey. Short-term and long-term development programmes were suggested.

The report of the consultant and his discussions with the national staff should prove to be a useful guide for the organization and management of medical stores administration in Ceylon.
Ceylon 25  
Tuberculosis Control and Training Centre,  
Colombo (Walisara)  

Aim of the project. To survey the extent of the tuberculosis problem; to establish a model tuberculosis service; to train medical and paramedical personnel in diagnosis and prevention.

Assistance provided by WHO during the year. A one-month regional fellowship.

Probable duration of assistance. Until the end of 1961.

Work done during the year. It has not yet been possible to recruit a statistician to revise the system of records and reports in chest clinics and other institutions dealing with tuberculosis and to organize a central tuberculosis records office, but every effort is being made to secure one.

A regional one-month fellowship was awarded to a medical officer for study at the Tuberculosis Chemotherapy Centre, Madras.

Ceylon 35  
Environmental Sanitation, Kurunegala  
(March 1955 - )

UNICEF

Aim of the project. To set up two pilot projects in rural areas to improve water supplies and excreta disposal and to train personnel in environmental sanitation; to develop a health education programme that will secure the co-operation of the people and prepare the community for the sanitation programme; to apply the experience so gained to the national programme.

Assistance provided by WHO during the year. A sanitary engineer and a sanitarian.


Work done during the year. Work in the pilot area continued, with the construction of squatting plates, syphons, pits and wells.

Refresher courses for public health inspectors were continued, and a short course for seven food-handlers in eating establishments was conducted at Kurunegala. The training course for public health inspectors, started in August 1958 at the Kalutara Health Centre, was completed in February 1959, and another course was started in July 1959. The WHO sanitarian also assisted in short courses for public health inspectors and other health workers.

Field work was reorganized and extended to areas outside the pilot project. A scheme for the reorganization of the public health engineering division was prepared. As a first step, it was decided to put the sanitation work in the Kurunegala area under the responsibility of the regional public health engineer - to which post the national counterpart had been appointed. This is additional to his counterpart duties. A further engineer was appointed to assist the regional public health engineer, and a number of
public health inspectors were placed under his charge. This integration of the environmental sanitation project and the divisional public health engineering offices helped to enable the regional public health engineer to tackle the water supply problems of the division. Proposals have been submitted to the Chief Public Health Engineer to extend this pattern of service to all other regions in Ceylon.

Experiments were conducted with regard to garbage pits for hospitals, a water seal pit to replace the trenching method of disposal in use at the Kurunegala Hospital, a new type of hand pump, improvements in the already developed chain pump and use of roof tiles made of areca-nut palm trees.

The WHO sanitary engineer left the project in April. A successor is being recruited.

Ceylon 38 Assistance in Epidemiology to Health Directorate
(TA) (Feb. 1956 - )

Aim of the project. To establish an epidemiological unit in the Directorate of Health Services, Colombo; to make epidemiological surveys of the disease pattern in Ceylon; to train undergraduate and post-graduate students and a counterpart.

Assistance provided by WHO during the year. An epidemiologist and a specialist in infectious diseases.

Probable duration of assistance. Until the end of 1961.

Work done during the year. The successor to the previous WHO epidemiologist assumed duty in April 1958 and terminated his assignment in July 1959. The national counterpart returned in September 1958 from a one-year WHO fellowship in epidemiology in the USA.

Considerable progress was made during the year. The achievements may be summarized as follows:

(a) A Division of Communicable Diseases was set up within the Health Directorate, under which the following were included: (i) the Epidemiological Unit, (ii) the Specialized Campaign Section, and (iii) the Public Health Veterinary Section. The closest association with the Health Statistics Unit was also maintained. The primary objective of the project of establishing an epidemiological unit within the Health Directorate was thus achieved.

(b) Epidemiological investigations of outbreaks of smallpox, typhoid, bacillary dysentery, food poisoning and influenza were carried out. Studies of the typhus group of fevers, diphtheria, whooping cough, tetanus and poliomyelitis were also initiated. In association with the Public Health Veterinary Officer, proposals were submitted for the further study of the zoonoses and their control in the next Five-Year Plan.

(c) In association with the medical statistician, a revised scheme of notification of infectious diseases was prepared.
Recommendations were made for the improvement of isolation and diagnostic facilities at the infectious disease hospitals. To help in this field, a WHO specialist in infectious diseases was assigned in July 1959 for a period of one year.

Further assistance is envisaged in 1961 in the special field of control of zoonoses.

**Ceylon 39**

**Assistance to Health Directorate (Nursing Adviser)**

(July 1957 - )

_Aim of the project._ To provide the Directorate of Health Services with advisory services in connection with nursing organization, education, administration and legislation and with the development of co-ordinated supervisory services, in order to ensure uniformly high nursing standards within the national health programme.

_Assistance provided by WHO during the year._ (a) A nursing adviser; (b) Supplies and equipment.

_Probable duration of assistance._ Until the end of 1961.

_Work done during the year._ The nursing adviser made a study of the various aspects of nursing education and prepared a series of reports and recommendations to suit the nursing needs of Ceylon. She served on a committee appointed by the Ministry of Health to make recommendations for the revision of nursing education and service in Ceylon. Assistance was given in preparing suggestions for the organization and administration of the third-year internship period in recognized hospitals for practical experience after two years of actual nursing education. Discussions were held on the nursing aspects of the recommendations of the committee appointed in 1957 to revise the maternal and child health services in the country.

The duration of the public health nursing course was extended from six to nine months, and the system of selecting student nurses will be decentralized so that they may be selected and trained in the nursing schools of their own home provinces.

The WHO nursing adviser is collecting material and studying the legislation of other countries with a view to preparing proposals for the establishment of a Nursing Division and the Council of Nurses, Midwives and Auxiliary Nurses.

**Ceylon 45**

**Health Statistics**

(April 1957 - )

_Aim of the project._ To revise the system of records and reports in the health services; to train personnel in the design of documents, the conduct of surveys and other statistical techniques; to set up a permanent statistical service in the Ministry of Health.
Assistance provided by WHO during the year. (a) A health statistician; (b) Supplies and equipment.

Probable duration of assistance. Until 1962.

Work done during the year. Ceylon was well represented at the regional seminar on health statistics (see SEARO 17). Useful working papers were presented by two of the national participants, as well as by the WHO statistician. The contribution of the latter, which will appear in the WHO Bulletin, dealt with levels of diagnostic reporting in cause-of-death statements. It has served as a basis for discussions with the responsible authorities on proposals for reorganizing the collection of mortality statistics in the Registrar-General's Office.

Fruitful collaboration between the WHO epidemiologist and the WHO statistician continued. It included the preparation of a report on the notification of infectious diseases in Ceylon, with proposals for a revised scheme, which have been accepted in principle by the Government. The guiding lines of the report and the new report forms should result in better reporting of this important category of health data throughout the Region.

Continued assistance was given to the dental survey. Also, the pre-operational survey undertaken in connection with the environmental sanitation project at Kurunegala was completed; the material is being processed and analysed by the project staff. A preliminary analysis of the records of the anti-filariasis campaign was undertaken, and discussions were held with the Superintendent. Recommendations have been made for revising the records system so that it may contain more useful information.

The Statistics Branch, the Epidemiology Unit and the Tuberculosis Records and Statistics Section are now housed in a new building. This provides a good opportunity for closer collaboration between the three related sections. Two statistical officers have been appointed to the project and two senior posts for statisticians have been sanctioned.

Ceylon 47 Medical Education (June 1959 - )

Aim of the project. To assist in the teaching and demonstration of recent advances in clinical post-graduate fields.

Assistance provided by WHO during the year. A consultant professor in obstetrics and gynaecology for three months.

Probable duration of assistance. Until 1961.

Work done during the year. The consultant arrived in June 1959, and after meeting the Director of Health Services and the Dean of the Faculty of Medicine, visited the clinical and pre-clinical departments of the Faculty. He has begun to assist with the teaching of obstetrics and with the organization of the obstetric unit.

A bi-weekly course of post-graduate lectures in obstetrics and gynaecology has been started.
Aim of the project. To improve the organization and plan the development of thoracic surgery.

Assistance provided by WHO during the year. A consultant for one month.

Work done. The consultant made a study of the organization of thoracic surgery units in the Colombo General Hospital. He also examined the possibilities of forming thoracic surgery units in the hospitals at Jaffna, Ratnapura and Kandy.

According to his findings there is sufficient need to justify further expansion of thoracic surgery. An essential prerequisite is the necessity to train an adequate staff, including anaesthetists, nurses and physiotherapists.

In his report he drew attention to the desirability of co-operation between all disciplines concerned with cardiac and chest diseases and to the need for adequate cardio-pulmonary laboratory facilities, for an experimental thoracic surgery laboratory and for an effective organization for maintenance and repair of x-ray and electronic equipment.

There were found to be potential facilities for the ultimate creation of thoracic surgery units at the Jaffna and Ratnapura hospitals. The Kandy hospital appeared to be unsuitable for the purpose.

The consultant pointed out the demands which must be fulfilled if further development is to be achieved. His report has been submitted to the Government.

Aim of the project. To advise on the development of the Cancer Institute, particularly in regard to treatment, training and research.

Assistance provided by WHO during the year. A consultant for one week.

Probable duration of assistance. Until the end of 1962.

Work done during the year. During this short visit, the consultant advised the Government on the organization, administration and equipment of the Institute and also on a pattern of fellowship training for the staff. It was agreed that the most suitable institution for fellowship study was the Indian Cancer Research Centre at Bombay.

The consultant, who is the Director of the Bombay Centre, has indicated that it would be possible to provide the necessary facilities at the Centre for fellows from Ceylon.
Ceylon 50  Fellowship

Leprosy: A three-month fellowship for study in India.

Ceylon 51  Fellowship

Nursing: A twelve-month fellowship for study in the United States of America.

Ceylon 54  Training of Laboratory Technicians

(April 1959 - )

Aim of the project. To establish a programme for training laboratory technicians required for the various laboratories in the country.

Assistance provided by WHO during the year. A laboratory technician.

Probable duration of assistance. Until April 1961.

Work done during the year. The project was started with the assignment of a WHO laboratory technician in April 1959. A list of supplies and equipment to equip the laboratory properly and for the training of the laboratory technicians was drawn up. Counterparts to the WHO expert have been provided by the Government.

An Advisory Committee for the School of Medical Laboratory Technology, consisting of the senior pathologists, the Deputy Director (Laboratory Services) and the WHO laboratory technician, has been formed. A suitable syllabus for the training course has been prepared.

Advice was given on various hematological procedures in the laboratories of the General Hospital, Children's Hospital and the Department of Medicine at the University.

Some provincial laboratories have been visited.

Ceylon 55  School of Physiotherapy, Colombo

(Oct. 1958 - )

Aim of the project. To develop physical medicine and rehabilitation services by training physiotherapists.

Assistance provided by WHO during the year. A senior physiotherapy tutor.


Work done during the year. The physiotherapy tutor arrived in October 1958. He took part in the current training course, which was conducted by three national qualified physiotherapists, and acted as an examiner in the final examination.
As an advisory member of the Committee of the Physiotherapy School, he assisted national staff in drawing up training programmes for courses of two years and three years respectively. It was subsequently decided to adopt a two-year training period. A modified training programme designed to upgrade the assistant physiotherapists now in service was initiated.

The school is accommodated in temporary premises which are not wholly satisfactory. A design for a new building was prepared for consideration by the Hospital Building Committee. The WHO tutor assisted the medical specialist in charge of the school in preparing lists of additional equipment required. Assistance in carrying out his proposals, which have been approved by the national authorities, will henceforth be a part of the project.
The most significant health developments in India during the year have been the progress with the malaria eradication programme, implementation of the national tuberculosis programme, increased establishment of primary health centres, and the decision of the Government of India to launch a mass campaign against smallpox and cholera.

Malaria eradication started in April 1958, and subsequently the original target of 230 "malaria units" (each one to cover one million people) was almost achieved. At the end of 1958, there were 222 units working in the field; 160 more are being added during 1959 to cover the hypo-endemic areas. At the same time, surveillance teams to consolidate the campaign are being constituted.

The national tuberculosis programme was started by taking the first steps to establish the National Tuberculosis Institute at Bangalore.

Public health programmes connected with community development projects are in operation in eight States. In respect of rural health, 572 primary health centres out of a target total of 1,085 had qualified for WHO/UNICEF assistance by the end of March 1959. Five rural training areas started operations during the year.

The Government is now studying the possibilities of smallpox eradication and, at the same time, of conducting a mass campaign against cholera.

The yaws treatment programmes in the States of Andhra Pradesh, Orissa and Madhya Pradesh are proceeding according to plan and are expected to be completed by the end of 1961.

The Central Council of Health forms the liaison between the Central and State Governments. During the last meeting of the Council, held in Shillong in January 1959, the progress made by some of the national programmes such as malaria eradication, venereal-disease control, leprosy control, health education, school health services, water supply and sanitation, was reviewed.

The national water supply and sanitation programme initiated by the Central Government in 1954 is progressing rather slowly, on account of the shortage of trained personnel and lack of organized public health engineering departments at state level to co-ordinate the work of the agencies entrusted with the development of the programme.

Complete integration of health services has been difficult to achieve. In some States, although integration has taken place at top level, separation between medical and public health services is more marked at the district level. At primary health centres also, integration has not been fully accomplished. The establishment of demonstration districts in the country is considered necessary, and plans for such districts are under preparation.
### PROJECT LIST

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<tr>
<td>India 42 TA</td>
<td>India 42</td>
<td>Tuberculosis Control and Training Centre, Nagpur (Nov. 1955 - )</td>
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</table>

**Aim of the project.** To establish a model tuberculosis service, particularly to do preventive work; to train personnel in modern methods of diagnosis and control, including domiciliary chemotherapy; to carry out epidemiological surveys.

**Assistance provided by WHO during the year.** (a) A medical officer, a laboratory technician, an x-ray technician and a public health nurse; (b) Supplies and equipment.

**Probable duration of assistance.** Until the end of 1959.

**Work done during the year.** This project has not made sufficient progress owing to difficulties in connection with the delayed appointment of some of the counterpart personnel and lack of enough trainees. To assess the progress of work and to decide on the best solution of the difficulties, a meeting was held in Nagpur in February 1959 under the chairmanship of the Minister of Health of Bombay State. It was attended by the chief medical and administrative authorities of the state, the senior WHO officer of the project and his counterpart, the WHO Regional Adviser on Tuberculosis and the Tuberculosis Adviser to the Government of India. It is hoped that the measures decided upon at the meeting will result in improving the work, particularly in connection with the training of national staff.

A breakdown occurred in the static x-ray unit supplied by WHO, and there was considerable delay in rectifying it. This interfered with the routine working of the Centre to some extent.

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<th>India 43 TA</th>
<th>Tuberculosis Control and Training Centre, Hyderabad (Dec. 1956 - )</th>
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**Aim of the project.** To train, for the district centres in the State, doctors, home visitors and technicians in the diagnosis of tuberculosis and in methods of control based on domiciliary chemotherapy and home hygiene; to help personnel to adapt these methods to the conditions in the project area or, if necessary, to evolve new ones.

**Assistance provided by WHO during the year.** (a) A medical officer, a laboratory technician, an x-ray technician and a public health nurse; (b) Supplies and equipment.

**Probable duration of assistance.** Until the end of March 1960.
Work done during the year. Considerable progress has been made in organizing the work of the Centre, notably on the domiciliary side. The amount of home visiting has been maintained at a high level, and an indicator system has been set up to ensure that no patients are missed.

A number of sub-centres are in operation and others have been established with the aim of achieving complete coverage of Hyderabad city. The use of scooter-rickshaws for this work is proving successful and economical.

Training of home visitor and medical trainees is in progress. A short post-graduate refresher course and a reorientation course for public health nurses were held.

*India 53*  
Tuberculosis Chemotherapy Centre, Madras  
(Dec. 1955 - )

Aim of the project. To determine what proportion of infective patients living in crowded urban areas can be rendered non-infective by treatment with drugs suitable for self-administration at home; to determine how long these patients can be kept non-infective; to compare the results of drug treatment of domiciliary patients with those of treatment of hospital patients; later, to study the effects on the community of widespread chemotherapy of ambulant patients; to provide facilities for training in research techniques.

Assistance provided by WHO during the year. (a) A senior medical officer, an assistant medical officer, a bacteriologist, a laboratory technician, an x-ray technician, two public health nurses, an administrative officer and an administrative assistant; (b) Supplies and equipment.

Probable duration of assistance. Until the end of 1963.

Work done during the year. A number of studies are being made. These include the following:

Study I - Comparison of the results of a year of treatment of home versus sanatorium patients. This has been completed, and the report is being published in the WHO Bulletin.

Study II - Treatment of tuberculous contacts of Study I patients.

*At the beginning of 1953 the related project India 102 was amalgamated with this project.*
Study III - Comparison of different treatment regimes under domiciliary conditions.

Study IV - Treatment of tuberculous contacts of Study III patients.

Arising out of these, studies of nutritional and sociological interest, as well as the laboratory research work mentioned in last year's report, are in progress.

Two papers, one on "The Problem of Self Administration of Drugs with particular reference to Pulmonary Tuberculosis" and the other on "A Comparison of Two Methods of Sputum Collection", have been published in Tubercle, the journal of the British Tuberculosis Association. One, on the "Examination of Smears for Tubercle Bacilli by Fluorescence Microscopy", has been published in the Indian Journal of Medical Research.

Short visits for experience and training in the project have been arranged for doctors, nurses and technicians not only from India but also from other countries in the Region.

India 57

Maternal and Child Health/Nursing, Uttar Pradesh

UNICEF

(Feb. 1955 - Sept. 1958)

Aim of the project. To develop the maternal and child health services of the State; to train nursing personnel; to establish a paediatric training hospital at the Medical College, Lucknow.

Assistance provided by WHO during the year. A paediatric nurse.

Work done. The project was ended in September 1958, with the completion of the assignment of the paediatric nurse.

The services of the children's hospital, especially the nursing services, were improved considerably during the period of WHO's assistance. However, after the withdrawal of the international staff, some of the improvements achieved were not maintained. This was partly due to the fact that the national counterpart of the WHO paediatrician left on a fellowship chest immediately after the termination of WHO's assistance.

