

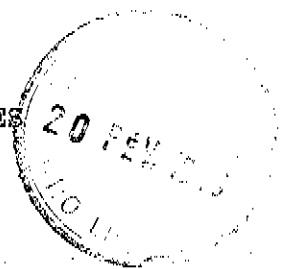
WORLD HEALTH  
ORGANIZATION

DIVISION OF COMMUNICABLE DISEASES  
ENDEMO-EPIDEMIC DISEASES

ORGANISATION MONDIALE  
DE LA SANTÉ

WHO/Bil.Int/1 Rev.11 ✓  
5 February 1959

ORIGINAL: ENGLISH



WHO BILHARZIASIS ADVISORY TEAM

INDEXED

1. General purposes

While some important communicable diseases are being brought under control, the prevalence of bilharziasis remains unchanged in a large part of the world, and in some instances is rapidly increasing. In lesser developed countries the economic development programmes are directly responsible for this trend. The construction of dams and reservoirs and the establishment of irrigation canals and drains creates breeding places for insects and snails, potential intermediate hosts for diseases such as malaria, bilharziasis, and other human and animal trematodes.

It has been observed that the introduction of irrigation schemes as well as the changeover from basin to perennial irrigation has coincided with a considerable increase in the incidence and intensity of bilharziasis, and this unfortunate consequence is assuming ever greater importance with the geographical extension of the irrigation programme in Africa and in the Eastern Mediterranean region. Under conditions prevailing in these countries, the increase in bilharziasis is apt to cause a slowing down in the socio-economic development. The WHO is endeavouring to define guiding principles to enable the planning of irrigation schemes which will prevent or reduce the frequency of transmission of the disease, and in this connexion, plans to undertake a study of methods to prevent the spread of bilharziasis which may be combined with irrigation and engineering operations.

The main purposes of the bilharziasis advisory team are:

- (a) to estimate the seriousness of the bilharziasis problem in each infected country, its increasing prevalence and morbidity rate, and its increase in relation to the development of irrigation schemes; and to advise on the most up-to-date control methods applicable to local conditions;
- (b) to investigate methods for the prevention of the spread of bilharziasis in connexion with the development of hydro-electric power systems and irrigation methods or other economic or engineering schemes;

- (c) to review community development programmes in areas where the bilharziasis problem exists with a view to advising on measures for the prevention of bilharziasis;
- (d) to appraise fresh water ecology data and to apply ecological findings as appropriate in the planning of irrigation, drainage and water management schemes. If no such data are available, to plan studies in this field;
- (e) to develop, analyse and make recommendations for the co-ordination of activities by the various agencies involved in the prevention of side effects in the spread of the disease as a result of economic development;
- (f) to consider the economic implications of engineering control methods proposed for the prevention of the spread and for the control of bilharziasis;
- (g) to advise on long-term plans for bilharziasis control.

It is understood that the scope of the programme described above is too large for it to be accomplished in the short time allotted to the bilharziasis advisory team. It must be kept in mind that the factors and their variants should be reduced to a minimum so as to avoid complexity of subject in one project. The standardization of methods, so essential in host and intermediate host ecology, is still lacking in bilharziasis investigations. It is expected that this team will collaborate with the scientists working in the countries, assessing the efficacy of the epidemiological methods used and advising upon new methods.

The planning of the team's work would be carried out at Headquarters in collaboration with the Health Statistical Methodology Unit when the factors involved in epidemiology, and the methods used in one selected area are precisely defined. The Division of Environmental Sanitation is collaborating on the engineering aspects of bilharziasis control. The Division of Malaria Eradication, and other interested Headquarters Units, such as Veterinary Public Health, are also being consulted in connexion with trematode and anopheles larval control.

2. Composition and duties of the team

The Team will be composed of an epidemiologist, as team leader, assisted by an engineer. The epidemiologist will also be a specialist in parasitic diseases with particular reference to the special aspect of public health problems involved. He will be a specialist in fresh water ecology, acquainted with control methods applied to snails and other vectors living in watercourses. The engineer will be a specialist in irrigation with background knowledge in biology and vector control, or a sanitary engineer with substantial experience in irrigation engineering and practices.

The team will collect and examine available data, study the planning and results of the existing programmes, interpreting this information in relation to local conditions.

They will carry out an epidemiological survey according to a specific plan in collaboration with the Health Statistical Methodology Unit of Headquarters.

The survey will be made by the team alone, or in conjunction with its national counterpart. The duration of the survey should not exceed six months.

If necessary, the advisory team shall return to the country concerned for a follow-up of the epidemiological investigation or to act in an advisory capacity to the national team in order to solve specific problems.

For administrative purposes the team will come under the WHO Regional Director concerned who will negotiate with the national authorities and who will, in consultation with WHO Headquarters and the team leader, decide the order in which the countries shall be visited and how much time shall be spent in each.

The team will work at all times under the technical supervision of WHO Headquarters. All technical communications and all reports shall be addressed both directly to the WHO Regional Office and to Headquarters. The Regional Office will comment to Headquarters upon the report and will send the final report and recommendations, as agreed between the Regional Office and Headquarters, to the government concerned. Every effort should be made to avoid delays during this procedure.

