

ANNEX 4

REPORT OF THE TECHNICAL DISCUSSIONS
ON
THE ROLE OF THE HEALTH DEPARTMENT
IN ENVIRONMENTAL HEALTH ACTIVITIES

1 INTRODUCTION

1.1 Subject

"The Role of the Health Department in Environmental Health Activities" was the subject selected for the Technical Discussions in accordance with resolution WF/RCl6.R8 adopted during the sixteenth session of the Regional Committee.

1.2 Preparation and arrangements for the Discussions

Technical preparation for the Technical Discussions involved a thorough review of the environmental sanitation situation in Member countries, based on the annual reports of health ministries, regular reports issued in relation to the planning and execution of WHO-assisted country projects and visits to countries by regional office staff and short-term consultants. Three working documents were prepared as background material and distributed to governments well in advance of the meeting. A preliminary list of questions and problems which might be considered by health department officials prior to attending the Technical Discussions was despatched in July to Member governments and to non-governmental organizations. The Technical Discussions opened with a plenary session followed by meetings in three discussion groups and concluded with a closing plenary session. The proposed questions for consideration of the discussion groups are shown on pages 71-72.

2 FIRST PLENARY SESSION

In opening the meeting, the Chairman noted that the Role of the Health Department in Environmental Health is a subject which embraces most of the activities designed to protect the people from disease and to promote their general well-being. He recalled that the stated purposes of the discussions were:

- (1) to review health problems due to improper or incomplete control of the environment by investigating what the health departments could do to remedy these problems;

- (2) to consider the existing sanitation services within the health departments and see if these services were adequate to solve the problems and implement environmental sanitation programmes properly and efficiently;
- (3) to analyze the role of the health department in the field of sanitation with reference to local problems such as lack of funds and personnel and interference by other agencies;
- (4) to recommend, in the light of the suggestions made and the examination of the present situation, the necessary steps to develop and use the sanitation services which form part of national health organizations and programme.

The Chairman further drew attention to the Sixteenth Annual Report of the Regional Director, which indicates that activities in the field of environmental sanitation are being continually expanded and that the extent of WHO technical assistance is also being increased as shown by the number of field sanitary engineers and other sanitation staff assigned throughout the Region. He pointed out, however, that a great deal remained to be done and that, in some areas, the improvement in environmental conditions had not been sufficient to deal with present problems and with the rapid increase of population in urban communities.

In introducing his paper (WPR/RCL7/TD4), Dr. Cruz gave the following summary:

- (1) The government agency responsible for taking necessary initiative in stimulating action and providing essential technical guidance in the implementation of environmental health activities is the health ministry or department.
- (2) It is imperative for every country to develop a long-term environmental sanitation programme which should be a part of the overall national health plan and should fit into the local, social and economic system.
- (3) Sanitation services are strengthened by the creation of a central division or bureau responsible for such activities.
- (4) Often such services are limited due to lack of suitably trained manpower and inadequate financial resources. The greatest problem is how to obtain the necessary funds to ensure good results as well as to provide adequate pay for the environmental health staff.
- (5) In some developing countries, health ministries have embarked on environmental sanitation activities, such as the construction of rural water supplies and of

facilities for the sanitary disposal of human excreta and refuse, but very few of these facilities meet public health standards. In the more developed nations, improved and modern methods are being introduced to overcome this difficulty.

- (6) Proper training should be provided for the environmental sanitation staff.
- (7) Community participation should be stimulated and coordination with various government agencies, professional and civic organizations concerned will help to attain fruitful results.

Mr. Lanoix focussed his remarks on some of the major environmental health trends and problems mentioned in his paper (WPR/RCL7/TD5). He stated that:

- (1) The people in the Western Pacific Region are still paying a heavy tribute to many infections and helminth infestations which could be curtailed drastically through the effective application of basic sanitation measures. Available epidemiological information and health statistics hardly reflect the true situation, which is often appalling, in respect of these communicable diseases.
- (2) While this burden affects chiefly the vast and populous rural areas of this Region, already many cities and towns are undergoing rapid urbanization and industrialization which, too often, take place with little or no control and which result in deteriorating housing, surface drainage and other environmental problems connected with excreta and sewage disposal and refuse collection and disposal. In several areas, these problems seem to be multiplying faster than health departments, with their present plans, organization and staff, can cope with.
- (3) Environmental health deserves great attention in national health planning as well as in economic and physical development plans, such as those elaborated by public works departments and municipal administrations. It is WHO's hope that the newly-created Asian Development Bank, like the World Bank and the United Nations Special Fund, will assist Member States in financing well-designed and "bankable" projects such as water supply, sewerage and sewage disposal schemes, especially in countries affected by or threatened by the spread of cholera and haemorrhagic fever.