The teaching of medical and nursing undergraduates now includes a considerable amount of preventive pediatrics, but, so far, the two major objectives of the project - namely, the creation of an independent department and the adequate training of medical students in pediatrics - have not been achieved.

A few of the maternal and child health centres in Lucknow city now render better services to children, but these, too, show some signs of weakening.
The main contribution of the project, which appears to have a lasting effect, is better training in pediatrics of nursing and health visitor students.

**India 74 Assistance to the All-India Institute of Mental Health, Bangalore (March 1955 - )**

**Aim of the project.** To establish at the All-India Institute of Mental Health, Bangalore: (a) a post-graduate training programme in psychiatry and psychiatric nursing, and (b) a programme of research in psychiatry, neurology and neuro-surgery; to train national counterparts to take over from the WHO personnel.

**Assistance provided by WHO during the year.** A neuro-psychiatrist, a neurologist and two psychiatric nurses.

**Probable duration of assistance.** Until the end of 1961.

**Work done during the year.** Creation of a neurology and neuro-surgical unit was effected. Regular operating sessions on neuro-surgery and psycho-surgical procedures were organized. The development of the neurology unit was, however, effected at the expense of accommodation available for psychiatric patients.

A female sick ward was established. A considerable advance was represented by the success of vigorous rehabilitation treatment, which enabled most of the inmates of the former "Dirty and Destructive Ward" to be cared for in the general wards. The ward was reconditioned and used as a convalescent unit for about 20 patients. Semi-permanent buildings were provided for use as male and female dining rooms and as an occupational therapy department.

The neuro-psychiatrist completed his assignment in January, and the neurologist was withdrawn in March. The Government has not requested a replacement for either. The national staff has been strengthened by the appointment of an associate professor of psychiatry, a neuropathologist, a radiologist and the services, one day a week, of a specialist anesthetist.

Teaching in the Institute was maintained at a high level. A system of case note-taking, modelled on that of the Mayo Clinic, was introduced. The curriculum in neuro-anatomy was improved, but progress was handicapped by scarcity of autopsy material. Formation of a neuro-pathology demonstration section was initiated.

In the nursing aspects of the project, three national counterparts are working with the WHO nurses. A Nursing Committee was formed, and weekly meetings were held to discuss matters concerning the mental hospital. This has proved a useful mechanism for recognizing and remedying the defects in the internal administration. The strain due to shortage of nursing staff was accentuated by the demands of the neurological unit.
Twenty-six candidates appeared for the examination for the Certificate in Psychiatric Nursing. Twenty were successful, three gaining distinction. Twenty-three students were admitted to the psychiatric nursing course at the beginning of 1959, two from Burma and the others from various Indian States.

India 77

Public Health Engineering, University of Madras

(Aug. 1955 — )

Aim of the project. To establish a Department of Public-Health Engineering at the University of Madras and to organize post-graduate courses and field training in public-health engineering at the University; to train a national counterpart to take over from the WHO professor.

Assistance provided by WHO during the year. (a) A professor of public-health engineering; (b) A twelve-month international fellowship; (c) Supplies and equipment.

Probable duration of assistance. Until the end of 1961.

Work done during the year. This project started in August 1955 as a post-graduate course for public-health engineers studying at the Guindy College of Engineering, Madras. Short courses for engineers and engineering subordinates were also developed. Forty-five students (25 deputed by state governments and 20 private students) were awarded the M.Sc. Degree in Public-Health Engineering in the first three courses. Twenty-seven theses covering different aspects of sanitary engineering have been submitted.

The fourth post-graduate course (nine months of class work and six months of research for preparation of thesis) was started in July 1958 with fifteen students. The seventh short-term course for engineers and engineering subordinates was completed last April, bringing the total number of students trained to 135, including 59 engineers and 76 engineering subordinates. The standard of the post-graduate course has been raised constantly by bringing it into line with those of comparable universities. Facilities which were developed for training, such as a laboratory for research, a water treatment plant in conjunction with the college swimming pool, a sewage treatment plant (in an advanced stage of construction), have helped to raise this course to a high level.

In April 1959, the WHO visiting professor left at the end of his contract, and another professor to continue his work is under recruitment. Efforts are also being made to recruit a professor in chemistry and the microbiology of water and sewage.

India 84

Environmental Sanitation, Uttar Pradesh

(March 1958 — )

Aim of the project. To set up in a rural area a pilot project for improving water supplies and excreta disposal; to plan and carry out a sanitation programme, including the design, operation and maintenance of simple, practical and cheap sanitary installations; to organize a programme of health education; to train technicians, sanitarians and other personnel.
Assistance provided by WHO during the year. (a) A sanitary engineer and a sanitarian; (b) A twelve-month international fellowship.

Probable duration of assistance. Until the end of 1961.

Work done during the year. Changes were made in the staffing of the project with a view to making the best use of personnel and establishing the most appropriate procedures. The project now has its own field supervisors, responsible to project officers. The counterpart engineer was transferred in August 1958, and no replacement has yet been provided. This has handicapped operations.

Latrine pans, traps, extension pipes, water seals and dome pit covers were constructed in the workshop of the Planning Research-cum-Action Institute. Later the Local Self-Government Engineering Department took over the construction of latrine fittings. It met the cost of installation, and also assisted by preparing plans of villages where project staff were working.

Work was mainly concentrated in the Chinhat pilot area, where a few latrines were constructed in various villages, and wells were reconstructed for demonstration purposes.

Progress was made in simplifying and cheapening the manufacture of latrine fittings, principally by making better moulds. Experiments were made on the use of bitumen stabilized solid for pit linings and on concrete dome pit covers for the lateral pit type of latrine.

The WHO staff helped in the training of technical assistants at the community development extension training centre at Bakhshi-ka-Talab. They continued to instruct the national staff on various aspects of sanitation.

A sanitary survey covering water and excreta disposal was undertaken in the pilot area. The Provincial Hygiene Institute helped with the examination of stool samples in an epidemiological survey.

India 85
TA
Health Education (Ministry of Health in co-operation with Ministry of Education)
(Dec. 1957 - )

Aim of the project. To develop training and to prepare experimental curricula relating to health education in one or more teacher-training institutions in Delhi.

Assistance provided by WHO during the year. (a) A health educator; (b) Supplies and equipment.

Probable duration of assistance. Until the end of 1961, in the first instance.

Work done during the year. The WHO health educator reported for duty in December 1958. Accompanied either by the Director of the Delhi Pilot Health Services Project or the Co-ordinator of the Extension Division of the Central Institute of Education, she first visited a number of primary and secondary schools in Delhi and surrounding areas.
The health education syllabi and programmes of twenty-six teacher-training colleges in the country and twelve State Governments were reviewed. The material has been made use of in building up health education syllabi and programmes in schools and teacher-training institutions.

The health educator assisted the sub-committee of the Joint Committee on Health Education and Nutrition Education in preparing such a draft syllabus. She attended a meeting of the Inter-University Board at which a resolution on health education in teacher-training institutions was adopted. A comprehensive plan of work for the coming year was drawn up.

India 90 Vital and Health Statistics, Nagpur (March 1956 - )

Aim of the project. To establish in an urban area a demonstration and training unit which will serve as a model health statistical service; to train personnel in health statistics.

Assistance provided by WHO during the year. (a) A health statistician; (b) Supplies and equipment.

Probable duration of assistance. Until July 1960.

Work done during the year. A replacement for the former WHO statistician arrived in August 1956. A state counterpart has since been appointed.

The new system of notification of vital events has continued to work satisfactorily. The Regional Office provided a temporary machine operator for three months, who completed punch cards for births and deaths relating to 1957. A permanent machine operator is now in position, and tabulation of 1957 vital statistics is in progress.

A model vital statistics report to demonstrate the practicability and usefulness of modern vital statistics techniques has been planned. Processing of sample returns from dispensaries has begun; while the processing of project material is making progress, absences of staff and transfers have impeded the establishment of a regular routine, and an unnecessary workload has to be carried in maintaining both the old and the new systems.

With the increasing availability of new statistical material, the project has begun to achieve one of its main objectives, namely, that of providing a useful service to the local health officer. Papers have been prepared for publication on the incidence of acute infectious encephalitis, diphtheria, infectious hepatitis, smallpox and fatal injuries.

A fourth training course for statistical assistants, lasting twelve weeks, was given to six trainees. This longer course permitted more practical work and a field investigation into an outbreak of infectious hepatitis. The report of the WHO statistician pointed to a common weakness in ability to compile and transcribe tables without errors in arithmetic and copying. This inability to handle numerical data accurately nullifies the attempts to produce better vital and health statistics. In the next training course this problem will be given first priority.
The statistician gave regular lectures to medical registrars and house officers, as well as occasional lectures to medical students and several other groups. He also assisted the Nagpur Corporation in framing new registration bye-laws.

Professors in Preventive and Social Medicine
(Feb. 1956 - )

Aim of the project. To develop the Departments of Preventive and Social Medicine in four selected medical colleges, integrating preventive medicine into the general curriculum and developing courses of instruction in preventive and social medicine for undergraduates; to establish centres for practical training; to give special training to selected students to prepare them for teaching and research; to train national counterparts to take over from the WHO professors.

Assistance provided by WHO during the year. A professor of preventive and social medicine for four months for the Topiwala National Medical College, Bombay.

Probable duration of assistance. For several years.

Work done during the year. At the Topiwala National Medical College, the visiting professor assisted in organizing the study of social medicine and in training staff and students in this field. He has also been active in lecturing to other academic bodies. His assignment was over in June 1959, and it is proposed to reassign him to this medical college in 1960 for follow-up and development purposes.

Health Education, Singur
(Dec. 1956 - Dec. 1958)
(Ford Foundation)

Aim of the project. To develop field programmes in health education procedures for public health and other personnel at the Singur Health Centre and at the All-India Institute of Hygiene and Public Health, Calcutta.

Assistance provided by WHO during the year. (a) A health educator; (b) Supplies and equipment.

Work done. In this project, which was completed in December 1958, much of the work of the health educator was directed towards three main programmes: teaching of various groups of students who came to the Singur Rural Training and Demonstration Centre; establishing health education activities as an integral part of the services of the Singur area, and developing health education phases of the Research-cum-Action Project in Environmental Sanitation.

Health education sessions were arranged for students taking the diploma (or certificate) courses in a number of subjects at the All-India Institute of Hygiene and Public Health, Calcutta; for trainees in extension work, social education organizers, students from the Kar Medical College and the Calcutta National Medical College, health visitors, midwives, community development workers, village-level workers and teachers.
In co-operation with the staff at Singur, educational activities with respect to smallpox, cholera and malaria campaigns, BCG vaccination, maternal and child health, school health, and community organization were carried out. Health education in respect of various services of the Singur Centre was further developed. Major efforts were directed to teaching, and in 1957 alone forty-five different groups (totalling 1,330 students) came to Singur for training. The content of the courses was planned to meet the special needs of the trainees.

Two national health educators are continuing health education activities in the Singur Rural Training and Demonstration Health Centre area.

In the Singur Research-cum-Action Project in sanitation, different approaches to health education through mass media, didactic teaching, community organization and discussion sessions, etc., were used in selected villages.

The final report on the project has been submitted to the Government.

India 1955

Environmental Sanitation, Kerala
(Nov. 1956...)

Aim of the project. To set up a pilot project in a rural area for improving water supplies and excreta disposal; to plan and carry out a sanitation programme, including the design, operation and maintenance of simple, practical and cheap sanitary installations; to organize a programme of health education; to train technicians, sanitarians and other personnel.

Assistance provided by WHO during the year. (a) A sanitary engineer and a sanitarian; (b) Supplies and equipment.

Probable duration of assistance. Until the end of 1960.

Work done during the year. Expansion of environmental sanitation activities on a state-wide basis was planned. It is proposed to start eight pilot projects in selected panchayats of each district, following the pattern of the WHO-assisted pilot project in Trivandrum.

The latrine work has reached the targets fixed. The programme was decentralized so as to include places outside the project area. To follow up, a recording card was developed for use in the field. Experiments were made in order to design a better lining for pits; clay-rings, pre-cast slabs and concrete rings were tried. Further improvements in the design of the water-seals were also studied.

Considerable progress was made with the water supply programme. Several works were executed in terms of the targets fixed for this period. Six filter points were sanctioned, and work on them was undertaken. Delays by contractors led to a slackening of the pace at which shallow wells could be improved or constructed. A maintenance system for new wells was organized. It was also decided to improve private wells as part of the overall water supply programme. Collection and preparation of data for the proposed programme for community water supply have been completed.
A parasite survey of all the nine master pilot areas was made. The percentage of positive cases ranged between 83 and 95.4. Faecal examination of school-children in schools provided with sanitary facilities by the project was also undertaken.

Emphasis was placed on training courses in environmental sanitation for health inspectors and "gram sevaks". In health education attention was directed towards teachers and headmasters of schools. Talks and films on health subjects were arranged frequently. The use of woman auxiliary workers for environmental sanitation activities yielded results in promoting and implementing health programmes.

India 98
Refresher Courses for Nurses
Vellore: (17 Nov. - 13 Dec. 1958)

Aim of the project. To plan and conduct short refresher courses for nurses, incorporating theoretical and practical instruction adapted to local conditions.

Assistance provided by WHO during the year. (a) Half the cost of travel and maintenance expenses of forty-four participants; (b) Assistance from WHO nursing staff.


Work done during the year.

Visakhapatnam: A refresher course for nineteen sister tutors from different parts of India was held at the King George Hospital, Visakhapatnam, from 28 October to 23 December 1958. The WHO nurses working with the Public Health Programme, Andhra Pradesh (India 151) assisted in planning and conducting the course.

Vellore: Twenty-six nursing superintendents and matrons attended an All-India refresher course organized at the Christian Medical College Hospital, Vellore, from 17 November to 13 December 1958. The course was directed by the Colombo Plan nurse attached to the Public Health Programme, Bihar (India 145).

India 99
Nursing Education (Public Health Integration)
(Sept. 1957 - )

Aim of the project. To integrate training in public health into the basic training of nurses; to provide supervised practical observation and experience for student nurses in three selected undergraduate schools of nursing.

Assistance provided by WHO during the year. (a) Three public health nurses; (b) Supplies and equipment.

Probable duration of assistance. Until the end of 1962.
Work done during the year.

Madras: During the year the integration of public health into the basic nurse-training programme of the Government General Hospital has made reasonable progress. The curriculum has been revised and the theory content of the basic subjects considerably strengthened. Case studies and results of tests on public health and social aspects of disease have improved. The tutors are taking part in the supervision of ward practice and clinical teaching.

Rota of field observation trips and periods of practical field experience have been planned on a yearly basis and are being implemented.

Notes for nurse tutors on public health aspects of tropical medicine have been compiled and approved by the Department of Preventive and Social Medicine. A programme of staff education has been introduced.

A successful workshop, held for one week in December, was attended by twenty tutors from all the government hospital schools of nursing in the State. Many tutors were stimulated to introduce public health programmes into their teaching.

The WHO nurse and her counterpart took part in the All-India refresher course for paediatric nurses held in the Madras Medical College Hospital.

Nagpur: Some progress was made in the Nagpur programme in spite of early setbacks. The WHO nurse devoted considerable time to establishing public-health field practice areas, which have operated successfully. A small area for home visiting services, a school health programme and observation visits to local markets, water works and sewage disposal works have been introduced. The use of maternal and child health centres is being examined.

The classroom teaching programme is under revision, with the aim of incorporating public health and social aspects of disease. This aspect of teaching is appreciated by the tutorial staff. Ward teaching has been started in some wards.

Cuttack: Progress has been made in the revision of the syllabus. Two wards have been allocated as demonstration and teaching units for student nurses. Equipment provided by UNICEF has been installed. An ante-natal clinic has been started, and a maternal and child health centre has been inaugurated in the hospital compound. A home delivery service, started in conjunction with the ante-natal clinic, has made encouraging progress.
Trachoma Pilot Project
(Feb. - May 1956; Oct. 1956 - )

UNICEF
(ICMR)

Aim of the project. (1) To make a survey of trachoma in parts of Uttar Pradesh; (2) to establish a pilot project to study (a) the incidence and pattern of trachoma and the factors favouring transmission, (b) the minimum effective course of antibiotic treatment and the rate of relapse and reinfection, and (c) the effect of repeated treatment on the epidemiology of associated conjunctivitis and on the clinical picture of trachoma; (3) to develop a mass control programme.

Assistance provided by WHO during the year. (a) A trachomatologist; (b) Essential supplies.

Probable duration of assistance. Until the end of 1963, in the first instance.

Work done during the year. In the second year of the project (December 1957 - November 1958) various short-term intermittent treatment programmes in Uttar Pradesh were studied and evaluated.

In November 1958, an expansion of the pilot project was undertaken with two treatment programmes through primary health centres in Punjab and Rajasthan. The preparation of a topographical map survey of trachoma in eleven States was also undertaken. From November 1958 surveys are being organized in eleven States to determine the prevalence of trachoma, bacterial conjunctivitis and complications due to these conditions. They are being carried out on a random sample basis and are expected to be completed towards the end of 1959.

Primary School Treatment Programme, Punjab: The objective of the programme is to study the effects of the treatment with 1% a chromycin in oil applied once daily on 60 successive working days by both dressers and by school-teachers. An evaluation will be possible after the second re-examination takes place in September 1959.

Pre-School Treatment, Rajasthan: The objective of this programme is to study the effect of intermittent treatment with 1% a chromycin in oil applied twice daily on five successive days every month in six cycles, from March to August. The evaluation of the work will be possible in September 1959.

National Tuberculosis Programme
(Oct. 1956 - Oct. 1957; Nov. 1957 - )

UNICEF

Aim of the project. To plan and provide for a tuberculosis control programme for the whole of India, based on epidemiological findings and field research and to train national personnel for this programme.
Assistance provided by WHO during the year. A senior medical officer, a sociologist, an epidemiologist and two public health nurses.

Probable duration of assistance. Until the end of 1965.

