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BUREAU RÉGIONAL DE LA MÉDITERRANÉE ORIENTALE

REGIONAL STUDY GROUP ON DRINKING WATER STANDARDS AND STANDARD METHODS OF WATER ANALYSIS

Alexandria, 12 - 13 May 1958

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REPORT OF THE REGIONAL STUDY GROUP ON DRINKING WATER STANDARDS AND STANDARD METHODS OF WATER ANALYSIS

The following were members of the Study Group:

Iran	:	Mr. Ali Khabiri, Deputy Chief, Sanitary Engineering Division, Ministry of Health
Lebanon	:	Mr. Mahmoud Hallab, Chief, Sanitary Engineering Division, Ministry of Public Health
Pakistan	:	Mr. M. Hamied-Ud-Din, Chief Engineer, Municipal Corporation, Lahore, West Pakistan
United Arab Republic	:	Dr. Kamal Hakim, Assistant Professor of Chemistry, High Institute of Public Health, Alexandria, Egyptian Region, United Arab Republic
Secretariat	:	Professor W.F.J.M. Krul, Director of the Netherlands' Government Institute for Water Supply, The Hague - Special WHO Consultant
		Mr. H. Shipman, WHO Sanitary Engineer and Senior Adviser, Demonstration and Training Centre, Qalyub City, Egyptian Region, United Arab Republic
		Mr. J.O. Buxell, WHO Regional Adviser on Environmental Sanitation

Dr. S.F. Farnsworth, Director of Health Services, Eastern Mediterranean Regional Office, World Health Organization, opened the meeting on 12 May, 9.15 a.m. with a word of welcome to the participants of the Study Group and gave a brief review of the past activities of the World Health Organization concerning international drinking water standards

and standard methods of water analysis. Reference was made to the report of the first Regional Study Group, which met in November, 1955. (1)

Mr. J.O. Buxell reviewed the programme of the World Health Organization in promoting International Standards of Drinking Water in considerable detail. He expressed his regrets that out of the nine participants nominated by their Governments for this Study Group, only four could be present. Various duties and emergencies have prevented the others from attending.

Dr. Kamal Hakim was elected Chairman of the Study Group, and Mr. Ali Khabiri was elected Rapporteur.

1. REVIEW OF THE REPORT OF THE WORLD HEALTH ORGANIZATION STUDY GROUP ON INTERNATIONAL STANDARDS OF DRINKING WATER QUALITY - 1956. (2)

The committee devoted considerable time to reviewing and discussing all sections of the report and the following proposals and decisions were made:

1.1. Toxic substances

The physiological action of various components are more or less independent and each toxic limit individually applicable would have no supplemental effect. Any or all of these substances could be present in the limits shown and the water would still be considered potable.

1.2. Chemical substances affecting potability of water

Consideration was given to the fact that the standards set out in the report are recommendations and not specific and approved standards. It may be necessary to adapt them to local conditions. In Egypt, where small ground water supplies for villages can hardly admit deferrisation and demanganisation, standards were adjusted accordingly. (A total concentration of ion and manganese 1.5 mg/l is permitted temporarily).

Total solids

In Iran most of city water supplies use ground water containing sometimes high amounts of salts.

In Tunisia, in some cases equally ground water with a high amount of total solids has to be used.

Under such circumstances, a higher amount of total solids than permitted in the International Standards has to be accepted for the moment.

(1) Report of the Regional (Eastern Mediterranean) Study Group on Drinking Water Standards and Standard Methods of Water Analysis, EM/ES-SG/3, EMRO, WHO, Alexandria, Egypt, 8 May 1956

(2) International Standards for Drinking Water, WHO, Palais des Nations, Geneva, Switzerland, 1958. In preparation. (Prepublication copies were available to Study Group Members)

Colour, permissible limit

As the "permissible" limit of 5 units for colour was considered low in comparison with the other permissible limits, it was decided to recommend a rise of this standard to 20 units. The turbidity standard could remain the same.

1.3. Standards of bacteriological quality for untreated water

The Study Group appreciated the proposal to adopt a lower standard for untreated water under prevailing circumstances in many parts of the world (M.P.N. of coliform organisms less than ten for 90% of samples).

However, it was pointed out in the discussion, that in the case of an adequately protected and constructed well, a M.P.N. index of less than one should be present and that an index of one or more should be a warning that such a well might better be abandoned or permanent disinfection should be applied.

On the other hand, wells of this kind seem to be in use in some countries of the Region where constantly a M.P.N. index higher than one has been found without evident harm to health. It was considered important to perform special research in this field, especially to learn whether sampling technique or other unknown factors are involved.

1.4. Bacteriological examination of water

With appropriate safeguards, the membrane-filter technique for bacteriological examination could be adopted as a standard method.

1.5. Water quality promotion

One of the proposals included in the planning of the World Health Organization is the convening of an Expert Committee on this subject in 1961. This was endorsed by this Group. That would be an opportunity for a further revision of the presently adopted standards. The Regional Group suggests that certain modifications be considered at that time.

With the foregoing modifications, the standards proposed by the World Health Organization International Study Group could be adopted for this Region.