- (4) In facing the environmental sanitation problems in fast-urbanizing communities the traditional medical officer of health - public health inspector team is becoming inadequate. Modern and epidemiologically-effective solutions to "old" problems, e.g., the provision of safe and adequate water supplies in a convenient way for the population either in urban or rural areas, call for the application of both the biological sciences and engineering, and require the addition to the public health team of a new type of worker - the professional public health engineer. The same, and more, may be said of the "newer" environmental problems which often involve the disciplines of architecture and of city planning besides civil and hydraulic engineering. Simultaneously, several aspects of community sanitation programmes, e.g., food and milk hygiene and refuse disposal, now demand that supervising health inspectors should possess still higher, and longer, education and training in the technology of these subjects.
- (5) In addition to establishing environmental sanitation services at all levels of health planning and administration, health departments might encourage other government departments carrying out large environmental improvement programmes, such as water supply, sewerage, housing and town planning schemes, to staff themselves up with public health engineers whose task it would be to prevent the creation of new environmental health hazards by these agencies.
- (6) Administrative and budget problems in the countries require for their solution persistent efforts on the part of the central and municipal health authorities. Requests backed by economic data and justifications are often appreciated by public administration and finance officials.
- (7) Evaluation is an essential pre-requisite for adequate planning of any health, or sanitation programme. Periodical evaluation of environmental sanitation programmes needs to be carried out if scarce funds are to be properly allocated between the various elements of a programme.

Mr. Valdes-Pinilla, Secretary for the Technical Discussions, introduced Mr. Le Bosquet's paper (WPR/RCL7/TD6) on "The Role of Health Agencies in Community Water Supply." He referred in particular to:

- (1) the stimulation and promotion role of health departments for the construction of safe piped community water supplies;

- (2) the advisory role of health departments on matters concerning water quality and in the setting-up of sanitary standards and designs;
- (3) the role of supervision of the water services, to ensure that at all times water is safe for the consumption of the community.

He pointed out that health departments should be involved in all the stages of a community water supply programme, namely the planing, organization, design, construction and operation of water supply systems. He expressed concern at the fact that, should health departments default, this role might be taken away from them and given to other government agencies which are eager to undertake these responsibilities, but which, in most instances, do not have the necessary competence in the biological aspects of water supplies and the public health engineering personnel to carry out these tasks successfully from the public health point of view.

3 MEETINGS OF THE THREE DISCUSSION GROUPS

3.1 Nature and scope of environmental health problems in the countries and territories of the Region

These problems usually well-known are related to social and cultural factors. They concern rural populations, often poor, as well as urban populations undergoing a rapid industrialization with what it implies as regards water supplies, waste matter disposal, overcrowded dwellings, air pollution, proliferation of insects and rodents carriers of diseases, etc.

Shortage of qualified staff, equipment and budgetary resources partly explains the rudimentary situation of environmental health, particularly in the developing countries.

The case has been mentioned of low-lying islands where natural resources in drinking water are insufficient. Rain-water collected in tanks often presents a contamination risk. Desalinated sea water would be the normal solution for this problem.

The schools and dispensaries themselves are often without sanitary equipment, even in the most developed countries in the Region. Water is necessary in the remotest villages so that water-sealed latrines may be used. Maintenance of the sanitary equipment is not always done as it should be, sometimes as a result of lack of training in the sub-professional staff.

In some countries, the administrative structure prevents the health services from intervening in the construction of water supply systems, which is the responsibility of the public works or the municipal services. Public corporations are sometimes responsible for the

operation of water distribution networks. However, too many specialists (geologists, hydrologists, engineers, etc.) are not under the authority of the responsible health officers. Therefore, it seems necessary to establish a central water board with a representative of the health service. It may be asked whether it is up to the health service to encourage the government to create this central service.

Some participants feel that the only role of the health service is in connexion with water control, to determine its purity at the time of distribution as well as in the planning stage and during the construction of the water supply system.

In certain countries of the Region, the capital city is the only town where there is a network for the distribution of drinking water and a sewerage system.