Work done during the year. In January 1959 the senior medical officer and the sociologist commenced the detailed planning and the setting up of the National Tuberculosis Institute and its urban and rural field arms. An epidemiologist and two public health nurses joined them in June. Recruitment of the remaining members of the international team is proceeding.

The premises for the Institute have been acquired and plans for alterations prepared. The work will be taken in hand very shortly.

A skeleton national staff is in position. A plan of action describing the technical and administrative steps necessary to develop the National Tuberculosis Institute was prepared by the senior medical officer. Detailed plans for the first part of the urban programme and protocols for the pilot epidemiological study were prepared. Assistance was also given in the preparation of the third report on BCG assessment in India.

India 106
TA
UNICEF

Public Health Programme, Rajasthan
(March 1959 - )

Aim of the project. To further the development of health services in community development areas, including the training of personnel; to develop other related rural health services, with the object of integrating such services into the total community development programme under the Second Five-Year Plan.

Assistance provided by WHO during the year. A public health nurse.

Probable duration of assistance. Until the end of 1961, in the first instance.

Work done during the year. The public health nurse joined the programme in March 1959. The public health officer has been recruited and will arrive in October.

The nurse has started to make a survey of the public health programmes operating in the State. She has visited hospitals and health centres in Jaipur, Nalia and Ajmer in connection with the proposals for expanded nurse training. She assisted in conducting a public health orientation course for nurse-midwives initiated by the nursing adviser of the United States Technical Co-operation Mission. She visited Poona to observe activities of the WHO-assisted public health programme in Bombay State (India 150).
Aim of the project. To further the development of health services in community development areas, including the training of personnel; to develop other related rural health services, with the object of integrating such services into the total community development programme under the Second Five-Year Plan.

Assistance provided by WHO during the year. A public health officer, a public health nurse and a public health nurse-midwife.

Probable duration of assistance. Until the end of 1961, in the first instance.

Work done during the year. The public health officer joined the project in December 1958. He visited some primary health centres and related institutions and held discussions with the State authorities on the problems of developing a comprehensive health service for rural areas.

The public health nurse made a preliminary survey of eight training hospitals and also prepared lists of duties for various categories of nursing staff for incorporation in the State Medical Manual.

The public health officer and the public health nurse concentrated their efforts in developing the rural training area at Verka (Amritsar District). Assistance was also given to the State Government in drawing up a plan for the proposed demonstration district in Karnal.

The public health nurse-midwife joined the project in April.

Aim of the project. To develop the health education bureau in the Directorate of Public Health and a pilot demonstration and field training area; to teach health education to public health personnel and others.

Assistance provided by WHO during the year. (a) A health educator for Bombay State; (b) Supplies and equipment.

Probable duration of assistance. About two years for each State concerned.

Work done during the year. Work has so far been started only in Bombay State. During the year the work of the Health Education Bureau was concentrated on the Vidarbha Division, one of the six administrative units of the State of Bombay. A plan for gradual expansion of the activities of the newly organized bureau to other divisions has been prepared.

A series of lecture-discussions was given to students of preventive and social medicine at Nagpur Medical College. Weekly seminars were conducted at the Scaper Health Centre for staff and medical students.
undergoing field training. Lecture-discussions were also arranged for sanitarians studying at the Public Health School, sanitarians of the Nagpur Corporation, students of the Mayo Hospital (Nagpur), auxiliary nurse-midwives, health visitors and nurses.

To assist the public health personnel, intensive four-day training courses were given in two districts of Vidarba Division. Also, in-service training is planned for the remaining six districts. When the training courses in this division are completed, similar in-service training courses will be given in other divisions.

India 110

Nursing Advisers to States (Madhya Pradesh, Madras and State Undesignated)

Aim of the project. To develop and expand nursing education and nursing services in three selected States and to co-ordinate supervisory services in order to ensure uniformly high standards of nursing and midwifery within the health programmes of the States.

Assistance provided by WHO during the year. (a) A nursing adviser for the State of Madhya Pradesh; (b) Four international twelve-month fellowships; (c) A transport vehicle.

Probable duration of assistance. Until the end of 1962.

Work done during the year. So far work has been done only in Madhya Pradesh. The WHO nursing adviser joined the project in October 1958. A counterpart was in position, and initially some time was spent in reviewing the general principles of nursing administration within the State. Tours designed to cover the whole State were planned in order to assess nursing education, nursing services and future requirements.

The nursing programme was widely discussed with hospital medical and nursing administrators, public health medical officers and public health nurses. Recruitment and staff education were stressed. School-teachers were approached on matters of school health, community health and the desirability of girls being encouraged to undertake nursing as a career. Talks were given to schoolgirls on opportunities offered in the nursing service. There was a favourable response in all areas, and professional and lay interest was stimulated.

Proposals for amendments to existing legislation related to nursing have been placed before the State Government.

A Registrar has been appointed to serve the present requirements of the Medical and Nursing Acts.

India 111

Medical Education in Non-clinical Subjects

Aim of the project. To improve the teaching of non-clinical subjects in the medical courses of the rapidly expanding medical colleges in India by providing experienced professors in such subjects and by awarding fellowships to teachers to enable them to widen their knowledge and experience.
Assistance provided by WHO during the year. Five international fellowships — one for six months and four for twelve months.

Probable duration of assistance. For several years.

India 114  
(Paediatric Education  
(Aug. 1958 ... )  
UNICEF

Aim of the project. To expand, upgrade and re-orient the teaching of pediatrics in a number of medical colleges.

Assistance provided by WHO during the year. A visiting professor of pediatrics for Trivandrum Medical College.

Probable duration of assistance. Until the end of 1963.

Work done during the year. The Paediatric Department of Trivandrum Medical College has been completely reorganized and has become an independent unit. A chair of pediatrics has been created, which is at present occupied by the WHO visiting professor. On completion of his assignment, he will be replaced by his national counterpart.

Negotiations have been started with the Trivandrum Municipality for the purpose of upgrading some maternal and child health centres.

India 115  
Fellowships  

Tuberculosis: Three twelve-month fellowships for study in Denmark.

Leprosy: A three-month fellowship for study in Nigeria and Thailand.

Epidemiology and Preventive Medicine: A five-and-a-half-month fellowship for study in the United Kingdom and in the United States of America.

Insect Resistance: A six-month fellowship for study in West Germany.

Nursing: A four-month fellowship for study in the United Kingdom.

Paediatrics: A twelve-month fellowship for study in the United Kingdom.

Radiation Medicine: A two-year fellowship for study in the United Kingdom.

India 116  
Fellowships  

Trachoma: A fourteen-month fellowship for study in the United States of America.

Environmental Sanitation: Three twelve-month fellowships for study in the United States of America.
India 117  Assistance to the Malaria Institute of India, Delhi  
(Oct. 1957 - Sept. 1958 - )

Aim of the project. To establish a regular exchange of scientific information between the Malaria Institute of India and other scientific institutions, and to provide for the exchange of scientific personnel.

Assistance provided by WHO during the year. A two-and-a-half-month international fellowship.

Probable duration of assistance. Until the end of 1960.

Work done during the year. Based on the recommendations of a WHO consultant who was assigned to the Malaria Institute in November 1957 to advise on the genetic aspects of insect resistance to insecticides, the Institute has worked further on this subject. Colonies of mosquitoes have been raised; markers have been isolated, and cross-breeding experiments are in progress.

The question of air-conditioning two rooms in the Malaria Institute is being actively pursued with the Government.

India 134  Assistance to the Upgraded Department of Paediatrics,  
Madras Medical College  
(Nov. 1957 - )

Aim of the project. To expand, upgrade and re-orient the teaching of paediatrics at Madras Medical College.

Assistance provided by WHO during the year. A paediatrician and a paediatric nurse.

Probable duration of assistance. Until the end of 1960.

Work done during the year. Four peripheral child health clinics were established and have been used for training undergraduate and post-graduate medical students. Special emphasis is placed on nutrition education and home visiting.

Ward procedures in nursing of the newborn and in the children's department improved considerably.

A short refresher course in paediatric nursing for hospital nurses from various parts of India was held.

A geographical analysis of paediatric hospital admissions by diagnosis was completed. Data were analysed with respect to infant and childhood mortality in Madras for a number of years.

The paediatrician will be withdrawn before the end of 1959 and the nurse will continue till the end of 1960.
India 135  Assistance to the Upgraded Departments of Paediatrics  of Three Medical Colleges, Bombay  

UNICEF  
(May 1959 - )  

Aim of the project. To expand, upgrade and re-orient the teaching of paediatrics at the three medical colleges in Bombay.  

Assistance provided by WHO during the year. A paediatrician.  


Work done during the year. The paediatrician joined the project in May 1959, and it is expected that two paediatrics nurses will be provided before the end of the year. With his national counterparts, the paediatrician has been engaged in the preparatory work for the project.  

India 137  All-India Institute of Hygiene and Public Health, Calcutta  

(Exchange of Professors)  
(May 1959; - )  

Aim of the project. To upgrade the standard of teaching in the Institute.  

Assistance provided by WHO during the year. (a) A consultant in preventive and social medicine for three weeks; (b) One international six-month fellowship. (Another international fellowship was awarded under India 115).  

Probable duration of assistance. Indefinite.  

Work done during the year. To advise on the Government's proposal to include in the syllabus of the Institute a training course for teachers of preventive and social medicine in medical colleges and to improve the method of teaching of epidemiology, a short-term consultant in preventive and social medicine was assigned to the Institute during May 1959. He discussed teaching methods with the staff of the Institute and advised on the pattern of the curriculum and on linkage with undergraduate medical colleges. His report has been submitted to the Government.  

Two international fellowships were also provided to enable members of the staff of the Institute to study teaching techniques in preventive and social medicine and epidemiology.  

Further consultant services and fellowships will be provided by WHO for a few more years.  

India 142  Assistance to the Department of Paediatrics,  

Osmania Medical College, Hyderabad  

UNICEF  
(Feb. 1959 - )  

Aim of the project. To expand, upgrade and re-orient the teaching of paediatrics at Osmania Medical College, Hyderabad.  

Assistance provided by WHO during the year. A consultant (bacteriologist) for three months.  

Probable duration of assistance. Until the end of 1960.
Work done during the year. The consultant assisted in establishing a bacteriological laboratory to serve the Children's Hospital. He also helped to reorganize the biochemical and haematological laboratories. The Children's Hospital will be expanded to provide more extensive and improved facilities for paediatric training and services.

Further consultant service will be provided by WHO in 1959 and 1960.

India 145

Public Health Programme, Bihar

UNICEF

(Colombo Plan)

Aim of the project. To further the development of health services in community development areas, including the training of personnel; to develop other related rural health services, with the object of integrating such services into the total community development programme under the Second Five-Year Plan.

Assistance provided by WHO during the year. A maternal and child health officer, a public health nurse and a midwife tutor. (A nursing arts instructor was provided under the Colombo Plan).

Probable duration of assistance. Until the end of 1961, in the first instance.

Work done during the year. The revision of the State Community Development Programmes in June 1958 delayed the implementation of this project. Difficulties encountered included shortage of trained staff, staff quarters and funds. Progress in the integration of curative and preventive services and in the orientation of health personnel was slow. No primary health centre, referral hospital or laboratory selected for upgrading had qualified for UNICEF assistance by 31 March 1959. Establishment of a rural training area at Rajgir and of a demonstration district at Patna is in the preparatory stage of development only. The WHO maternal and child health officer assisted the Government in the final selection of institutions to be upgraded, and submitted recommendations for implementing the objectives of the subsidiary plan. She also acted as adviser to the Deputy Director (Maternal and Child Health) and assisted in reorganizing maternal and child health programmes and training health personnel for rural health services.

The nursing aspects of the programme made good progress. The Colombo Plan nurse (nursing arts instructor) conducted an all-India refresher course for 26 nursing superintendents and matrons at the Christian Medical College, Vellore. She completed her assignment in February 1959, and the general nursing education activities were assumed by the national staff of the Patna General Hospital.

The direction of the training of dais by student midwives was gradually transferred from the WHO midwife tutor to appropriate counterparts. Assistance was given in training midwives and improving domiciliary practice fields in Patna and Rajgir. Guidelines for health visitors and auxiliary nurse midwives working in community development areas were prepared and submitted to the Government.

Refresher courses were held in the Patna Medical College for 15 sisters and 66 staff nurses.
Aim of the project. To further the development of health services in community development areas, including the training of personnel; to develop other related rural health services, with the object of integrating such services into the total community development programme under the Second Five-Year Plan.

Assistance provided by WHO during the year. A public health nurse.

Probable duration of assistance. Until the end of 1961, in the first instance.

Work done during the year. The public health nurse (replacement) joined the project in January 1959. She paid visits to rural areas and made recommendations for improving field practice and related training programmes. Assistance was given to nursing schools in Bangalore in planning a new training course for auxiliary nurse-midwives and in submitting proposals for integrating public health aspects into one general nurse training course.

Help was given to UNICEF-assisted midwives' refresher courses, the programme being revised to meet the needs of rural midwives.

Efforts were made to stimulate senior nurses to avail themselves of UNICEF fellowships to study for the nurse tutor's diploma.

Aim of the project. To further the development of health services in community development areas, including the training of personnel; to develop other related rural health services, with the object of integrating such services into the total community development programme under the Second Five-Year Plan.

Assistance provided by WHO during the year. (a) A public health officer, a public health nurse-midwife, a public health nurse and a sanitarian; (b) Supplies and equipment.

Probable duration of assistance. Until the end of 1961, in the first instance.

Work done during the year. The WHO medical officer has made a study of the health situation in the State, has assisted the Director of Health Services with a review of the subsidiary plan of operations, and has advised on the implementation of the objectives embodied in the plan.

By the end of March 1959, sixty-one out of one hundred and fifty-two primary health centres had qualified for UNICEF assistance. The upgrading of fifteen referral hospitals and twelve district public health laboratories and the development of the first demonstration district and rural training area are in the planning stage.
The training of health personnel has been expanded by opening four new training centres for auxiliary nurse midwives and introducing systematic refresher training courses for professional dais at primary health centres in block areas. The two WHO nurses and their counterparts planned and directed the first public health orientation course for nurse-midwives held in Gwalior. Twenty nurse-midwives from various hospitals in the State spent four and a half months at the training centre, in preparation for posting to rural health centres. The WHO nurses continued to visit primary health centres and sub-centres to assist in improving the services.

The WHO sanitarian prepared a training syllabus and made a preliminary sanitation survey in the community development block adjacent to Gwalior with a view to preparing a suitable rural field training programme for sanitary inspector students.

India 150
Public Health Programme, Bombay
(Jan. 1958 - )

Aim of the project. To further the development of health services in community development areas, including the training of personnel; to develop other related rural health services, with the object of integrating such services into the total community development programme under the Second Five-Year Plan.

Assistance provided by WHO during the year. A public health officer, a public health nurse and a public health nurse-midwife.

Probable duration of assistance. Until the end of 1961, in the first instance.

Work done during the year. The public health officer and the senior public health nurse visited representative primary health centres, referral hospitals, laboratories and training centres in the State and recommended improvements to enable those institutions to fulfil the basic requirements.

The senior nurse spent some time in Sirur assessing the teaching programme and assisting classroom tutors and field supervisors in planning their work. She also helped to plan a one-month refresher/orientation courses for midwives. These courses started at Palghar and Padra training units in January.

The second nurse made an evaluation of the Sirur public health orientation course for nurse-midwives and submitted a report. In Poona district, she discussed with appropriate government authorities methods of improving conditions and nursing services at the primary health centres.

India 151
Public Health Programme, Andhra Pradesh
(Jan. 1958 - )

Aim of the project. To further the development of health services in community development areas, including the training of personnel; to develop other related rural health services, with the object of integrating such services into the total community development programme under the Second Five-Year Plan.
**Assistance provided by WHO during the year.** A public health officer, a public health nurse, a public health nurse-midwife and a midwife tutor.

**Probable duration of assistance.** Until the end of 1961, in the first instance.

Work done during the year. Since joining the project in March 1959, the WHO public health officer has made a study of the health conditions of the State and has submitted a proposal for the reorganization of the health administration in primary health centres. He also assisted the Director of Health Services with a review of the WHO proposals for the Hyderabad Demonstration District and the Patancheru Rural Training Centre.

Fifty-nine out of 109 primary health centres and three out of nine referral hospitals had qualified for assistance up to the end of March 1959. The upgrading of six district public health laboratories selected for assistance is in the planning stage.

A plan for a block system of nurse training at King George Hospital, Visakhapatnam, suggested by the WHO team, has been accepted by the Government. A weekly child welfare centre to serve as a teaching clinic for student nurses has been inaugurated for the families of hospital staff. Sixty-six third-year junior nurses were given experience in home visiting in the servants' quarters of the King George Hospital.

The second group of fifteen midwife students trained since the inception of the project took their examinations. Twenty new midwife students were admitted for training in December 1958. The senior midwifery students continued to receive domiciliary experience by rotation. A three-week refresher course was given to municipal midwives.

At the request of the State Nursing Superintendent, a study has been initiated in King George Hospital to record the time spent on nursing and non-nursing duties by all grades of nursing staff.

The WHO nurses assisted in planning and conducting a refresher course for nineteen sister tutors on the integration of public health into the basic nurse training (see India 29).

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**Aim of the project.** To further the development of health services in community development areas, including the training of personnel, to develop other related rural health services, with the object of integrating such services into the total community development programme under the Second Five-Year Plan.

**Assistance provided by WHO during the year.** (a) A public health officer, two public health nurses and a sanitary; (b) Supplies and equipment.

**Probable duration of assistance.** Until the end of 1961, in the first instance.
Work done during the year. The public health officer concentrated on the development of the Chabua rural training area and the demonstration district at Sibsagar. A revised plan for the rural training area, setting out immediate as well as long-term objectives, was prepared. Construction work at Chabua made good progress.

At the Chabua rural training area, in-service training of graduate nurse-midwives and a one-month course for newly appointed auxiliary nurse-midwives were organized. Orientation courses for medical officers in charge of primary health centres and for public health nurses were started at Chabua rural training area in May.

At the medical college hospital training school, the public health nurses assisted in the integration of public health into the basic training.

A third course for sanitarians was started in February, with 28 students. With the admission of mainly matriculates to this course, the programme is on a much firmer basis.

