4. INDIA

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 coordinate 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.
<table>
<thead>
<tr>
<th>Project No.</th>
<th>Source of Funds</th>
<th>Co-operating Agencies</th>
<th>Title</th>
</tr>
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<tbody>
<tr>
<td>India 42</td>
<td>TA</td>
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<td>Centre, Nagpur (Nov. 1955 - )</td>
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**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.

<table>
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<tr>
<th>India 43</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\[TA\]
(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 wide-spread 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 1959 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

(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 almost immediately after the termination of WHO's assistance.

The teaching of medical and nursing undergraduates now includes a considerable amount of preventive paediatrics, 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 paediatrics - 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 paediatrics of nursing and health visitor students.

India 71

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 psychological 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 anaesthetist.

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 1958. 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.

**India 91**

**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.

**India 94**

**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 Kus 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 (totaling 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-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 $5

Environmental Sanitation, Kerala
(Oct. 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-seal 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 parasitc 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.
India 101  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.

India 103  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
Public Health Programme, Rajasthan
TA
(March 1959 - )
UNICEF

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, Nails 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).
India 107
Public Health Programme, Punjab
(Dec. 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 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.

India 108
Health Education, States of Bombay, Uttar Pradesh and Bihar
(March 1958 - )

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 Scener 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 Vidarbha 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)  
(Dec. 1957 - )

**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 services. 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  
(Dec. 1958 - )

**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
R
UNICEF

Paediatric Education
(Aug. 1958...)

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
R

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
R

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
TTA
Assistance to the Malaria Institute of India, Delhi
(Jul. 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
UNICEF
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
(May 1959 - )

UNICEF

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; - )

UNICEF

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
(Feb. 1959 - )

UNICEF

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
(Jan. 1956...)
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 Programme 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
(TA UNICEF

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
R
(TA UNICEF

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 Index 98).

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 (Aug. 1958)
(TCA)

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.

**India 167**

All-India Institute of Hygiene and Public Health, Calcutta
(Consultant Services)
(Sept. - Oct. 1958)

**Aim 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

(Oct. 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.