The collection and hygienic disposal of household garbage are often far from being solved.

The financing agencies of the state or the municipality give a low priority to projects aiming at the improvement of environmental health.

3.2 Existing environmental sanitation services

Almost all countries and territories in the Region have services which are entrusted in whole or in part with the solution of environmental health problems. But such services are not necessarily found in Ministries of Public Health. The Ministry of Agriculture is responsible for irrigation (which is sometimes implicated in the transmission of diseases such as malaria and bilharziasis). The Ministry of Public Works may be in charge of city planning services, sewerage and water supplies, although the latter is often entrusted to an autonomous authority or to municipalities. In French territories, the "Génie Rural" may be responsible for rural water supply. In some communities, local authorities have also been given this duty. Their lack of qualified staff and of experience has sometimes had disastrous consequences. The Education Department may, in some instances, be made responsible for school hygiene. Refuse collection and disposal is, in most instances, a responsibility of local authorities where it may be handled by municipal engineers or other non-health services.

In Japan, an Environmental Pollution Control Service Corporation was set up in October 1965 jointly by the Ministry of Health and the Ministry of Trade and Industry. While large industries can finance the cost of providing the mechanical equipment and facilities required for the prevention of air and water pollution, small industries cannot meet the expenses involved. The Corporation's functions are:

- (1) to assist factories in constructing such facilities and to provide them with loans at very low interest rates and long re-payment periods;

- (2) when industries are required to move to new zones, to provide housing for the displaced workers and to secure new land for siting the factories.

The Ministry of Health contributes about 50% of the Corporation's finances.

3.3 Planning, programme and budget

In planning an environmental health programme, the national health department will, of course, take into consideration the multiplicity of agencies which will be involved in its execution. Furthermore, it will pay due regard to the increasing importance of the many new environmental health problems associated with the rapid increase of population, urbanization and industrialization. These problems are often beyond the capability of local authorities to solve either financially or technically.

Environmental health covers a vast field and every public health service should decide on priorities in the light of problems confronting the country, the province, or the municipality concerned. At present, it seems obvious that water supply in urban and rural areas does constitute the number one problem facing most countries of the Region.

In rural areas, environmental health programmes can often utilize community development techniques for the construction of simple sanitary installations such as latrines, wells, springs, and small drinking water distribution networks. The group discussion has shown that, in most countries of the Region, public health services can assume the execution of environmental health programmes in rural areas. In any case, these services should be in a position to give advice on any water supply project, urban or rural, undertaken by another public department.

In urban areas, the role of the public health services should be limited to the control of the hygienic quality of drinking water supplies. However, this department should take the necessary initiative whenever possible towards the creation of a central autonomous water board which will be responsible, in collaboration with all other interested departments, for the construction, the management, and the operation of urban water supply networks. It was emphasized that the health department should not seek to obtain or retain direct responsibility for such programmes as water supplies, garbage disposal, etc., if another agency has the resources and the public health engineering personnel to carry out these functions satisfactorily. In these circumstances the health department should assume a supervisory role.

Improvement of environmental health necessitates budgetary allocations for personnel, equipment and works. Too often funds are reserved for programmes of economic development rather than sanitation activities. This difficulty may be overcome in certain cases if the public health authority can demonstrate that the expenditures envisaged

will, in fact, be productive investments. For instance, in the preparation of city plans, it may be necessary to demonstrate that the cost for the construction and maintenance of 100 000 septic tanks will be more than the cost of a sewerage system, in the long run.

A water fluoridation programme will save many hours of work for dental and medical services in general. The number of working days lost as a result of the prevalence of an endemic disease may justify the cost of mass campaigns. Income resulting from tourism will justify a mosquito control programme.

In respect of solid wastes disposal by means of sanitary landfills, it may be possible to demonstrate that the land recuperated (for parks, playgrounds, etc.) constitutes a net gain for the municipality concerned. Atmospheric pollution may cause damages to buildings before the public authorities take notice.

However, such demonstrations are difficult since often the results of a sanitation campaign will only be felt in the distant future. It is necessary to establish sound baselines in order to provide for later calculations.

It is difficult to determine the percentage of the total health budget which should be allocated to environmental sanitation activities, because the situation and the needs differ from place to place and from one country to another. It was noted that, in Korea, such activities received a little more than 1% of the health budget at national level, and that in the Philippines it is 0.62%. In China, the percentage usually goes up to between 5% and 8%. In other countries of the world where sanitation is poor it has been found that no less than 10% of the national health budget should be devoted for environmental sanitation activities.