### India 153

**Malaria Eradication**

**(MESA)**

**(ICIA)**

**Aim of the project.** To extend the national malaria control programme and convert it into a malaria eradication programme for the whole country.

**Assistance provided by WHO during the year.** (a) Two malariologists, two entomologists and four laboratory technicians; (b) Sponsoring of a technical conference of malariologists belonging to state and inter-state organizations; stipends for trainees in the central, inter-state and state malaria organizations, and part reimbursement of salaries of inter-state supervisory organizations; (c) A five-month international fellowship; (d) Transport, laboratory supplies and equipment and insecticides.

**Probable duration of assistance.** Until the end of 1962.

Work done during the year. This is the first year of malaria eradication in India. Six regional organizations have been formed, and out of 230 units scheduled, 225.5 have been established and 223 million people protected by residual spraying. Training facilities at all levels have been increased both at the centre and in the provinces. In some of the states recruitment of personnel for hypo-endemic areas which will be sprayed in the transmission season of 1959 is already in progress. Equipment and transport have arrived, and the work is proceeding apace.

The two WHO teams are located in Coonoor and Baroda respectively. Detailed programmes of work have been developed in consultation with the Government. Team No. 1 in Coonoor is engaged in carrying out surveys to determine the basic factors of malaria reproduction in some hypo-endemic areas in Madras State. So far the team has found no positive evidence of autochthonous transmission. Team No. 2, stationed in Baroda, is engaged in assessing the progress of malaria eradication in some areas of Bombay State and in studying entomological factors in certain problem areas where the progress of interruption of transmission of malaria is slow.
A conference of the national malaria workers was convened in the Malaria Institute, Delhi, in November 1958, at which the progress made in the malaria eradication programme in 1958 was reviewed and plans for 1959 were discussed.

The committee appointed by the Government of India to review the malaria eradication programme (a committee representing the Ministry of Health, Directorate-General of Health Services, Planning Commission, ICMR and WHO, with the Director of the National Malaria Eradication Programme as secretary) had its first meeting early this year.

Financial assistance was given for the training of various categories of personnel in malaria eradication in Delhi and in the inter-state Regional Centres.

Aims of the project. To examine the major courses of instruction at the All-India Institute and to consider how they should be modified to express modern methods of teaching; to determine what should be done to develop the Institute further as a training centre for public health workers.

Assistance provided by WHO during the year. Three professors of public health for one month.

Work done. A consultant group consisting of three professors of public health, representing different disciplines, visited the Institute in September/October 1958. The group examined the structure and organization of teaching at the Institute and the training facilities available. A report, embodying far-reaching recommendations, was submitted. The following are some of their recommendations:

(a) Admissions to courses should be restricted to students destined to undertake administrative or supervisory duties;

(b) The tendency to expand student-enrolment beyond a manageable level should be discouraged;

(c) With the exception of courses leading to the Diploma in Nutrition and Diploma in Dietetics, all major diploma courses in the syllabus should be continued; specialist training in nutrition and dietetics should be given at the Nutrition Research Institute;

(d) Minor certificate courses should in general be discontinued since they meet no real need, but only add to an already over-heavy teaching load;

(e) Greater reliance should be placed on discussion and seminars rather than on didactic lectures, and more time should be made available for library study;

(f) The physical arrangements for teaching and library facilities should be improved.
It was hoped that the consolidation and rationalization of teaching would enable greater emphasis to be placed on research particularly directed to investigation of health problems in the Region.

As a temporary measure, until departments of preventive and social medicine had been firmly established in medical colleges, it was considered that the Institute should contribute to training teachers of preventive and social medicine, but only after establishing working relationships with the undergraduate medical colleges of Calcutta. The Institute should also develop an epidemiological training centre designed to produce epidemiologists to serve the needs of the country.

The staff of the Institute and the consultant group found the assignment mutually stimulating. The report should furnish useful guidelines for developing the work of the Institute in accordance with modern teaching trends and the needs of the country.

India 169
Cardiac Surgery
(1959)

Aim of the project. To improve the organization and development of thoracic surgery units.

Assistance provided by WHO during the year. A short-term consultant.

Work done. During January 1959 the consultant spent a few days at each of the main thoracic surgery units in India. As a member of a WHO specialist team he had visited most of these units in 1953 and was therefore able to assess the progress achieved since his last visit. The short time at his disposal did not allow a comprehensive study; however, discussions which he had with national staff, as well as lectures and demonstrations, provided a useful stimulus. The impressions formed by the consultant provided a basis for comparison of the present status of thoracic surgery in India with that to be achieved. The standard is variable. In particular, he found that the thoracic surgery units of the K.E.M. Hospital and Seth G.S. Medical College, Bombay, promised to develop to a very high level.

5. INDIA - FORMER FRENCH SETTLEMENTS

Nothing to report.
6. INDONESIA

During the year the Government of Indonesia made further progress with the development of health services, in spite of difficulties, particularly the continuing shortage of medical and other trained personnel. A study was undertaken to determine the best form of re-grouping the various divisions of the Ministry of Health, and a scheme of reorganization was prepared. Further advances were made in building up the public health framework of the country within which decentralization of many of the functions of the Ministry could be achieved.

There has been notable progress in the field of malaria. A technical plan for malaria eradication was formulated and has been approved by the Government. A National Malaria Eradication Board has been established by a presidential decree, and limited field operations have begun.

Like malaria, tuberculosis has long been a serious health problem in Indonesia; there is a growing realization that this disease should also be dealt with on a mass scale. To this end a five-year plan has been prepared by the Director of the Tuberculosis Division and submitted to the Ministry of Health. As a first step, two pilot surveys have been planned; the necessary staff is being recruited and trained. Following a pilot study in two areas in East Java, it has been decided to extend the consolidation scheme of the mass BCG campaign in the country.

The problem of smallpox control received special attention at a national symposium, and a scheme for eradication of the disease is under consideration by the Ministry of Health.

In order to improve the nutritional status of the people of the thickly populated island of Java, the Nutrition Division of the Ministry of Health will shortly undertake a pilot study in the district of Kravang.

Other significant advances in the field of public health were the setting up of a nursing advisory unit in the Ministry of Health, the starting of an epidemiological service, studies on the staffing of hospitals, training of auxiliary medical staff, planning for the next phase of trachoma control in high prevalence areas, and improving the system of collection and reporting of health statistics.
**PROJECT LIST**

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<td>Leprosy Control</td>
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Aim of the project. Second phase: To plan and carry out a long-term programme of leprosy control.

Assistance provided by WHO during the year. A leprologist.

Probable duration of assistance. Until 1963.

Work done during the year. UNICEF and WHO have continued assistance to the project. Leprosy control work is being carried out in four pilot areas: Blora, Bekasi, Kampung Melaju and Menganti. Up to the end of 1958, 742 patients and 125 suspects were detected out of a total number of 270,901 persons examined. The case-finding programme by "djarupateks" (yaws control workers) carried out in 32 villages showed good results, and continuation of this more economical method of case-finding is considered to be advisable. In Djakarta and Surabaya clinical and field training of medical students on leprosy control was continued.

It has been agreed in principle, and under certain conditions, that UNICEF will supply drugs and equipment for the treatment of all leprosy patients attending treatment centres throughout the country.

Experience gained so far has shown that the prevalence rate of leprosy is comparatively low and that to continue case-finding by screening the entire population is not justified because of excessive cost; new methods are therefore under consideration.

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Aim of the project. To prepare a co-ordinated plan for environmental sanitation, particularly in rural areas; to devise and construct simple, practical and cheap sanitary facilities; to organize a programme of health education on the nature and causes of diseases resulting from faulty environment; to train sanitation personnel.

Assistance provided by WHO during the year. (a) A sanitary engineer, a sanitarian and a port health sanitarian; (b) Supplies and equipment.

Probable duration of assistance. Until the end of 1959.

Work done during the year. Progress in the project area was limited owing to uncertainty over the possibility of shifting the project to the Bekasi area. This shift, which had been under consideration for over a year, did not take place.
After the transfer of the drilling rig to Bekasi, exploratory well-drilling operations were carried out. Preliminary findings indicated that the water bearing formation suitable for development as source of water supply was comparatively deep.

The training of "kontrolir kesehatan" (sanitary inspectors) and "pendidikan tenagas" (rural sanitarians) was continued with the help of the Department of Sanitary Engineering and WHO personnel. The one-year course for port sanitarians was completed. Successful candidates were assigned to ports for in-service training.

There was more enthusiasm for the latrine construction programme, and work on promotion of the use of latrines was continued in Pasar Minggu. Two water-seal type latrines were installed and four latrine pits dug preparatory to placement of slab and bowl. Sanitary pump connections were provided to all the wells drilled or constructed.

Data were collected on the status of water supplies in Indonesia. Tabulation of the results of the sanitation survey in Pasar Minggu was completed.

A plan for environmental sanitation work at provincial level was drawn up.

Literature regarding fly control, excreta disposal and water supplies was prepared for use in mass education and rural community development programmes.

Indonesia 25

Vital and Health Statistics
TA
(Aug. 1955 - )

Aim of the project. To expand the statistical organization in the Ministry of Health and train key members of the statistical staff; to develop a long-range statistical programme with a sound system of reporting for notifiable diseases, hospital services, and general vital and health statistics; to develop an up-to-date service of vital and health statistics for planning and evaluation of health programmes.

Assistance provided by WHO during the year. (a) A health statistician; (b) Supplies and equipment.

Probable duration of assistance. Until the end of 1960.

Work done during the year. Work was continued on the improvement of vital registration and the extension of the system to new areas. Vital statistics returns for the Indonesian population appeared for the first time in the 1957 Demographic Year Book; they covered certain regencies in Java only, the number varying from 56 in 1952 to 93 in 1956. Tabulation of the 1956 cause-of-death certificates was in progress. The medical certificate which has now been in use for three years was revised, and a start was made in compiling data for the 1957 public health statistics report. Processing of a random sample of morbidity data from polyclinics was in progress.
Training activities during the year included a course covering 88 hours for sanitary inspectors in the Akademi Kontrolir Kesehatan; two weekly lectures on elementary public health statistics in the School for Sanitarians; two short courses in public health statistics for nurses and nurse-aides in the Central Hospital, Djakarta; a three months' course for statistical assistants; a short statistical course for port sanitarians; and a vital statistics seminar, held in Magelang from 11 to 17 May 1958 with 43 statistical clerks from Central Java participating.

The statistician accompanied two tuberculosis specialists on a visit to observe the tuberculosis survey being conducted by an Australian team in Singapore, and subsequently assisted the Tuberculosis Control Section in preparing plans for practicable epidemiological surveys in different areas.

Statistical advice and assistance were given to the Institute of Nutrition, the Malaria Institute, the WHO-assisted environmental sanitation and trachoma projects, and to other institutes.

Indonesia 27 Strengthening of Health Services (Health Education)
(Feb. 1957 – )

Aim of the project. To develop and expand the health education programme and training in health education for all categories of health workers; to develop and increase the use of health education materials, including audiovisual aids.

Assistance provided by WHO during the year. (a) A health educator; (b) Supplies and equipment.

Probable duration of assistance. Until 1963.

Work done during the year. The two WHO fellows who returned to the country in September 1958 after a year of study abroad are now serving as counterparts to the WHO health educator. Throughout the year, in-service training of the staff of the Sub-Division of Health Education was continued. Regular teaching sessions were also continued at the Akademi Kontrolir Kesehatan. In addition, meetings were arranged at the Nutrition Institute, the Malaria Institute, the Port Sanitarians' School, the Ministry of Agriculture's School for Home Economic Extension Workers, and the mass education project's School for Women. Field training activities were planned for the students of the Akademi Kontrolir Kesehatan.

A number of trainees who attended the national training course in health education held in Djakarta in 1958 were visited by a team of two health educators from the Health Education Sub-Division, who assisted them in their educational work. Planning has been started for the national training course to be given in 1959 for teachers of health education in the schools run by the Ministry of Health.

A meeting was held with the physicians of the Djakarta municipal health services, which resulted in the setting up a committee to organize further educational activities.
A study of health education in schools is now under way by a committee of leaders representing the Ministry of Health and the Ministry of Education.

The WHO health educator completed her two-year assignment in June 1959. A successor is being recruited.

Indonesia 29

Strengthening of Health Services (Epidemiology)

TA (Dec. 1958 - )

Aim of the project. To establish an epidemiological unit in the Ministry of Health for the purpose of defining the prevailing disease pattern and of planning appropriate control measures; to advise all branches of the medical sciences on the use of the epidemiological method.

Assistance provided by WHO during the year. An epidemiologist.

Probable duration of assistance. Until the end of 1963.

Work done during the year. The epidemiologist assumed duty in December 1958. Since then his main activities were directed towards developing contacts with workers in the administrative, preventive, diagnostic and curative fields, and in explaining the objectives and functions of the epidemiological unit and the administrative structure within which it could best develop.

Under the existing administrative arrangements, the unit is a part of the combined Department of Quarantine and Epidemiology of the Ministry of Health. In order to widen the unit's sphere of influence, the Ministry of Health is proposing to set it up as an independent unit at Ministry level, in close administrative contact with the Communicable Disease Services and the Statistical Division.

The existing communicable disease reporting system, and the introduction of standard criteria of diagnosis for reportable diseases are being studied. Also, special studies on three aspects of smallpox control have been started: (i) the preparation of a plan for smallpox control on a national basis; (ii) existing methods of producing dried vaccine and future requirements of freeze-dried (Lister type) vaccine for use in outlying areas; and (iii) a research project in conjunction with the Djakarta Municipality, Eijkman Institute and Pasteur Institute, for the epidemiological, virological and diagnostic review of all cases of smallpox occurring in Djakarta.

An outbreak of poliomyelitis that took place in an outer island was investigated.
Indonesia 31  Trachoma Control
TA (Nov. - Dec. 1954; Nov. 1955 - June 1956; April 1957 - Sept. 1958)
UNICEF

Aim of the project. To study in a rural population the incidence and pattern of trachoma and the underlying factors favouring transmission of infection; to ascertain the minimum effective course of antibiotic treatment of the Indonesian type of trachoma and the rate of relapse or reinfection during the follow-up period; to set up a mass control programme based on the experience gained in the pilot project.

Assistance provided by WHO during the year. (a) A trachomatologist; (b) Tabulation cards.

Work done. The second phase of the project was completed in September 1958, when the trachomatologist left Indonesia.

Field operations included: (1) two types of surveys in Semarang area - a general systematic survey and repeated monthly surveys - planned to provide information on the incidence and pattern of trachoma in a rural population and the underlying factors favouring transmission of infection, and (2) school treatment organized in six different regions of the country for the study of the minimum effective course of antibiotic treatment and the rate of relapse of reinfection during the follow-up period.

The following observations were made by the trachomatologist in his assessment of the problem:

(1) Epidemiologically, the high proportion of mild trachoma and the importance of conjunctivitis, with its seasonal cycle, are emphasized. The reservoir of infection of both trachoma and conjunctivitis is among preschool and school-children, whilst the household is the "epidemiological cell" for both these conditions.

(2) The value of a-chromycin oily suspension for both trachoma and conjunctivitis has been confirmed, whereas the interrupted treatment scheme of ten to twelve applications per day at certain intervals is the most practical and economical one for the country. Administration of the treatment by teachers has not proved satisfactory.

(3) At this stage of development, because of the limited health personnel and budget of the country, future control activity should be concentrated on and limited to schools, in spite of the epidemiological importance of the household. Moreover, the interrupted treatment schedule of conjunctivitis would be effective in the indirect control of trachoma. Screening should be done by mantris, supervision by helpers, and treatment by school-children.

The objectives of the project were achieved in respect of epidemiological information and methods of treatment to be applied in Indonesia, and the Government is now preparing a plan of action for a conjunctivitis treatment campaign in selected areas, especially where school services are best organized.
Indonesia 32  Malaria Eradication
TA (May 1955 - )
MESA (ICA)

Aim of the project. To improve and intensify the national malaria programme; to extend the facilities of the Malaria Institute, Djakarta.

Assistance provided by WHO during the year. (a) Ten malarialogists, an entomologist, nine assistant malarialogists, a sanitarian and an administrative officer; (b) A six-month international fellowship; (c) Supplies and equipment.

Probable duration of assistance. Until 1959.

Work done during the year. The malaria control activities in West, East and Mid-Java continued to make good progress. The Government has accepted the new goal of malaria eradication for the entire country, and eight zones, with approximately 1.4 million inhabitants in each, have been selected - seven in Java and one in Sumatra. The plan of operations for malaria eradication, signed by the Government separately with WHO and ICA, covers a period of eleven years, starting with eight zones in 1959. The programme is ultimately intended to protect 75 million people.

Training of personnel has been carried out, and a short-term consultant in training was assigned to Indonesia to advise the Government on its training programme.

In Kalimantan, in addition to routine malariorientic surveys, observations on the biometrics of A.umbrosus in Pontianak and A.venhuisi in Bandjamasin were carried out, with particular reference to their resting and feeding habits. The results of precipitin tests of blood meals from A.venhuisi showed that this mosquito was strongly anthropophilic.

Most of the international personnel have been recruited and assigned to the project; the rest are under recruitment.

Close collaboration is being maintained with ICA.

A plan for carrying out special studies with the collaboration of international study teams has been developed in consultation with national and ICA malarialogists.

Indonesia 34  Assistance to Medan Medical School
R (Sept. 1956 - )

Aim of the project. To upgrade the Departments of Anatomy, Physiology and Pharmacology at the Medan Medical School and to develop curricula in these subjects; to improve the pre-clinical training programme; to train national counterparts.
Assistance provided by WHO during the year. (a) A professor of anatomy and a professor of physiology; (b) Supplies and equipment.

Probable duration of assistance. Indefinite.

Work done during the year. The visiting professor of anatomy continued his courses with the assistance of a demonstrator in histology. The Department is now housed in the extensive new building. The counterpart problem still exists, and lack of trained staff will be a handicap until graduates from this new medical school can be recruited.