2. PROMOTING BETTER WATERWORKS PRACTICE THROUGH THE USE OF DRINKING WATER STANDARDS IN REGIONAL COUNTRIES

Egypt has adopted the International Standards through a national water standards committee (Ministry of Public Health), with a modification for ground water containing both manganese and iron. The maximum amount of both elements together should not exceed 1.5 mg/l as a temporary measure for ground water supplies.

Iran is applying the 1946 USPHS standards. Adoption of the International Standards could be considered by the Ministry of Health.

Pakistan has not yet adopted standards for water quality, although previously it followed standards similar to the USPHS ones as a guide for water treatment, rather than as compulsory standards.

Lebanon has utilized standards similar to those of USPHS.

3. SECURING THE ADOPTION OF STANDARDS

The use of such standards is important for the management of water supplies and the public health authorities in their control activities. With the help of the World Health Organization and the governments, the standards therefore should be recommended and explained to public health authorities and the waterworks officials concerned, to avoid misunderstanding. The Regional Office of the World Health Organization might organize a short course to this end. Ministries of Public Health of regional countries could assume leadership in this regard.

4. THE ROLE OF WATER STANDARDS IN THE ASSESSMENT OF THE QUALITY OF POTABLE WATERS; SURVEYS OF PHYSICAL CONDITIONS OF WATER SUPPLY AND OPERATING PRACTICES OF PURIFICATION AND DISTRIBUTION

It was considered of high importance that regular records should be available for all waterworks, relating water quality and physical conditions of all parts of the works.

Uniformity of record forms was thought highly desirable on a regional and perhaps on a world-wide scale. Therefore, the Secretariat of the World Health Organization might prepare a proposed survey form. Material for consolidating various existing forms could be collected by a competent adviser in the Regional Offices. A preliminary proposed form might be prepared and circulated to Member States before the 1961 meeting of the World Health Organization International Expert Committee.

The importance of having hygienic surveys of water supply systems made by qualified persons was stressed in the Group discussions. This is a logical function of the sanitary engineer of a public health agency.

5. CERTIFICATION OR SUPERVISION OF LABORATORIES

The Study Group recommended that for each country, there should be established a certain supervision of laboratories working in the field of water control in a form most suitable to the local conditions.

Legal authority was considered necessary within a country to ensure supervision of semi-official and private laboratories, performing analyses of potable water.

It was considered that the World Health Organization Expert Committee should consider the possibility of a certain world-wide form of certification of laboratories, in order to secure comparable results, especially with a view to water supply of international carriers. Standards are apt to be difficult of application without the existence of well equipped laboratories, utilizing uniform procedures.

A certain amount of international supervision might be realised by supplying advisory assistance. The Study Group believe this form of international co-ordination to be preferable at this stage.

6. POTABLE ALTERNATES FOR BACTERIOLOGICAL TESTING, SUCH AS USE OF CHLORINE RESIDUALS

The value of frequent "free" residual tests for chlorine was emphasized by the Group. It could be used as a partial substitute for bacteriological testing of small waterworks, although bacteriological testing could not be dispensed with entirely.

7. PROMOTION OF RESEARCH ON WATER STANDARDS AND WATER PURIFICATION. CO-ORDINATION AND STRENGTHENING OF RESEARCH EFFORTS IN APPROPRIATE INSTITUTIONS

The programme of the World Health Organization to promote water quality research was discussed and endorsed.

The regional list of institutions, originally provided by the World Health Organization Secretariat, was supplemented by:

Central Public Health Laboratories of the Ministry of Public Health, Lebanon (these were opened recently). (Dr. Elias Hayek is the Director)

Ministry of Public Health Laboratories, Egyptian Region, United Arab Republic, Cairo. (Director: Dr. Mohamed Aly)

National Research Council Laboratories, Dokki, Cairo. (Director: Dr. Ahmed Riad Turki)

U.S. Naval Medical Research Unit, Cairo (NAMRU)

Some research subjects could be added as being of special interest for the Region, e.g. reviewing incubator standards in hot, tropical countries; study of algae growth in drinking waters.

8. STUDIES ON THE WORLD HEALTH ORGANIZATION STANDARDS IN COMPARISON WITH OTHER STANDARDS

The Study Group suggested having a laboratory in the Region carrying out different technique (American/British and French) for bacteriological examinations simultaneously with the International Standards. The possibility of such a comparison was proposed in relation to the Alexandria Water Company (British and International Standards) and to Beirut (French, American and International Standards).

9. PROBLEMS OF WATER QUALITY PROMOTION IN ARID ZONES AND PARTICULARLY IN RELATION TO IRRIGATION DEVELOPMENTS

A number of examples of various types of conserving and storing water from periods of higher rainfall to dry seasons were given. The question of providing drinking water supplies during dry or cleaning periods of irrigation schemes was also discussed, with the citation of a few examples. These techniques might profitably be collected and disseminated.

10. ROLE OF THE EASTERN MEDITERRANEAN REGIONAL OFFICE (WORLD HEALTH ORGANIZATION) IN WATER QUALITY PROMOTION

The Study Group agreed that the World Health Organization should promote the following:

- Seminars on water quality
- More fellowships for sanitary engineers on undergraduate, post-graduate and observational levels
- Sponsoring a Regional Professional Association of Sanitary Engineers (this could be done in relationship with the Second Seminar on Environmental Sanitation - EMRO 1960).

The Group also recommended that a Water Purification or Treatment