

THE TASKS OF THE SANITARY ENGINEER

With the pollution problem now facing the world, it has become essential that engineers, public health officers and epidemiologists should co-operate. In its review¹, the World Health Organization has published a study on the training of environmental health experts, and we give a few excerpts below.

The term "sanitary engineer" means different things to different people. It may mean an engineer specializing in the design, construction, operation, and management of sanitary facilities such as water and sewage treatment works or wastes collection and disposal. In other situations it may refer to an engineer with specialized training in other environmental health areas such as air and water pollution, vector control, or housing. Basically, however, the term refers to an engineer "who is trained in techniques that permit him to advise upon, administer, supervise or otherwise conduct professional and scientific work where the use of engineering knowledge and skills is essential for identification and control of environmental factors that may produce a detrimental effect on the physical, mental or social well-being of man".

Numerous changes in man's relationship to his environment, due to the rapid development of technology, population growth, industrialization, and urbanization, have given rise to a new concept of environmental health. The scope of the engineer is consequently expanding from environmental sanitation, which related principally to the provision of safe water supplies and sanitary wastes disposal facilities, to a wider spectrum of activities such as those concerned with environmental pollution, which impairs the health and well-being of people. It is essential that environmental

¹ *WHO Chronicle*, Geneva, Vol. 25, No. 1.

health workers should continue to be concerned with the prevention of communicable diseases; at the same time, however, they must assume responsibility for reversing the tendency of man to spoil his environment, and they must aim at preserving a healthy environment for future generations.

It is clear that a development of this kind will have a major impact on the training of sanitary engineers, as well as on that of other specialized professionals who are concerned with the environment, its impact on health, and its amelioration through precautionary and remedial action. . .

Man's relationship to his environment changes constantly and needs unceasing surveillance and control. The causes of these changes are readily discernible and include population growth, uncontrolled urbanization, accelerated industrialization, the rapid development of technology, and man's increasing demands as his standard of living rises. In the process of change the human and social elements are becoming more and more important. Therefore, to deal efficiently with environmental problems, a very broadly educated sanitary engineer is required.

Environmental health depends on the co-operation of engineers, public health officers, epidemiologists, and planners, all of whom share the ultimate responsibility for the shape and character of the human environment.

The unit approach of the past, in which individual components are designed and then integrated into the system, often resulting in a poor balance between components, is giving way to a systems approach in which a system is considered as a whole.

In system analysis, the humanities and social sciences play an important role, and engineers must have a much better understanding of human wants, goals, and aspirations. Economic, political, and administrative problems are obviously involved in work of this nature. Engineers in general are well prepared to study these fields in more depth because the history of engineering is a history of dealing with the wants of large communities.

While the humanities and social sciences are recognized as essential in providing this professional understanding, they can no longer be taught as a random assortment of subjects but must be presented in a carefully planned series of courses.

A background in both environmental control and public health will enable the sanitary engineer to keep health criteria to the forefront in the planning and execution of environmental health projects. Health criteria are essentially planning criteria, and the health needs of the community are inextricably interwoven with the long-range resource development plans that have to be formulated.

TWO STUDIES ON THE PROTECTION OF WAR VICTIMS

In two recent numbers, the Revue belge de Droit international (Belgian Review of International Law) ¹ has published studies by ICRC legal advisers on the protection of various categories of war victims. The first, by Mr. Michel Veuthey and entitled « Règles et principes de droit international humanitaire applicable dans la guérilla » (Rules and Principles of International Humanitarian Law applicable in Guerrilla Warfare), may be summarized as follows :

Guerrilla warfare is a very old method of fighting, despite the fact that its modern name is as recent as the Spanish people's resistance to Napoleon's troops. Until the present day, the laws of war have tended to ignore, if not censure this method, which, considering its practical and theoretical development in the twentieth century, has condemned the law to impotence or uselessness in the majority of modern conflicts.

The law (meaning the 1949 Geneva Conventions and the 1907 Hague Conventions) must be adapted both in this form of warfare and in the conventional kind, so as to shield the victims from the unrestricted spread of hostilities. What happens to combatants and civilians, the methods of fighting and a set of model rules

¹ Brussels, 1971, No. VII (2) and 1972, No. VIII (1).