At the beginning of 1959 the new visiting professor of physiology (replacment) started his assignment. Some reorganization of the large class was attempted with the help of student assistants, in the absence of a counterpart. The Department is now housed in the new pre-clinical building. A few textbooks have been supplied by WHO and ICA, but general shortage of textbooks still remains a problem.

Indonesia 36

**Strengthening of Maternal and Child Health Services**

Oct. 1956 -

**Aim of the project.** To evaluate the maternal and child health services and training facilities in the country and to plan their extension.

**Assistance provided by WHO during the year.** A twelve-month international fellowship.

**Probable duration of assistance.** Until 1963.

Indonesia 40

**Vaccine and Sera Production**

April 1959

**Aim of the project.** To advise the Government on methods of production of anti-sera.

**Assistance provided by WHO during the year.** (a) A consultant for three weeks; (b) A three-month international fellowship.

**Work done.** A short-term consultant was assigned in April 1959 to advise the Pasteur Institute, Bandung, on production, purification and concentration techniques in respect of anti-sera. His recommendations are under consideration. A fellowship programme recommended for special training of national personnel at the Institute is being implemented.

Indonesia 41

**Nursing Adviser**

Oct. 1957 -

**Aim of the project.** To strengthen, expand and co-ordinate programmes for training all categories of nursing and midwifery staff, and to establish a Division of Nursing.
Assistance provided by WHO during the year. (a) A nursing adviser; (b) A twelve-month international fellowship; (c) Supplies and equipment.

Probable duration of assistance. Until the end of 1962.

Work done during the year. The nursing adviser attended meetings of a committee which was set up to study the curriculum needs and revisions for the two-year courses at the Post-Basic School, Bandung. The committee has recommended that the students of the nurse-teachers' course, the midwife-teachers' course and the public health nursing course should follow the same basic course during the first year and specialize in their respective fields in the second year. The curriculum drawn up by the committee allows for substantial education in public health, nursing arts and general education. In the absence of a sufficient number of qualified nurses for the course in public health nursing, plans are under way to organize a two-year qualifying or upgrading course for "old-type" nurses. This course will include public health nursing subjects.

Nineteen public health nurse students and twelve midwife teachers have graduated from the Post-Graduate School of Nursing.

The nursing adviser and her counterpart were transferred temporarily to Djakarta in February 1959 to assist the Planning Board in the Ministry of Health, pending the establishment of a Nursing Unit.

A study of nursing education and nursing services in various parts of Indonesia was made and a report submitted to the Government. The nursing adviser and her counterpart also served on a committee set up to study and define public health nursing in Indonesia and to prepare job descriptions for the various categories of nursing personnel working in the public health field.

Indonesia 42 National Training Course in Health Education (First course: 17 Nov. - 13 Dec. 1958)

Aim of the project. To stimulate the use of educational techniques by provincial health personnel and to find more effective ways of working with the people.

Assistance provided by WHO during the year. (a) Half the cost of board, lodging and travel of twenty participants from outside Djakarta; (b) Supplies and equipment.

Probable duration of assistance. To be repeated annually until 1961.

Work done during the year. A national training course in health education was held in Djakarta from 17 November to 13 December 1958. Twenty-four health personnel from different provinces attended the course. Twelve of them were "kontrolir keseratans" (sanitary inspectors) working at the provincial level. In this first annual course, attention was given to the development of health education by personnel working in the provinces, and emphasis was placed on the application of educational methods to the
work of health personnel. Each participant, upon his return to his home station, was asked to draw up a plan for developing health education. Materials such as flannelgraphs and silkscreen posters were demonstrated, and every student was given an opportunity to assemble a kit of these materials to be taken home. A special feature of the course was a field visit to the Bekasi training unit.

Indonesia 45 Assistance to Faculty of Medicine, Surabaya (Pharmacology) (Sept. 1957 - )

Aim of the project. To upgrade the Department of Pharmacology at the University of Surabaya and to improve teaching and training facilities.

Assistance provided by WHO during the year. (a) A professor of pharmacology; (b) Supplies and equipment.

Probable duration of assistance. Until the end of 1959.

Work done during the year. The professor of pharmacology continued his teaching programme. His counterpart went abroad on fellowship studies in 1958 and is expected back in September 1959. The study of pharmacology extends through two years, and there are now four teacher-assistants in the Department. A lecture course was given to students of the Dental Faculty.

Research on serum protein patterns, an analysis of indigenous drugs and a study of typhoid fever problems are being carried out in co-operation with the Departments of Physiology, Pharmacy, and Internal Medicine. Certain essential supplies have been furnished by WHO.

The Faculty of Medicine at Surabaya is entering into an affiliation with the University of California, which was formerly associated for a period of five years with the Faculty of Medicine at Djakarta.

Indonesia 46 Fellowships

Tuberculosis: A one-month fellowship for study in India.

Nursing: A twelve-month fellowship for study in Australia, Singapore and Malaya.

Dental Health: A twelve-month fellowship for study in the United States of America.

Indonesia 49 Fellowships

Pharmacology: An eight-month fellowship for study in the United States of America.

7. MALDIVE ISLANDS

Maldive Islands 3 Fellowships

Nursing: A four-year fellowship for study in India.
The most important health development in Nepal during the year has been the initiation of the malaria eradication programme. There has also been an increasing awareness of the need for the development of health programmes. Certain autonomous bodies have been set up under the Nepal Development Act and have been delegated wide powers by the Government for the management, development and expansion of certain institutions like the Bir Group of Hospitals, other curative services and the maternity and child welfare centre at Kathmandu.

Important basic measures for organizing the health services, streamlining the administration and relations between the Directorate of Health Services and the Ministry of Health and forming a health cadre have been proposed and are under study.

Seventeen new health centres have been opened in rural areas. The building of a 50-bed hospital at Birganj is nearing completion. A maternity and child welfare home has also been constructed, and certain additions and alterations have been sanctioned by the Government to convert it into a regular maternity and child welfare centre. Sufficient posts to absorb all the health assistants who graduated in 1958 have been created, and an additional seventeen posts have been sanctioned for the employment of those who will graduate this year. The training of nurses is progressing satisfactorily.

Cholera broke out in an epidemic form in Kathmandu valley in July 1958. It was brought under control with the assistance of WHO, ICA, the Indian Aid Mission and the Indian Red Cross Society. At the request of the Government, a WHO epidemiological team was sent to Nepal to make a study of the situation and suggest preventive measures.
Nepal 1

**Aim of the project.** To achieve eradication of malaria throughout the country in progressive stages.

**Assistance provided by WHO during the year.**
(a) Three malarialogists, three entomologists, two sanitarians and two auxiliary workers;
(b) Supplies and equipment;
(c) A twelve-month international fellowship and a six-week regional fellowship;
(d) Transport vehicles, supplies and equipment.

**Probable duration of assistance.** Until 1966.

**Work done during the year.** In the malaria control programme in the Rapti Valley DDT spraying was changed from 1 gm/m² twice a year to 2 gm/m² once a year.

The control programme has now been converted into one of eradication. For this purpose the country has been divided into three zones. To begin with, the work on malaria eradication was started in the central zone, which has been further sub-divided into three sectors - northern, middle and southern - with headquarters at Kathmandu, Amlekganj and Birganj, where three WHO teams have started operations.

Equipment transport and supplies, including insecticides (DDT) for spraying the Indo-Nepal border areas, are under procurement.

The project is being assisted by the ICA, with which close collaboration is being maintained.

The training of personnel has continued.

*A.fluvialis* has been incriminated as an additional vector in one area in Nepal, and *A.minimus* remained absent.

The Government has appointed an autonomous National Malaria Eradication Board and under it a National Malaria Eradication Organization.

Nepal 2

**Aim of the project.** To train nurses for institutional, domiciliary and public health work.

**Assistance provided by WHO during the year.**
(a) Three nurse tutors;
(b) Supplies and equipment.

*Previous title: Malaria Control, Rapti Valley
Probable duration of assistance. Until the end of 1962.

Work done during the year. The training programme was interrupted for several weeks during August and September 1950 on account of the cholera epidemic, when the students were asked to assist in immunization work. To relieve the hospital staff for duties in the Cholera Hospital, two additional wards of 30 beds were temporarily staffed by the students. Six students who were assigned to anti-cholera work acquired experience in the immunization programme, home-visiting and follow-up of hospitalized cases in the city as well as in the villages.

The lecture programmes for all the students were resumed in October. The junior examination for first-year students was held in February 1959; nine out of eleven students were successful. Eighteen new students were admitted for the fourth PPS course in April.

A central linen supply scheme was established; this seems to be having some effect in controlling losses. To assist with the clinical teaching programme, a small reference library for the staff of the School is being established in the hospital.

In the absence of facilities for midwifery training in Nepal, arrangements were made with the Government of India to provide this training in Delhi for the third-year students who had completed their three years of training in general nursing. They started this twelve-month course at the Irwin Hospital, New Delhi, in April 1959.

Nepal 3  

Training of Health Assistants, Kathmandu  
(June 1955 - )

Aim of the project. To establish a school for health assistants in Kathmandu for theoretical and practical training; to plan a programme of rural health services which will make the best use of the health assistants.

Assistance provided by WHO during the year. (a) A medical officer (public health specialist) and a sanitarian; (b) A regional five-year fellowship in basic medicine and fourteen regional one-month fellowships in rural health; (c) Supplies and equipment.

Probable duration of assistance. Until the end of 1964.

Work done during the year. Regular training of both the first and second-year classes was interrupted until November 1950, as the students and staff were detailed to cholera epidemic control work. The second semester examination therefore had to be cancelled. Some supplementary lectures were arranged for the second-year group so that they might complete the course in each subject before the final examinations. The final Health Assistants' Certificate examination of the second-year class and the promotion examination of the first-year class were held in January. Twelve health assistants who qualified in the 1959 examination and one previously qualified were sent to the Orientation and Training Centre at Najafgarh, India, on WHO fellowships, for a month's field training.
Film shows and lectures were provided once in every fortnight. The WHO sanitarian arranged weekly demonstrations and field visits for the first and second-year classes, to show them methods of disinfecting water, chlorinating wells, etc.

A proposal was made for the establishment of a public health practice field at Bhaktapur. A public health museum is being started, and estimates for the setting up of a demonstration centre in the school were prepared.

At the time of recruiting a fresh group of trainees for the school, wide publicity was given by the Directorate of Health Services, and the intake of new students to the school increased from twenty to thirty. This is viewed with some concern since it is felt that the training facilities available are inadequate for such a large number.

The national counterpart to the WHO public health officer has left to take up a two-year fellowship under the Colombo Plan.

Nepal

Assistance to Central Health Directorate
(Aug. 1937 ~ )

Aim of the project. To organize the work of the Central Health Directorate and to develop short-term and long-term health plans to meet the country's basic health and medical problems.

Assistance provided by WHO during the year. (a) A public health adviser and an administrative assistant; (b) Supplies and equipment.

Probable duration of assistance. Indefinite.

Work done during the year. The public health adviser submitted certain long-term and short-term proposals regarding the cholera epidemic which broke out in the Nepal Valley towards the end of 1958. These proposals included suggestions for combating the epidemic and for machinery for organizing future prophylactic and control measures. He also made suggestions to the Health Ministry for a reorganization in the office of the Health Ministry and the Directorate of Health Services. These have been accepted and are likely to be implemented soon.

At the request of the Bir Hospital Development Board, he submitted a tentative list of the equipment necessary for the Panch Shri Lakshmi Maternity and Child Welfare Centre at Kathmandu. Owing to the urgent necessity of developing a public health practice field, consideration is being given to starting a semi-urban public health practice, creating posts of demonstrators in the Health Assistants' Training School, and concentrating on better training facilities for multi-purpose health auxiliaries.

Although there has been little abatement of the administrative and financial problems which have hindered the rapid progress of health projects, on the whole there is an increasing awareness of the necessity for effecting improvements in the health status of the people.
Nepal 5

Fellowships

Basic Medicine: A twelve-month fellowship for study in India.

Nursing: Fourteen twelve-month fellowships for study in India.

Nepal 7

Cholera Control

(Aug. 1958)

Aim of the project. To make an epidemiological investigation of the cholera outbreak in Nepal.

Assistance provided by WHO during the year. (a) A consultant for two weeks, assisted by the Regional Advisers on Communicable Diseases and Environmental Sanitation; (b) Supplies and equipment.

Work done. At the request of the Government of Nepal, an epidemiological team consisting of a specialist consultant and the Regional Advisers on Communicable Diseases and Environmental Sanitation visited Nepal from 17 to 28 August 1958 in order to investigate and report on the cholera situation in the Kathmandu Valley, which had been notified officially on 23 July 1958. Bacteriological confirmation of the outbreak was established, and practically all the isolated cultures of Vibrio cholerae were agglutinated by Ogawa serum. The municipalities of Kathmandu and Patan were most affected. A total of 1,356 cases had been admitted to the Infectious Diseases Hospital from 23 July to 21 September 1958, and of these 213 patients had died. The epidemic was of a smouldering rather than of an explosive nature, indirect contact (e.g. transmission of the infection through contaminated well water, contaminated food, flies and fingers) playing a preponderant role in the spread of the infection. Recommendations for cholera prevention were made by the team.

The graduates and students of the WHO-aided Health Assistants' Training School played an important part in mass vaccinations and in undertaking other preventive measures.

A total of 2,706 cases and 364 deaths were reported during 1958. No cases have been officially reported, however, since 1 December 1958.

9. PORTUGUESE INDIA

Portuguese India 5

Fellowships

Tuberculosis: A twelve-month fellowship for study in Denmark, United Kingdom and West Africa.

Portuguese India 6

Fellowships

Anaesthesiology: A twelve-month fellowship for study in Denmark.
In Thailand the year 1958/59 has been notably one of contrasts in health matters. On the credit side, among many things have been the further progress toward malaria eradication, the acceptance in principle of a third school for the training of midwives, the drawing up of a plan for development of rural health services, close co-operation between the University of Medical Sciences and the Medical Services Departments in the teaching of paediatrics, plans for further expansion of two medical schools, abolition of official opium smoking, with rehabilitation of addicts, and the introduction of the medical application of atomic energy.

On the debit side has been a large-scale outbreak of cholera during which 11,582 cases developed, with 1,727 deaths, in 1958 and 6,771 cases, with 577 deaths, so far in 1959. A fortunate feature of this outbreak was the relatively low mortality rate - under 15% in 1958 and under 10% in 1959 - an unusual occurrence. WHO was among the many agencies which rendered assistance during the outbreak.

Among developments in less spectacular directions may be mentioned the resuscitation, and regular meeting, of a committee comprising representatives both of the Government and of all international and bilateral agencies assisting the Government in health matters. Since the object of this committee is to co-ordinate technical assistance and exchange information respecting its nature, the country's health services should benefit substantially.

The initiation during the year of a third medical school at Chiangmai and the provision at each of the two medical schools at Bangkok of cobalt 60 bombs represent significant advances in respect of the country's medical education facilities.
Aim of the project. To carry out systematic control of yaws throughout the country; to reduce the reservoir of infection to a level at which the disease can be controlled by rural health authorities; to train local personnel; to incorporate yaws control in the permanent public health services.

Assistance provided by WHO during the year. (a) A yaws specialist; (b) Transport vehicle.

Probable duration of assistance. Until the end of 1963.

Work done during the year. From May 1950 to the end of March 1959, the country-wide coverage of the campaign had reached 44 provinces; a total of 16,416,153 people had been examined at initial treatment surveys, resurveys and in the clinics, and 1,307,738 patients treated.

During the year, the work progressed satisfactorily. Important achievements were: (a) the re-establishment of 31 field teams and their re-deployment in areas of priority, resulting in greater concentration of efforts, with more supervision; (b) gradual conversion of the team members into multi-purpose workers; (c) implementation in five selected provinces of integration of yaws control activities into existing rural health centres; (d) re-centralization of the administration of the treponematosis control programme; (e) completion of the training course of 48 health workers at the Rajburi School; (f) final arrangements for the proposed co-operation and exchange of training facilities between the yaws and the leprosy control projects; and (g) simplification of the recording system.

In February 1959, the Director and a medical officer of the yaws control programme were granted WHO fellowships for two weeks to enable them to visit the Indonesia programme. In April 1959, they attended the inter-country yaws control co-ordination meeting held in Kuala Lumpur.

The WHO specialist left the project in December 1958, and a successor was recruited in the same month. Provision has been made for additional WHO personnel (a second medical officer, a laboratory technician and a statistician).

Aim of the project. To improve and develop mental health services and train all categories of workers in the field of mental health.
Assistance provided by WHO during the year. A consultant for three months.

Work done. WHO assisted in the formation of a Mental Hygiene Centre in Bangkok by providing a clinical psychologist from 1955 to 1957. Further to assist in the development of mental health services a short-term consultant was assigned for three months (from November 1958 to February 1959). The consultant based his recommendations upon a study of the pattern of mental health services and an examination of mental health problems.

Mental health services in Thailand have reached a standard which compares well with that attained by any other country in the Region. Although the five mental hospitals in the country still suffer from the common problem of overcrowding, this has been lessened by a laudable development of psychiatric out-patient units and selection of cases for admission. Advances in treatment have improved the turnover rate of in-patients.

The component of psychological medicine in undergraduate medical teaching is high. An active programme of training of specialist psychiatrists is being pursued through international fellowships. Training of post-graduate psychiatric nurses has not been established, but considerable psychiatric experience is included in the basic nursing training curriculum. A limited number of assistant mental nurses have been trained, but there is need for expansion in this sphere. Social obstacles have limited the field of usefulness of social workers in mental health.

The consultant's visit focussed attention on the increasing emergence of mental health problems associated with the changing patterns and heightened stresses of modern life. Drug addiction and alcoholism are relatively widespread problems demanding a social solution. The consultant's visit has helped to emphasize the value of interaction between mental health services and general social and welfare services.

Thailand 21 Nursing Education

Aim of the project. To co-ordinate, expand and upgrade the undergraduate and post-graduate nursing education programmes to meet the needs of the country, and to improve nursing services, particularly in those institutions which are used for teaching.

Assistance provided by WHO during the year. (a) Two nurse educators; (b) Two international fellowships - one for twelve months and one for twenty-four months; (c) Supplies and equipment.

Probable duration of assistance. Until the end of 1962.