3.4 Organization, administration and co-ordination

In small territories, there are no great difficulties in respect of the co-ordination which should normally prevail between the central health administration and local authorities. Such is not the case in large countries where there exist financially autonomous administrations, at municipal or local level, composed of representatives elected by the population. Often conflicts arise between these administrations and the central public health service especially when the latter only possesses advisory, but no executive, powers.

The role of the national public health service should be to call the government's attention upon the importance of environmental health in national health programmes, and to promote activities aimed at the prevention of environmental health problems which may be created by other governmental administrations. The national public health service should also assume the co-ordination of all sanitation activities undertaken by other departments. It should stress the necessity for proper maintenance of all sanitary installations.

The group participants considered that it is important to have a public health (or sanitary) engineer as the chief of the central division of environmental health of the public health service because, in view of his competence as a specialist, he should be the person designated to represent the department of health in its co-ordination role. The services of this engineer will also be particularly appreciated by local authorities which most often do not have such specialists on their staff.

Co-ordination is not always an easy job, due to the lack of interest and of understanding of many public administration officials who tend to give exclusive priority to economic matters over sanitation activities. Co-ordination may take place at national level in National Health Councils, and at local level in Municipal Health Commissions. It also involves representation from the health department on housing and town planning boards. The central health administration should advise, but it should also have a veto power, on projects which have been elaborated by other departments and ministries and which may result in the creation of new health hazards for the population. It should also issue guidelines for architects, city planners and public works engineers outlining the basic principles, standards and regulations on environmental health which should be observed by these specialists in their development programmes.

Without effective co-ordination and the financial and administrative support of other departments concerned, the public health officer may not be able to carry his programme in a thorough and satisfactory manner. It sometimes occurs that he gets discouraged, sits back and does nothing, abandoning his responsibilities for others to carry out. This is a dangerous procedure because the time may come when the public health service may find itself deprived of any power which it may still possess for the control of environmental health. In order to prevent this, the public health service should periodically evaluate its environmental health programme, with a view to eliminating all obstacles, whether of an administrative or technical nature, and to seek new legal powers if necessary for the effective control, supervision and co-ordination of all measures undertaken to improve the environment. In this matter, the professional conscience and responsibility of public health service officers are of paramount importance. In well-developed countries such as Australia and the United States of America difficulties of this nature are avoided through effective procedures for communication, co-ordination and co-operation between the different departments concerned. The need was cited for health departments to review and, when necessary, to bring their sanitary legislation up-to-date.

3.5 Personnel and training

The group participants were of the opinion that it is the responsibility of the national public health service to recruit and to train environmental health personnel. This personnel includes public health (or sanitary) engineers and sanitarians, the latter category may be subdivided into two or three groups depending upon basic educational levels and the extent of the specialized training provided.

As a matter of principle, training programmes should be tailored to suit the problems at hand.

The public health (or sanitary) engineer is an environmental health specialist and, as such, he should be entrusted within public health administrations with the direction of this programme, in particular with the supervision of measures related to water supply, excreta and solid wastes disposal, etc. It was noted that, in the Philippines, China, New Zealand, and the United States of America, public health engineers are in charge of the Central Health Department's Environmental Sanitation Division under the direct supervision of the Director of the Department. Public health engineers working in the public health services should also be at the disposal of provincial, municipal and local administrations in order to assist them in a practical and effective way in the solution of local environmental health problems.

Physicians themselves do not possess sufficient technical knowledge in this field, and those who are given responsibilities in environmental health should be provided with an appropriate post-graduate education in public health. In this way, the two categories of personnel (the public health officer and the public health engineer) will be better able to understand each other and to collaborate effectively. The participants expressed their wish that not only should their governments pay attention to the training of such specialists but WHO should further intensify its fellowship programme for this purpose.

There is a definite advantage for municipal authorities (water and sewage disposal units, housing and city planning services, etc.) and for public works departments to employ public health engineers. In these administrations, such engineers should be responsible for the design and construction of sanitary installations. In so doing, they will observe health and sanitation standards and regulations established by the health authorities which should also approve the plans of such projects. Co-ordination between the two departments will in this way be greatly facilitated.