Work done during the year. At the nursing school attached to the Women's Hospital, a master rotation plan for theoretical and clinical experience was prepared. This was a real achievement, as it lays a sound foundation
for the education of students in the expanded basic programme. A block system of nursing education, attempted for the first time in Thailand, promised to provide more reasonable, sound and controlled education.

Work on the revision of course outlines within the new curriculum continued to progress slowly but steadily. Preliminary plans were made for the extension of clinical field experience in both public health and curative nursing to the provincial communities and hospitals. Considerable assistance in administration, reorganization and supervision was given to the Paediatric Department. A nursery for new-born babies and one for "hospital" babies have been set up, and nursing care has been organized.

Seventy-five students started their training in May 1959.

A visit was made to the Nursing School at Korat to advise on the revision of nursing administration and basic curriculum. The Children's Hospital, which is being utilized for the training of medical interns, was assisted in the establishment of nursing routines and ward procedures, and a number of changes were introduced in the nursing aspects of hospital administration. Plans were laid for setting up isolation wards for the treatment of communicable-disease patients and for establishing central supply services.

The nurse educator working with this project completed her assignment in April, 1959 and has been replaced. A further nurse educator joined the project in July.

Thailand (ICA) Rural Health Programme (Nursing Supervision) (May 1954 - Dec. 1958)

Aim of the project. To develop the nursing and midwifery aspects of rural health services; to provide adequate guidance and supervision of nursing and midwifery services.

Assistance provided by WHO during the year. A public health nurse-midwife.

Work done. WHO's assistance to this programme began in 1954, when the services of a public health nurse-midwife were provided. UNICEF furnished supplies and equipment for rural centres. In addition, certain items of equipment were supplied by ICA, and the WHO nurse worked in close collaboration with the ICA medical officer.

Before the WHO nurse started work, the Government, with WHO assistance, had (1) initiated a two-year course in public health nursing; (2) arranged a short-term refresher course to prepare provincial nurses for supervisory posts; (3) revised and lengthened the midwives' training course, and (4) started regular refresher courses for midwives.
During the course of the project, visits were paid to twenty-five provinces, most of which had national nursing supervisors, to whom guidance was given on methods of supervision. One centre was chosen for demonstration of a simple plan of work including a weekly ante-natal session and a child-care and immunization session. These visits resulted in a better appreciation of the importance of supervision and improved team work.

Assistance was also given with the revision of the refresher courses for midwives; preparation for a country-wide scheme for the training and supervision of mothamyaes (indigenous midwives); revision and preparation of reports and records, and drawing up, with the Working Committee on Public Health Nursing, job descriptions for all categories of nursing and midwifery personnel.

An organizational plan for the new Division of Public Health Nursing in the Department of Health was prepared, and proposals for functions and staff requirements of the Division were drafted.

The WHO nurse completed her assignment in December 1958. The activities of the project are being continued by the Public Health Nursing Division.

It is felt that in this programme it was possible to demonstrate the value of supervision and the need for experienced and well prepared public health nurse supervisors.

Thailand 30
UNICEF

Aim of the project. To organize a pilot project in Khon Kaen Province in order to demonstrate modern methods of leprosy control, with emphasis on case-finding, domiciliary treatment and surveillance of contacts; to train personnel; to extend the control programme to other parts of the country.

Assistance provided by WHO during the year. (a) Two leprologists; (b) A four-and-a-half-month regional fellowship; (c) Laboratory equipment.

Probable duration of assistance. Until the end of 1961.

Work done during the year. The leprosy control work was extended to three more provinces (Mahasarakam, Kalasin and Roi Et). During the year, 25 mobile treatment and 31 static centres were established; two leprosy colonies, one at Mahasarakam and another at Roi Et, were taken over by the project, and a large leprosy clinic was established in each of these centres for indoor and out-door patients. In the new expansion area 9,354 (about .9%) cases were detected, all of which are under treatment.
In the Khon Kaen pilot area, control work reached the stage of integration with general health services. Out of the population of 600,000, the number of leprosy cases registered were 8,809 (nearly 1.5%). Success was achieved in establishing leprosy treatment centres in twelve out of fourteen rural health centres in the area.

A second leprologist joined the project in February 1959. He is assigned to the Phra Pra Daeng Leprosy School to undertake training programmes for all types of health workers.

**Thailand 32 Vajira School of Nursing, Bangkok**

(Aug. 1957 - June 1959)

**Aim of the project.** To upgrade the education programme of the School of Nursing and the nursing services at the Vajira Hospital, with particular reference to midwifery.

**Assistance provided by WHO during the year.** (a) A nurse educator; (b) Supplies and equipment.

**Work done.** During the operation of the project, nursing procedures in the labour rooms, lying-in rooms and nurseries were discussed; duties of graduate nurses were defined, and some improved nursing techniques tried out. Improved techniques were also introduced in the wards of the Vajira Hospital. Follow-up post-natal visits to mothers and babies discharged from the Hospital on the third day were started. Nursing procedures in maternity wards and in premature nursing were revised.

Cholburi Hospital and Health Centre were visited in order to investigate the possibility of using them for training students. The Post-Graduate School of Nursing was assisted in arranging for specialized courses for post-graduate students, and a short course on midwifery for prospective midwifery teachers was given. Assistance was given to the Women's Hospital in planning domiciliary training for fourth-year students and in preparing outlines for the midwifery course. Lectures were given to student nurses undergoing midwifery training.

During the cholera epidemic student nurses and midwives were assigned to the Outpatient Department of the Vajira Hospital in connection with the mass inoculation campaign and the treatment of cholera patients in the new ward as well as in the Infectious Disease Hospital.

The activities of the project are being continued by the national staff after the withdrawal of the WHO nurse in June 1959.

**Thailand 36 Nutrition**


**Aim of the project.** To survey the nutritional situation; to investigate the problems of endemic goitre and beriberi.
Assistance provided by WHO during the year. A medical nutritionist.

Work done. During the period of WHO's assistance to this project, attention was concentrated upon three major objectives:

(i) assessment of the incidence of endemic goitre;
(ii) examination of the incidence of beriberi and consideration of control measures, and
(iii) evaluation of the general nutritional status.

The prevalence of goitre was investigated by examining a limited number of samples of school-children from four northern provinces. In the samples the incidence of all stages of goitre varied from 19 to over 54 per cent; these findings no doubt justify the initiation of control measures, but the administrative and social obstacles to the control of distribution of salt render a goitre control scheme, through the use of iodized salt, impracticable at present.

Imperfections in the collection of statistical data and difficulties in carrying out surveys prevented a reliable estimate of the incidence of beriberi. Indications were that the overall incidence was about 1 to 2 per cent annually. The incidence in adults appeared relatively higher than in infants, possibly because of the widespread use of high thiamin-content bananas in infant feeding. It was considered that feasible measures to improve the beriberi situation included adequate reporting of cases and health education directed to food restrictions and bad cooking practices. The use of foods of animal origin is beyond the economic reach of much of the population, but attempts should be made to introduce a greater proportion of pulses into the diet.

From the evidence it appeared that, although in many areas the nutritional status was satisfactory, in others it was marginal and in some frankly bad. Although there is a surplus of rice production in the country, pulses are not so abundant. Restricted export of pulses and a greater local consumption of these valuable foods should help to correct this deficiency.

Thailand 37 Vital and Health Statistics (Aug. 1957 - July 1959)

Aim of the project. To strengthen the Division of Vital Statistics by developing health statistics and improving the system of reports from rural services.

Assistance provided by WHO during the year. A health statistician.

Work done. In preparation for centralized processing of all vital returns, the statistician carried out a study of differences in cause-of-death reporting by type of certifier, based on 20,000 punch cards for all deaths in Greater Bangkok and two neighbouring provinces.
The punch cards were prepared as a part of the training programme for the personnel of the Statistics Division. A study was also made of a sample of rural death certificates to discover what additions to the existing Thai alphabetical list were required.

A new form of monthly activities report from rural health centres was introduced on a trial basis in four provinces. The statistician checked all the returns received and made recommendations for revising the form.

A scheme has been prepared for a sample survey of the completeness of vital registration, to be carried out in connection with the 1960 Census.

It is proposed to award a six-month fellowship to enable the Director of the Division to study vital and health statistics in overseas countries.

The statistician was withdrawn on termination of his contract in July 1959.

Thailand 38  
School of Public Health, Bangkok  

Aim of the project. To strengthen the School of Public Health, Bangkok, by giving advice on various aspects of public health and the teaching of certain subjects.

Assistance provided by WHO during the year. A consultant in health education for two and a half months.

Probable duration of assistance. Until the end of 1961.

Work done during the year. Early in July 1959 a consultant in health education was provided for a period of two and a half months. The consultant is making a study of what is being done in health education in the School of Public Health, Bangkok. She will assist in supplementing and strengthening the teaching of health education, and will make recommendations for further development.

Thailand 42  
National Tuberculosis Programme - Pilot Project  
(Oct. 1955 - May 1959; - )

Aim of the project. To carry out a community case-finding and treatment programme in Bangkok, and, in continuation, to develop a tuberculosis programme outside Bangkok, the first stage of which will be a pilot prevalence survey in one province.

Assistance provided by WHO during the year. Two consultants (a medical officer and a public health nurse).
Probable duration of assistance. Until the end of 1963.

Work done during the year. In order to carry out a survey of local conditions and to advise on the planning for a national survey of the prevalence of tuberculosis in Thailand, a medical officer and a public health nurse were assigned as short-term consultants. The medical officer carried out his assignment from October to December 1958, and on the basis of his report a plan of operation was drawn up to organize and undertake a pilot project for case-finding, treatment and prevention in a limited area of Bangkok, with the specific aims of (a) reducing the prevalence of tuberculosis, by means of a community approach; (b) deriving, through complete coverage, information on the prevalence of tuberculosis in the area selected and its distribution by sex, ages, race, etc., and (c) training personnel (with emphasis on the maximum use of non-medical personnel) in fundamental survey methods, including census taking, statistical recording, standardized testing and diagnostic and treatment methods. WHO will be providing a team to assist with this pilot project.

The public health nurse arrived in November 1958 to assist the Government in effecting improvement of the domiciliary follow-up and treatment scheme which forms part of the services of the Bangkok tuberculosis centre. She concluded her assignment in May 1959.

Thailand 43  Trachoma Control

Aim of the project. To survey the existing endemicity of trachoma in the country and to plan future possible control measures.

Assistance provided by WHO during the year. A trachoma consultant for six weeks.

Probable duration of assistance. Until the end of 1963.

Work done during the year. The consultant proceeded to Thailand toward the end of July 1959, to take up his work.

Thailand 46  Fellowships

Tuberculosis Chemotherapy: A one-month fellowship for study in India.

Freeze-dried Smallpox Vaccine Manufacture: Two two-month fellowships for study in the United Kingdom.

Treponematosis: Two three-week fellowships for study in Indonesia.

Malaria Eradication: A three-month fellowship for study in India.

Malaria Eradication: A four-month fellowship for study in Jamaica (under MESA).
Thailand 47

Fellowships

Parasitology: A three-month fellowship for study in Japan.

Dental Health: A twelve-month fellowship for study in the United States of America.
II. INTER-COUNTRY

PROJECT LIST

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Aim of the project. To assist countries of the Region (Afghanistan, Burma, Ceylon, India, Indonesia, Nepal and Thailand) in developing laboratory work in connection with the expansion of their tuberculosis services.

Assistance provided by WHO during the year. A bacteriologist.

Work done. The bacteriologist completed his one-year assignment during the last quarter of 1958. He visited the various tuberculosis centres in the Region which had formerly been assisted by WHO as well as those currently being assisted. He reviewed the work of the centres, offering suggestions for improvement, and in the course of his visits gave a number of lectures on the bacteriological aspects of tuberculosis control. He also visited some public health laboratories and included them in his review. Some of the other spheres of assistance covered were:

1. Instructions in the technique of tuberculosis bacteriology to national bacteriologists appointed to take charge of the diagnostic laboratories;
2. The planning and organizing of research into simplified diagnostic methods dictated by the needs of the field work;
3. The organization and operation of courses of training for laboratory technicians.

The bacteriologist adequately covered all the terms of reference of his assignment.

It will not be possible, however, for some time to evaluate the results of this project because its objective is a long-term one of raising the general standard of service in the laboratories of the Region. WHO assistance of this kind is continuing, but will in future be included in the tuberculosis control projects under individual countries and no longer shown as a separate programme.

SEARO 3

BCG Assessment Team

Aim of the project. To review the progress and development of the BCG vaccination mass campaigns in the countries of the Region, to check technical procedures, and to train national assessment teams; to examine the techniques of tuberculin testing and vaccination, and, if necessary, to make suggestions for improvement.
Assistance provided by WHO during the year. (a) A BCG assessment team consisting of a medical officer, a statistician and a nurse for Ceylon; (b) A BCG nurse consultant for India; (c) Supplies and equipment.


Work done during the year. The assessment team, after completing a period of special training at the Tuberculosis Research Office at Copenhagen, commenced work in Ceylon in collaboration with a full counterpart team in the last week of January 1959. It may be possible for the team to finish the work in Ceylon in September 1959, leaving behind a fully trained national team, and to proceed to Indonesia.

The BCG nurse assigned to India in November 1958 reviewed the tuberculin testing and vaccination techniques in the various states. She completed her work in May 1959 after visiting the States of West Bengal, Madhya Pradesh, Andhra Pradesh, Bombay, Rajasthan, Punjab, Uttar Pradesh and Bihar. Her report has been submitted to the Government.


Aim of the project. To bring together for discussion persons associated with occupational and industrial health, in order to assist the countries in the Region to plan adequate and well co-ordinated industrial and occupational health services.

Assistance provided by WHO during the year. (a) A consultant for three months; (b) Stipends for twenty-eight participants.

Work done. On the invitation of the Government of India this two-week conference, jointly sponsored by WHO and ILO, was held in the All-India Institute of Hygiene and Public Health, Calcutta. There were 28 participants, from Afghanistan, Burma, Ceylon, India, Indonesia and Thailand. In addition, six observers attended the Conference.

The primary object was to bring together for discussion persons in the Region actively associated with occupational and industrial health. Participants were drawn from health and labour ministries, from organizations of employers and employees, and from among industrial medical officers and safety engineers. Discussions were directed toward formulating general principles which would serve as a guide to the countries of the Region in the promotion of adequate and co-ordinated industrial health services at an early stage in their industrial development.

In programme planning and in the general and group discussions attention was focussed on the three main subjects: (1) organization of occupational health services, (2) collaboration and co-ordination in the field of occupational health, and (3) training and education.
**Assistance provided by WHO during the year.** (a) Two short-term consultants (a nurse and a social scientist); (b) Cost of travel and subsistence allowances of 17 participants.

**Work done.** Seventeen participants, from Afghanistan, Burma, Ceylon, India, Indonesia and Thailand, attended the Conference, together with four participants from the Eastern Mediterranean and two from the Western Pacific Region.

Most of the time of the Conference was spent in discussion groups and in general sessions.

The participants were divided into three groups, and the topics selected by these groups for detailed discussion were:

1. Training of auxiliary nursing personnel;
2. Functions of auxiliary nursing personnel;
3. Administration of auxiliary nursing services and training programmes.

Each group reported on its discussions and formulated guiding principles through which solutions to problems related to the training and use of auxiliary workers could be found in the different countries represented. Since the topics were not mutually exclusive, the general sessions afforded opportunities for co-ordination and cross-fertilization of the thinking in the groups.

The Conference provided an opportunity for nurses in South-East Asia to exchange ideas, to examine the problems of training and use of auxiliary workers, and to establish some guiding principles for governments and WHO on the needs, functions, training, supervision and relationships of auxiliary and professional nursing personnel and legislation.

The report of the Conference has been widely distributed.

**Production of Freeze-Dried Smallpox Vaccine**

(Aim of the project. To advise Member Governments in the Region on the production of a thermo-stable dried smallpox vaccine.

**Assistance provided by WHO during the year.** A short-term consultant.

**Probable duration of assistance.** Until 1961.

**Work done during the year.** A WHO consultant visited India and Indonesia with a view to selecting appropriate laboratories which could conveniently undertake the manufacture of freeze-dried smallpox vaccine. His recommendations were submitted to the respective governments, and negotiations are in progress for implementing them.

It is planned to provide further short-term consultants in 1960 and 1961.
Aim of the project. To study the most practicable and efficient methods and procedures in the mechanism of surveillance in malaria eradication.

Assistance provided by WHO during the year.

Ceylon: (a) A malariologist, two assistant malariologists, four laboratory technicians and twelve auxiliary personnel; (b) Equipment, supplies and transport; (c) Reimbursement to the Government of salaries and allowances and travel and per diem costs of national personnel.

India: (a) A malariologist, two assistant malariologists and four laboratory technicians; (b) Equipment, supplies and transport; (c) Reimbursement to the Government of salaries and allowances and travel and per diem costs of national personnel.

Probable duration of assistance. Until April 1961.

Work done during the year.

Ceylon: A plan of operations for the proposed WHO experimental surveillance study programme has been concluded with the Government. WHO personnel, transport and supplies have arrived, and national personnel have been recruited. Two working centres have been established - one at Kurunegala and the other in Hingurakgowda. A detailed plan of action to carry out the proposed study in certain selected areas has been developed. Office and laboratory accommodation has been found, and preliminary surveys are being carried out by the team.

India: A plan of operations for the proposed WHO experimental study on surveillance techniques was concluded with the Government in May 1959. WHO personnel, transport and equipment have arrived in Mysore. The national personnel are being recruited by the Government. Laboratory and office accommodation for the team has been found and the work is in progress. A detailed plan of action has been developed to carry out the study in certain selected areas of Mysore State.

During July, a staff member of the Headquarters, Malaria Eradication Division, along with the Senior Regional Malaria Adviser, visited the project area in Ceylon as well as in India to discuss the progress made and the future plan of work.

Aim of the project. To provide training for x-ray technicians in radiographic technique and in the maintenance of x-ray equipment.

Assistance provided by WHO during the year. (a) An x-ray engineer; (b) Supplies and equipment.
These objectives were kept in view in the discussions as well as when drawing up the report. A set of guiding principles for the establishment and promotion of occupational health services appropriate to the Region was formulated.