In the United States of America, there exists one public health (or sanitary) engineer for 33 000 inhabitants as a general average. This ratio is about one for 250 000 in rural areas. For comparison purposes, there is at present one sanitary engineer for 870 000 inhabitants in the Philippines, one for 500 000 in China and one for 3 000 000 in Viet-Nam. In other countries of the Region the situation is worse, as there are no sanitary engineers at all. In view of the enormous sanitation problems which still prevail in most of the countries of the Region it is easy to see the considerable gap which exists in so far as the number of sanitation personnel is concerned.

As regards salary levels for public health engineers, it was noted that these are usually inadequate and insufficient to enable the employment by health departments of experienced engineers. It was agreed that these salary levels should, at least, not be lower than those for engineers working in other government departments or those for medical officers of similar rank in the health department.

So far as sanitarians are concerned, there is an increasing need for the training of a higher type of personnel, perhaps at university level. Such sanitarians are required for supervisory duties and for the planning of programmes such as those concerned with milk and food sanitation and refuse disposal, which call more for the application of the biological sciences than for competence in engineering technology. Among the various types of education and training devices which may be utilized, the participants called attention to the value of:

- (a) in-service and refresher training programmes, which may include locally-arranged courses or overseas fellowships;
- (b) the creation of public health training institutes which, in addition to regular courses, may organize short courses for the public health staff and for civil and municipal engineers, architects and city planners, in well-selected subjects covering both the technical and administrative aspects of environmental health programmes;
- (c) the introduction of basic environmental courses, including laboratory exercises, into the curricula of civil engineering, municipal engineering, as well as lower technical schools;
- (d) demonstration projects, which are useful for the promotion of environmental sanitation programmes. Their value is aptly summarized by Confucius:

"If I hear, I forget
If I see, I remember
If I do, I know."

Health departments and academic institutions training health personnel should be closely associated.

3.6 Health education and community participation

The participants recognized that environmental health programmes cannot be successfully carried out without full participation by the benefitting population which should also play a role in the planning as well as in the execution of projects. For this purpose,

it is necessary that the population be led to understand and to discover the economic advantages, in one word, to appreciate the value of environmental health facilities.

Health education is recommended for all levels of the population. It is also necessary for public administration officials as well as for urban and rural dwellers. In this connection, mention was made of the Technical Discussions which took place in 1965 at the Regional Committee in Seoul, Korea, on the subject of "The Use of Health Education Services in National Health Programmes".¹ Principles and methods of health education should be included in the basic training of all environmental health workers.

3.7 Evaluation of programmes

The group expressed the opinion that public health services should carry out periodically an evaluation of their environmental health programmes in order to determine not only the actual status of these programmes but also to measure the efforts made in their implementation and the effectiveness of the programme components in achieving the desired goals. This point has been already commented upon partly in paragraph 3.4 above. Further examples were cited by some participants in order to illustrate the concrete advantages, administrative as well as technical, which may result from such an evaluation. One of the most important results of evaluation will be the determination of the revision of priorities which should be granted to the various elements of a general programme of environmental health. In preparing for a programme evaluation, criteria and objectives must, of course, be carefully fixed in advance in order that the activities of the responsible government services may later be adequately measured.

3.8 Suggestions for consideration by governments and by WHO

Among the many suggestions contained in the above paragraphs the participants wish to call the particular attention of governments and of WHO to the need:

- (a) for training environmental health personnel (public health engineers, sanitarians, and public health doctors);
- (b) for long-term planning in environmental health as well as in public health;
- (c) for establishing environmental health units at the policy-making level within health departments;
- (d) for adequate financial means to carry out environmental health activities.

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Annex 5 to document No. WP/RC16/15 Rev.1, Report of the Regional Committee, 16th session, Seoul, Korea, 1965.

4 CLOSING PLENARY SESSION

The general Chairman called successively on each of the group chairmen to introduce their group reports. A general discussion followed covering the subjects of education and training programmes in environmental health, in health education in relation to sanitation activities, and on the place of environmental health units in health administrations. The opinions expressed and agreed upon have been recorded in the preceding paragraphs.

The general Chairman then made a brief summary recapitulating the main points which have been listed above. He thanked all the chairmen and rapporteurs and also the participants for their valuable contributions to the success of the Technical Discussions. He also acknowledged the excellent assistance received from the Regional Director, his staff, and the Chief of Sanitation Services and Housing, WHO Headquarters. Appreciation was expressed also to the general Chairman by a spokesman on behalf of the participants for his efficiency in leading the Technical Discussions.