It is hoped that the contacts made at the Conference and the relatively wide publicity given to the report, of which some 400 copies have been distributed, may lead to a broader outlook on and a better understanding of the demand for industrial health services.

SEARO 12  
**Filaria Study Tour, Ceylon and India**  
(Oct. - Nov. 1958)

**Aim of the project.** To study the epidemiology and control of filariasis in Ceylon and India.

**Assistance provided by WHO during the year.** (a) A short-term consultant; (b) Stipends and travel costs for eighteen participants.

**Work done.** Following a resolution passed at the ninth session of the Regional Committee in 1956, a study tour for workers in filariasis was organized from 23 October to 24 November 1958. Eight representatives, from Burma, Ceylon, India, Indonesia and Thailand, participated in this tour, which was conducted by a WHO short-term consultant.

As large-scale control of *W.bancrofti* is being attempted in India, whilst successful control of *W.malayi* had been reported from Ceylon, the participants visited important control centres in these two countries. At the conclusion of the tour, the group submitted a report embodying their observations and recommendations on filariasis and its control in the Region.

This study tour is considered to have achieved its objectives (see Part I, page 8).

SEARO 17  
**Regional Seminar on Certification and Classification of Mortality and Morbidity, New Delhi**  

**Aim of the project.** To bring country representatives into touch with expert opinion; to pool experience of practical problems; to work out solutions for regional problems, and to make recommendations for the eighth revision of the Manual of the International Statistical Classification of Diseases, Injuries and Causes of Death.

**Assistance provided by WHO during the year.** (a) A short-term consultant; (b) Assistance from WHO statisticians working in Ceylon and Nagpur; (c) Cost of travel and subsistence of seventeen participants, from Afghanistan, Burma, Ceylon, India, Indonesia, Nepal, Portuguese India and Thailand; (d) Supplies.
Work done. This seminar was inaugurated on 13 October 1958 by the Minister of Health, Government of India, and lasted two weeks. It was attended by 18 participants from eight Member States and 15 observers representing various organizations. Three consultants took part, and two field statisticians acted as members of the technical staff.

Discussions at the Seminar were realistic, with all members actively participating. There was no attempt to gloss over the very difficult nature of the problems confronting national statisticians. On some points different opinions remained and were put on record, but the Seminar was able to agree unanimously on twenty-seven recommendations for future action. Carrying, as they do, the authority of national expert opinion, it is hoped that these recommendations will be actively followed up. The final report of the Seminar has been printed and distributed.

SEARO 28
Medical Education Study Tour
(First tour: Nov. - Dec. 1957)
(Second tour: Nov. 1958)

Aim of the project. To arrange study tours to enable small groups of professors and senior teachers in selected non-clinical subjects to visit certain medical colleges and research institutions in India, on a programme of discussions in their specialties.

Assistance provided by WHO during the year. (a) A professor of physiology; (b) Travel costs and subsistence allowances for four visiting teachers of physiology.

Probable duration of assistance. Further tours will be undertaken in 1959 and 1960 under separate project numbers.

Work done. The first tour was described in last year's report.

For the second tour, arrangements were made in November 1958 for a group of four teachers of physiology from Burma, Ceylon and Thailand to visit medical colleges and institutions at Calcutta, Delhi, Bombay, Baroda and Indore, under the guidance of a WHO visiting professor of physiology. At Indore, the group attended the annual conference of the Indian Council of Medical Research. Although the participants were few in number, they took an active part in the Conference.

The visiting teachers had also the opportunity to discuss recent developments in physiology and modern teaching methods, and were able to make useful contacts among their colleagues in India and other countries.

SEARO 32
Conference on Auxiliary Nursing, Delhi
(3 - 15 Nov. 1958)

Aim of the project. To enable national and international personnel with experience in auxiliary training to exchange ideas and to examine the problems of training and use of auxiliary nursing workers; to establish guiding principles and to encourage the production of more adequate textbooks.
Probable duration of assistance. Until the end of 1960.

Work done during the year. The School of Radiography at the General Hospital, Colombo, was selected as a centre for training x-ray technicians from the Region in radiography and the maintenance of x-ray equipment. A WHO x-ray engineer joined the project in February 1959. He has started to acquaint himself with the activities of the school, and has given lectures on apparatus construction to the students. He has also submitted detailed plans for the improvement of the existing facilities in the dark room of the General Hospital and recommendations for better protection facilities in the school.

Governments in the Region have been invited to nominate candidates for WHO fellowships for the two-year course offered by this school.
# Office of Health Services

**Director, Office of Health Services**
- Dr. L. Bernard
- Administrative Assistant - (Vacant)

## Public Health Administrators
- PH1 - Dr. L.G. Edney
- PH2 - Dr. R.H. Bland
- PH3 - Dr. H. Richards

## Regional Advisers
- Communicable - Dr. A. Zahra
- Environmental Sanitation - Mr. W.C. Tabosa
- Health Education - (Vacant)
- Health Statistics - Dr. E. Charles
- Maternal & Child Health - Dr. P. Robinson
- Maternal & Child Health Officer - Dr. A.M. Gedé
- Medical Education - Dr. J.M. Vine
- Nursing - Miss F.E. Lillywhite
- Nursing Officer - (Vacant)
- Nutrition - (Vacant)
- Public Health (Community Development) - Dr. A. Vuletic
- Public Health Officer - (Vacant)
- Tuberculosis - (Vacant)

## Field Projects

## Malaria Eradication Unit
- Regional Adviser - Dr. D.K. Viswanathan
- Malarologist - Dr. D.R. Mehta
- Malarologist - (Vacant)
- Entomologist - Dr. R.C. Muirhead-Thomson
- Sanitary Engineer - (Vacant)

## Reports and Documents Unit
- Reports Officer - Miss M. Wheldon

## Area Representatives
- Burma - Dr. T.C. Puri
- Ceylon - (Vacant)
- India - (Vacant)
- Indonesia - Dr. J. Deeny
- Thailand - Dr. L.W. Fitzmaurice
- Public Health Advisers
  - Afghanistan - Dr. J.B. Petrie
  - Nepal - Dr. D.P. Math

## Field Projects

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31 July 1959

**Office of the Regional Director**
- Regional Director - Dr. C. Mani
- Administrative Officer - (Vacant)

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**Office of Administration & Finance**
- Chief, Office of Admin. & Finance - Mr. A.G.B. Sutherland

## Personnel Unit
- Personnel Officer - Mr. A.L. Malakoff
- Asstt. Personnel Officer - Miss K.M. Culshaw

## Finance, Budget & Accounts Unit
- Budget & Finance Officer - Mr. R.S. Garg
- Finance Officer - Mr. J.F. Bugge
- Budget Officer - Mr. Mehar Singh

## Administrative Services Unit
- Administrative Services Officer - Mr. J. Unger

## Medical Supplies Unit
- Medical Supplies Officer - Mr. L.W. Cully
Geographical Distribution of International Staff Assigned to South-East Asia Region as of 30 June 1959

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Total: 14 | 14 | 178 | 206
Conferences and Meetings Called by the United Nations and Specialized Agencies at which WHO Was Represented

(1 August 1958 to 31 July 1959)

1958

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>13 - 19 August</td>
<td>ECAFE: Fifth Session of the Working Party on Housing and Building Materials</td>
<td>Bangkok</td>
</tr>
<tr>
<td>8 - 27 September</td>
<td>UNESCO: Seminar on Visual Aids in Fundamental Education and Community Development</td>
<td>Bangkok</td>
</tr>
<tr>
<td>10 - 19 November</td>
<td>FAO/UNICEF: Regional School Feeding Seminar for Asia and the Far East</td>
<td>Tokyo</td>
</tr>
<tr>
<td>8 - 19 December</td>
<td>ECAFE: Conference of Asian Statisticians - Second Session</td>
<td>Bangkok</td>
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1959

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
<th>Location</th>
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</thead>
<tbody>
<tr>
<td>5 - 12 February</td>
<td>ECAFE: Eleventh Session of Committee on Industrial and Natural Resources</td>
<td>Bangkok</td>
</tr>
<tr>
<td>15 February - 4 March</td>
<td>United Nations: &quot;Six Countries&quot; Seminar on Planning and Administration of National Community Development Programmes</td>
<td>Bangkok</td>
</tr>
<tr>
<td>14 - 27 July</td>
<td>ECAFE: Inter-Regional Seminar on Hydrologic Networks and Methods</td>
<td>Bangkok</td>
</tr>
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</table>
Conferences and Meetings of Governmental, Non-Governmental and Other Organizations at which WHO Was Represented

(1 August 1958 to 31 July 1959)

1958

28 - 31 October Government of India: Third Conference of the Public Health Engineers New Delhi

10 - 16 November Seventh International Leprosy Conference Tokyo

14 - 23 November Second Asian Conference on Occupational Health Calcutta

24 November - 2 December Indian Council of Medical Research: Annual Meeting of the Advisory Committees of the Scientific Advisory Board Indore

1 - 4 December Anti-malaria Co-ordination Board: Third Meeting Rangoon

1959

10 - 13 January Haffkine Institute, Bombay: Diamond Jubilee Celebrations Bombay

15 - 17 January Government of India: Seventh Meeting of the Central Council of Health Shillong

18 - 21 January Association of Paediatricians of India: Annual Conference Jaipur

21 - 28 January Indian Science Congress: 46th Session New Delhi

28 - 31 January Tuberculosis Association of India: Tuberculosis Workers Conference Jaipur

16 - 18 February Indian Council of Medical Research: Joint Meeting of the Expert Committees on Smallpox and Cholera New Delhi

19 February Government of India: Sub-Committee for Co-ordination of Assistance from International and Bilateral Health Agencies New Delhi

7 - 8 March Delhi University: Seminar on India's Population Growth and Economic Development Delhi

10 - 12 March Government of India: Meeting of the State Leprosy Officers Delhi

17 - 18 March Trained Nurses' Association of India: Council Meeting Delhi
<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
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</thead>
<tbody>
<tr>
<td>4 - 7 April</td>
<td>Government of India: Fourth Conference of the Staff of the Research-cum-Action Projects in Environmental Sanitation and Conference of All-India Health Educators Najafgarh (Delhi)</td>
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<tr>
<td>22 June</td>
<td>Semi-Annual Conference of ICA/WHO and the Malaria and Filaria Control Division, Government of Thailand Songkhla</td>
</tr>
<tr>
<td>30 - 31 July</td>
<td>Government of India: Symposium on Sewage Disposal and Water Supply to Communities Bombay</td>
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Fellowships Awarded by WHO
(1 August 1958 to 31 July 1959)

Table I

<table>
<thead>
<tr>
<th>Country</th>
<th>Source of Funds</th>
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<td>Afghanistan</td>
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* 4 from MESA
** 1 from MESA
*** 1 from MESA
Table II

Distribution by Subject of Study and by Country

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<th>Ceylon</th>
<th>India</th>
<th>Indonesia</th>
<th>Malaya</th>
<th>Netherlands</th>
<th>Nepal</th>
<th>Portugal</th>
<th>India</th>
<th>Thailand</th>
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<td>Freeze-dried Smallpox Vaccine Manufacture</td>
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Table II (Cont'd)

Distribution by Subject of Study and by Country

<table>
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<tr>
<th>Subject</th>
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<th>Ceylon</th>
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Training Activities Carried Out by Governments with the Assistance of WHO Staff (August 1958 to July 1959)*

<table>
<thead>
<tr>
<th>Subject</th>
<th>Number of Courses</th>
<th>Number of Trainees</th>
<th>Categories of Trainees</th>
<th>Type of Course or Training</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Malaria</td>
<td>1 course</td>
<td>13 trainees</td>
<td>New malaria inspectors</td>
<td>Basic training given by means of laboratory demonstrations and practical work; field training in surveillance operations</td>
<td>6 weeks</td>
</tr>
<tr>
<td></td>
<td>Central Laboratory, Nangarhar Provincial Malaria Eradication Service, Jalalabad</td>
<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td>1 course</td>
<td>20 trainees</td>
<td>Malaria inspectors and laboratory technicians</td>
<td>Refresher training in malaria eradication work, laboratory work and spraying operation technique</td>
<td>1 week</td>
</tr>
<tr>
<td></td>
<td>Malaria Directorate, Kunduz</td>
<td></td>
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<tr>
<td>Public Health Laboratory</td>
<td>4 courses</td>
<td>53 trainees</td>
<td>Laboratory technicians and laboratory assistants</td>
<td>Basic training: normal type of academic courses with lectures, visual aids, demonstrations and practical work</td>
<td>Continuos (2-3 years)</td>
</tr>
<tr>
<td></td>
<td>Central Public Health Laboratory, Kabul</td>
<td></td>
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</tr>
<tr>
<td>Midwifery</td>
<td>3 courses</td>
<td>38 trainees</td>
<td>Midwives and auxiliary nurse midwives</td>
<td>Basic training in midwifery, including lectures, practical work and field training</td>
<td>Continuos (2 1/2 years)</td>
</tr>
<tr>
<td></td>
<td>Sharamah Hospital, Kabul</td>
<td></td>
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</tr>
<tr>
<td>Rural Health Work (including midwifery and health visiting)</td>
<td>8 courses</td>
<td>31 trainees</td>
<td>Student midwives and students of fundamental education</td>
<td>Basic training in rural health work, including field training and demonstration</td>
<td>1 - 4 mo</td>
</tr>
<tr>
<td></td>
<td>Shewaki Clinic and Rural Health Centre</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*The figures in this table have been obtained from WHO field staff in respect of their training activities. Because of possible omissions in or duplication of reporting, the figures cannot be regarded as completely accurate. They do, however, represent a reliable record of training activities during the year.
<table>
<thead>
<tr>
<th>Subject, Number of Courses, Number of Trainees and Place of Training</th>
<th>Categories of Trainees</th>
<th>Type of Course or Training</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Nursing (General)</strong></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>3 courses - 57 trainees Mastoorat Hospital, Kabul</td>
<td>Student nurses</td>
<td>Basic nursing</td>
<td>3 years</td>
</tr>
<tr>
<td>3 courses - 24 trainees Medical Faculty, Kabul</td>
<td>Student nurses</td>
<td>Basic nursing</td>
<td>3 years</td>
</tr>
<tr>
<td><strong>Sanitation and Hygiene</strong></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>3 courses - 55 trainees School for Sanitarians, Kabul</td>
<td>Sanitarians</td>
<td>Basic training in sanitation and hygiene, including field training</td>
<td>2½ years</td>
</tr>
<tr>
<td><strong>Preventive and Social Medicine</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 course - 135 trainees Medical Faculty and Faculty of Law, Kabul</td>
<td>Medical and law students</td>
<td>Basic training in preventive and social medicine, epidemiology, statistics, etc., for medical students and in personal and community health for law students</td>
<td>Continuous</td>
</tr>
<tr>
<td>1 course - 40 trainees School for Sanitarians, Kabul</td>
<td>Sanitarians</td>
<td>Basic training in preventive and social medicine, including lectures and demonstrations</td>
<td>3 months</td>
</tr>
<tr>
<td><strong>Malaria</strong></td>
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<td></td>
</tr>
<tr>
<td>3 courses - 19 trainees Malaria Institute of Burma, Rangoon</td>
<td>Malaria inspectors and malaria assistants</td>
<td>Basic training in malariology, entomology and control operations, with emphasis on residual spraying operations</td>
<td>10 weeks each</td>
</tr>
</tbody>
</table>

**BURMA**
<table>
<thead>
<tr>
<th>Subject, Number of Courses, Number of Trainees and Place of Training</th>
<th>Categories of Trainees</th>
<th>Type of Course or Training</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 course - 3 trainees Malaria Institute of Burma, Rangoon</td>
<td>Laboratory technicians</td>
<td>Lectures, demonstrations and practical training in laboratory work</td>
<td>14 months</td>
</tr>
<tr>
<td>Sister Tutors Course</td>
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</tr>
<tr>
<td>1 course - 11 trainees Post-Graduate School of Nursing, Rangoon</td>
<td>Graduate nurses</td>
<td>Post-graduate training, including lectures and field visits</td>
<td>1 year</td>
</tr>
<tr>
<td>Health Education</td>
<td></td>
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</tr>
<tr>
<td>2 courses - 52 trainees Health Assistants' School, Rangoon and Mass Education Training Centre, Rangoon</td>
<td>Assistant health educators, malaria inspectors and rural social workers</td>
<td>Refresher courses; seminars, demonstration and field training</td>
<td>4 - 8 weeks</td>
</tr>
<tr>
<td>1 course - 30 trainees Burma Divinity School, Insein</td>
<td>Missionary students</td>
<td>Basic course in health education, including lectures and field trips</td>
<td>1 year</td>
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<tr>
<td>Environmental Sanitation</td>
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</tr>
<tr>
<td>1 course - 120 trainees Health Assistants' School, Rangoon</td>
<td>Health assistants</td>
<td>Basic training in environmental sanitation, including field work</td>
<td>4 months</td>
</tr>
<tr>
<td>Malaria</td>
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</tr>
<tr>
<td>1 course - 7 trainees Kurunegala</td>
<td>Microscopists</td>
<td>Basic training in malaria parasitology, including lectures and practical work</td>
<td>1 month</td>
</tr>
<tr>
<td>1 course - 14 trainees Hingurakgoda and Kurunegala</td>
<td>Public health inspectors</td>
<td>Refresher training in malaria surveillance</td>
<td>2 weeks</td>
</tr>
<tr>
<td>Subject, Number of Courses, Number of Trainees and Place of Training</td>
<td>Categories of Trainees</td>
<td>Type of Course or Training</td>
<td>Duration</td>
</tr>
<tr>
<td>---------------------------------------------------------------</td>
<td>------------------------</td>
<td>---------------------------</td>
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</tr>
<tr>
<td><strong>Radiography</strong></td>
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</tr>
<tr>
<td>3 courses - 43 trainees</td>
<td>Radiographers</td>
<td>Basic training in radiography, including lectures and practical work</td>
<td>1 - 2 yrs</td>
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<tr>
<td>General Hospital, Colombo</td>
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</tr>
<tr>
<td><strong>Epidemiology</strong></td>
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<td></td>
</tr>
<tr>
<td>3 courses - 31 trainees</td>
<td>Medical officers of health</td>
<td>Orientation course in public health</td>
<td>4 - 6 wks</td>
</tr>
<tr>
<td>Training Centre, Kalutara</td>
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</tr>
<tr>
<td>2 courses - 35 trainees</td>
<td>Public health inspectors</td>
<td>Refresher course</td>
<td>2 - 4 wks</td>
</tr>
<tr>
<td>Training Centre, Kalutara</td>
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</tr>
<tr>
<td>1 course - 31 trainees</td>
<td>Public health learners</td>
<td>Basic field training</td>
<td>5 months</td>
</tr>
<tr>
<td>Training Centre, Kalutara</td>
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</tr>
<tr>
<td><strong>Physiotherapy</strong></td>
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</tr>
<tr>
<td>3 courses - 40 trainees</td>
<td>Physiotherapy trainees</td>
<td>Basic training, including lectures, demonstrations and practical work</td>
<td>6 - 12 mths</td>
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<tr>
<td>School of Physiotherapy, Colombo</td>
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<tr>
<td>1 course - 21 trainees</td>
<td>Graduate physiotherapists</td>
<td>Post-graduate training, including lectures, demonstrations and supervision of practical work</td>
<td>9 months</td>
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<tr>
<td>School of Physiotherapy, Colombo</td>
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<tr>
<td><strong>Maternal and Child Health</strong></td>
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</tr>
<tr>
<td>3 courses - 55 trainees</td>
<td>Public health midwives and pupil midwives</td>
<td>Refresher course on infant hygiene and child health, including field training</td>
<td>1 - 6 mths</td>
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<tr>
<td>Health Unit, Kalutara</td>
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</tr>
<tr>
<td>5 courses - 48 trainees</td>
<td>Medical officers of health</td>
<td>Special course in public health, majoring in infant and child care</td>
<td>2 - 6 wks</td>
</tr>
<tr>
<td>Health Unit, Kalutara</td>
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### Annex 6

**Subject, Number of Courses, Number of Trainees and Place of Training**

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<thead>
<tr>
<th>Categories of Trainees</th>
<th>Type of Course or Training</th>
<th>Duration</th>
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#### Environmental Sanitation

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<thead>
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<th>Number of Courses</th>
<th>Number of Trainees</th>
<th>Place of Training</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environmental Sanitation</td>
<td>2 courses</td>
<td>63 trainees</td>
<td>Health Unit, Kalutara</td>
</tr>
<tr>
<td></td>
<td>2 courses</td>
<td>35 trainees</td>
<td>Health Unit, Kalutara</td>
</tr>
<tr>
<td></td>
<td>6 courses</td>
<td>82 trainees</td>
<td>Health Unit, Kalutara</td>
</tr>
</tbody>
</table>

- **Student public health inspectors**: Basic training in sanitation and hygiene, 6 months
- **Public health inspectors**: Refresher course in sanitation and hygiene, including lectures and practical work, 2 - 3 weeks
- **Medical officers, public health nurses and midwives**: Post-graduate lectures and refresher lectures on food sanitation, 4 weeks

#### Tuberculosis

<table>
<thead>
<tr>
<th>Subject</th>
<th>Number of Courses</th>
<th>Number of Trainees</th>
<th>Place of Training</th>
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</thead>
<tbody>
<tr>
<td>Tuberculosis</td>
<td>1 course</td>
<td>45 trainees</td>
<td>TB Centre, Nagpur</td>
</tr>
<tr>
<td></td>
<td>1 course</td>
<td>6 trainees</td>
<td>TB Centre, Nagpur</td>
</tr>
<tr>
<td></td>
<td>1 course</td>
<td>8 trainees</td>
<td>TB Centre, Nagpur</td>
</tr>
<tr>
<td></td>
<td>2 courses</td>
<td>5 trainees</td>
<td>TB Centre, Nagpur</td>
</tr>
<tr>
<td></td>
<td>2 courses</td>
<td>18 trainees</td>
<td>TB Centre, Hyderabad</td>
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<td>3 courses</td>
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<tr>
<td></td>
<td>1 course</td>
<td>14 trainees</td>
<td>TB Centre, Hyderabad</td>
</tr>
</tbody>
</table>

- **Medical graduate internees**: Post-graduate orientation course, 1 month
- **Tuberculosis home visitors**: Refresher course in home visiting, 9 weeks
- **Doctors and compounders**: Special course on BCG vaccination, 1 month
- **X-ray trainees**: Refresher course on x-ray technique, 3 months
- **Medical officers**: Post-graduate course, 3 - 10 weeks
- **Medical officers, health inspectors and nurses**: Refresher course, 1 week each
- **Laboratory technicians and assistants**: General laboratory techniques and bacteriology as applied to tuberculosis laboratories, 6 months

#### Trachoma

<table>
<thead>
<tr>
<th>Subject</th>
<th>Number of Courses</th>
<th>Number of Trainees</th>
<th>Place of Training</th>
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</thead>
<tbody>
<tr>
<td>Trachoma</td>
<td>5 courses</td>
<td>16 trainees</td>
<td>Eye hospitals in different States</td>
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</tbody>
</table>

- **Medical officers and ophthalmologists**: Special course dealing with survey of trachoma, associated infections and other eye diseases, 1 - 2 week
<table>
<thead>
<tr>
<th>Subject, Number of Courses, Number of Trainees and Place of Training</th>
<th>Categories of Trainees</th>
<th>Type of Course or Training</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vital and Health Statistics</td>
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<tr>
<td>1 course - 6 trainees</td>
<td>Statistical clerks and assistants</td>
<td>In-service training, supplemented by seminars and demonstrations</td>
<td>12 weeks</td>
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<tr>
<td>Vital and Health Statistics Project, Nagpur</td>
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**Nursing and Midwifery**

**Basic Education**

<table>
<thead>
<tr>
<th>Courses</th>
<th>Trainees</th>
<th>Categories of Trainees</th>
<th>Type of Course</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>9 courses - 613 trainees</td>
<td>Student nurses</td>
<td>Basic nursing course</td>
<td>Continuous</td>
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<tr>
<td>10 courses - 146 trainees</td>
<td>Student nurse-midwives</td>
<td>Basic midwifery training</td>
<td>6 - 9 mont.</td>
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<tr>
<td>4 courses - 86 trainees</td>
<td>Student health visitors</td>
<td>Basic health visiting course</td>
<td>2 1/2 years</td>
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</tr>
<tr>
<td>Nagpur, Visakhapatnam and Chabua (Assam)</td>
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</table>

**Post-Basic Education**

<table>
<thead>
<tr>
<th>Courses</th>
<th>Trainees</th>
<th>Categories of Trainees</th>
<th>Type of Course</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 courses - 87 trainees</td>
<td>Staff nurses and nurse midwives</td>
<td>Post-graduate training in public health orientation</td>
<td>2 - 4 mont</td>
<td></td>
</tr>
<tr>
<td>1 course - 15 trainees</td>
<td>Nurse-midwives</td>
<td>Post-graduate training in public health nursing</td>
<td>Continuous</td>
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</tr>
<tr>
<td>2 courses - 45 trainees</td>
<td>Graduate nurses</td>
<td>Post-graduate training in psychiatric nursing</td>
<td>12 months</td>
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</tr>
<tr>
<td>2 courses - 29 trainees</td>
<td>Graduate nurses</td>
<td>Refresher course in paediatric nursing</td>
<td>1 month</td>
<td></td>
</tr>
<tr>
<td>Visakhapatnam, Bangalore, Chabua and Bombay</td>
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</tbody>
</table>

**Refresher Courses**

<table>
<thead>
<tr>
<th>Courses</th>
<th>Trainees</th>
<th>Categories of Trainees</th>
<th>Type of Course</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>7 courses - 57 trainees</td>
<td>Midwives</td>
<td>Refresher training in midwifery</td>
<td>4 weeks</td>
<td></td>
</tr>
<tr>
<td>2 courses - 27 trainees</td>
<td>Health visitors</td>
<td>Refresher training in health visiting</td>
<td>18 weeks</td>
<td></td>
</tr>
<tr>
<td>1 course - 18 trainees</td>
<td>Graduate nurses</td>
<td>Refresher training in ward management</td>
<td>4 weeks</td>
<td></td>
</tr>
<tr>
<td>Visakhapatnam, Jaipur, Nagpur, Madras, Dibrugarh, Bombay and Gwalior</td>
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</tr>
<tr>
<td>Subject, Number of Courses, Number of Trainees and Place of Training</td>
<td>Categories of Trainees</td>
<td>Type of Course or Training</td>
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<tr>
<td><strong>Rural Health</strong></td>
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<tr>
<td>1 course - 5 trainees Rural Health Centre, Chabua (Assam)</td>
<td>Graduate doctors from primary health units</td>
<td>Orientation course in rural health services</td>
<td>3 months</td>
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<tr>
<td><strong>Environmental Sanitation</strong></td>
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<tr>
<td>4 courses - 323 trainees Trivandrum</td>
<td>Health inspectors, village-level workers, nurse students</td>
<td>Basic and refresher training in sanitation and hygiene</td>
<td>2 - 8 weeks</td>
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</tr>
<tr>
<td>5 courses - 61 trainees Lucknow</td>
<td>Community Development Block technical assistants, assistant development officers and school teachers</td>
<td>Basic and refresher training in sanitation and hygiene</td>
<td>1 - 5 weeks</td>
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</tr>
<tr>
<td>2 courses - 43 trainees Chabua (Assam)</td>
<td>Sanitarians and sanitary inspectors</td>
<td>Basic training in environmental sanitation</td>
<td>9 months</td>
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<tr>
<td>1 course - 37 trainees Gwalior</td>
<td>Sanitarians and sanitary inspectors</td>
<td>Sanitary inspectors' course</td>
<td>9 months</td>
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<tr>
<td><strong>Maternal and Child Health</strong></td>
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<tr>
<td>1 course - 5 trainees Public Health Institute, Patna</td>
<td>District health officers</td>
<td>Post-graduate training in maternal and child health</td>
<td>Lectures only</td>
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<tr>
<td><strong>Paediatrics</strong></td>
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<tr>
<td>12 courses - 96 trainees Institute of Paediatrics, Madras</td>
<td>Medical undergraduates and post-graduate DCH students</td>
<td>Special course for medical internees in social paediatrics</td>
<td>1 month</td>
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<tr>
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<td>Type of Course or Training</td>
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<tr>
<td>1 course - 12 trainees S.A.T. Hospital, Trivandrum</td>
<td>Medical officers</td>
<td>Post-graduate refresher training in paediatrics</td>
<td>1 month</td>
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<tr>
<td><strong>Malaria</strong></td>
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<tr>
<td>2 courses - 26 trainees Semarang</td>
<td>&quot;Controlix Reagan&quot; and village-level workers</td>
<td>Refreshing training in spraying operations for supervisory activities</td>
<td>1 - 2 weeks</td>
<td></td>
</tr>
<tr>
<td>8 courses - 114 trainees Subah (Pekalongan) and Semarang</td>
<td>Village level workers</td>
<td>Basic training in spraying operations, parasitology and geographical reconnaissance</td>
<td>1 - 4 weeks</td>
<td></td>
</tr>
<tr>
<td>1 course - 15 trainees Malaria Institute, Surabaya</td>
<td>Malaria technicians</td>
<td>Basic academic course</td>
<td>12 months</td>
<td></td>
</tr>
<tr>
<td>2 courses - 37 trainees Malaria Institute, Surabaya</td>
<td>Sector leaders and zone level personnel for malaria eradication work</td>
<td>Training course, including demonstrations and field training</td>
<td>2 weeks</td>
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<tr>
<td><strong>Leprosy</strong></td>
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<tr>
<td>1 course - 2 trainees Leprosy Polyclinic, Surabaja</td>
<td>Village level workers (audrupateks)</td>
<td>Field training in leprosy case-finding</td>
<td>1 month</td>
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<tr>
<td>2 courses - 50 trainees Leprosy Institute, Jakarta</td>
<td>Medical students (5th year)</td>
<td>Lectures and field training in leprosy control</td>
<td>2 weeks</td>
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<tr>
<td><strong>Port Health and Quarantine</strong></td>
<td>Male nurses being trained for the posts of assistant port-health inspectors</td>
<td>Basic training in port health service</td>
<td>2 years</td>
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</tr>
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<tr>
<td><strong>Vital and Health Statistics</strong></td>
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</tbody>
</table>
| 1 course - 45 trainees  
Akademi Kontrolir Kesehatan, Djakarta | Graduate high-school students | Basic training in vital and health statistics | Continuous (3 years) |
| 1 course - 18 trainees  
Division of Vital and Health Statistics, Ministry of Health | Statistical assistants | Basic training in vital and health statistics | 3 - 4 months |
| 1 course - 43 trainees  
School for Statistical Clerks, Magelang | Statistical clerks | Refresher training in vital and health statistics | 1 week |
| **Health Education** | | | |
| 1 course - 21 trainees  
Akademi Kontrolir Kesehatan, Djakarta | Doctors, nurses, "konsultor kesehatan" | National training course (seminar) | 1 month |
| 2 courses - 73 participants  
Fakultas Kedokteran, Surabaya | Graduate high-school students | Basic training in health education | Continuous (3 years) |
| **Pharmacology** | | | |
| 6 courses - 730 participants  
Fakultas Kedokteran, Surabaya | Dental students, medical students and student assistants | Lectures in general and special pharmacology, therapeutics and pharmacology | Continuous (1 year) |
| 2 courses - 3 trainees  
Fakultas Kedokteran, Surabaya | Medical and pharmacy graduates | Lectures in pharmacology | Continuous (1 year) |
| **Physiology** | | | |
| 2 courses - 184 trainees  
Medan Medical Faculty | Medical students | General physiology course | Continuous (2 years) |
<table>
<thead>
<tr>
<th>Subject, Number of Courses, Number of Trainees and Place of Training</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Anatomy and Histology</td>
<td>Medical students, student assistants and technical assistants</td>
<td>General anatomy and histology course</td>
<td>Continuous (2 years)</td>
</tr>
<tr>
<td>1 course - 208 trainees</td>
<td>Medical students, student assistants and technical assistants</td>
<td>General anatomy and histology course</td>
<td>Continuous (2 years)</td>
</tr>
<tr>
<td>Medan Medical Faculty</td>
<td>Medical students, student assistants and technical assistants</td>
<td>General anatomy and histology course</td>
<td>Continuous (2 years)</td>
</tr>
<tr>
<td>NEPAL</td>
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<tr>
<td>Malaria</td>
<td>Malaria assistants, operation superintendents and malaria inspectors</td>
<td>Basic training and reorientation training in malaria eradication work</td>
<td>6 weeks</td>
</tr>
<tr>
<td>4 courses - 77 trainees</td>
<td>Malaria assistants, operation superintendents and malaria inspectors</td>
<td>Basic training and reorientation training in malaria eradication work</td>
<td>6 weeks</td>
</tr>
<tr>
<td>Malaria Eradication Organization</td>
<td>Malaria assistants, operation superintendents and malaria inspectors</td>
<td>Basic training and reorientation training in malaria eradication work</td>
<td>6 weeks</td>
</tr>
<tr>
<td>General Nursing and Midwifery</td>
<td>Student nurse-midwives</td>
<td>Basic training, including demonstrations and practical work</td>
<td>3/2 years</td>
</tr>
<tr>
<td>4 courses - 41 trainees</td>
<td>Student nurse-midwives</td>
<td>Basic training, including demonstrations and practical work</td>
<td>3/2 years</td>
</tr>
<tr>
<td>School of Nursing, Kathmandu</td>
<td>Student nurse-midwives</td>
<td>Basic training, including demonstrations and practical work</td>
<td>3/2 years</td>
</tr>
<tr>
<td>Public Health and Infectious Diseases</td>
<td>Health assistants</td>
<td>Basic academic course</td>
<td>2 years</td>
</tr>
<tr>
<td>1 course - 45 students</td>
<td>Health assistants</td>
<td>Basic academic course</td>
<td>2 years</td>
</tr>
<tr>
<td>Health Assistants' Training School, Kathmandu</td>
<td>Health assistants</td>
<td>Basic academic course</td>
<td>2 years</td>
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<tr>
<td>THAILAND</td>
<td>THAILAND</td>
<td>THAILAND</td>
<td>THAILAND</td>
</tr>
<tr>
<td>Leprosy</td>
<td>Sanitarians and auxiliary leprosy workers</td>
<td>Basic training in leprosy work</td>
<td>1 - 4 weeks</td>
</tr>
<tr>
<td>3 courses - 61 trainees</td>
<td>Sanitarians and auxiliary leprosy workers</td>
<td>Basic training in leprosy work</td>
<td>1 - 4 weeks</td>
</tr>
<tr>
<td>Leprosy Control Project, Khon Kaen</td>
<td>Sanitarians and auxiliary leprosy workers</td>
<td>Basic training in leprosy work</td>
<td>1 - 4 weeks</td>
</tr>
<tr>
<td>General Nursing</td>
<td>Nurses</td>
<td>Basic nurse training</td>
<td>4 years</td>
</tr>
<tr>
<td>2 courses - 100 trainees</td>
<td>Nurses</td>
<td>Basic nurse training</td>
<td>4 years</td>
</tr>
<tr>
<td>Women's Hospital, Bangkok</td>
<td>Nurses</td>
<td>Basic nurse training</td>
<td>4 years</td>
</tr>
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</tr>
</tbody>
</table>
| 1 course - 30 trainees  
Women's Hospital, Bangkok | Graduate nurses | Post-graduate course in nursing | 12 months |
| 1 course - 50 trainees  
Vajira School of Nursing, Bangkok | Nurses and midwives | Basic nurse training | 4 years |
| **Midwifery** | | | |
| 2 courses - 100 trainees  
Vajira School of Nursing, Bangkok | Second class midwives | Basic midwifery training | 18 months |
| **Rural Health** | | | |
| 27 courses - 2,347 trainees  
Health centres in different localities | Moh-tam-yae (Indigenous midwives) | Refresher course in midwifery | 15 days |