The team leader, in consultation with the Regional Office and WHO country representative, where there is one, shall arrange the assistance required in the localities in which the team will work with the government and local officials. He shall be responsible for the work of the team and for the preparation of the report of the results, including adequate maps, for the Regional Office and Headquarters.

3. Administrative status of members of the advisory team

Appointment to this team shall be considered as a Headquarters appointment. As only a brief visit will be made to Geneva, the team member will be placed in continuous travel status for the duration of the appointment and his dependants will not be allowed to travel with him.

4. Selection of areas

(a) The advisory team should work in countries where requested by the government, and where the Regional Office has previously explored the suitability and advisability of such a survey;

(b) The area should have a potential economic importance;

(c) A programme, assisted or directed by the government, should be in operation or at least have reached the planning stage.

5. Commitments of the government

It is understood that the commitments of the government towards the advisory team will be limited to those items which may be obtained from existing facilities, and it is assumed that this would cover the following points:

(a) office, store and laboratory accommodation, including services;

(b) clerical services as required (which will be rather limited);

(c) a driver for the motor vehicle of the team;

(d) free transportation within the country, while on duty, by public transport;

(e) customs exemption for the WHO equipment, transport and supplies;

(f) assistance to the international personnel in obtaining suitable accommodation (which will be paid for by the personnel concerned);

(g) provision of fuel, maintenance, servicing, repairs, etc., for the motor vehicle of the team, even if it does not belong to the government;

(h) provision by the government of insurance or indemnification of the Organization for civil liability under the laws of the country in respect of the motor vehicle provided for the team by the government or by the Organization.

#### 6. Equipment\*

The equipment will include an Overland station wagon, a field laboratory, printed record cards for compiling data, apparatus for hydraulic measurement, surveying, drawing, etc. The details of this equipment are as follows.

##### Field collecting equipment

1	Dip net, heavy ring, 12" in diameter, canvass apron, bag 10" deep
1 pair	Hip boots, size 11
1	Counter, hand tally
200	Gummed labels, about 70 x 40 mm
1	Hand magnifier, folding, 10x
1	Hand magnifier, folding, 20x
5	Muslin bags, about 450 x 200 mm
1 doz	Pencils, wax, glass marking

##### Laboratory equipment

1 doz	Towels, laboratory
1	Microscope, compound, monocular; 5x and 10x oculars; 10x and 43x objectives; in case
1	Stereoscopic microscope, wide field binocular; 5x and 10x oculars, 1x and 3x and 6x objectives; in case
200	Cover glass, square, No. 2, 22 mm
100	Cover glass, rectangular, No. 2, 22 x 40 mm
1 gross	Microslides, 3 x 1"
1	Microslide box, capacity 100
2 doz	Pipettes, dropping (medicine droppers), with rubber bulbs
2	Lens paper booklets
2 pair	Rubber gloves, size 8-1/2
2 cans	Talc
3 doz	Test tubes, Pyrex, 150 x 15 mm
1	Test tube support, galvanized wire, capacity, about 40
1	Test tube brush
2	Test tube holders, spring clamp
1	Thermometer, laboratory, 0° to 100° C
2 doz	Watch glass, Syracuse, about 67 mm
1 doz	Culture dish (Petri dish), 100 x 15 mm

\* The specifications mentioned may be subject to alteration.

Laboratory equipment (continued)

- 2 Cylinder, graduated, 100 ml
- 2 Cylinder, graduated, 250 ml
- 6 Graduate, pharmaceutical, 500 ml
- 1 Dissecting kit to contain:
  - 4 Dissecting needles, straight
  - 1 Scissors, 1 blunt point, straight
  - 2 Scissors, fine points, straight
  - 2 Forceps, fine, curved
  - 1 Forceps, fine, straight
  - 1 Forceps, blunt, straight
  - 1 Scalpel handle
  - 6 each Assorted blades for above
- 2 rolls Cotton, absorbent
- 2 Alcohol lamps, metal, with cap
- 1 doz Bowls, glass, that can be stacked, about 100 mm
- 6 Bowls, as above, about 200 mm in diameter
- 10 Beakers, Pyrex, 100 ml
- 5 Beakers, Pyrex, 250 ml
- 5 Beakers, Pyrex, 500 ml
- 100 Bottles, wide mouthed, plastic screw cap, about 70 ml
- 200 Bottles, as above, about 120 ml
- 100 Bottles, as above, about 250 ml
- 100 Bottles, as above, about 500 ml
- 4 Bottles, narrow mouth, screw cap, 500 ml
- 2 Bottles, narrow mouth, screw cap, 1,000 ml
- 2 Tripod, metal, 6" high, ring about 3" inside diameter
- 2 Wire gauze square with asbestos centre, 6"
- 250 ft Adhesive tape, about 1" wide

Reagents

- 1 litre Formalin
- 5 litres Alcohol
- 25 gm Menthol

General

- 1 Typewriter, portable
- 1 Stapler and staples

Engineering equipment

Hydraulic measurements

- 1 Water current meter outfit, for both deep and shallow water, type SK.3 of Hilger & Watts Ltd. as described in their leaflet No. CS 37/2, March 1950

Engineering equipment (continued)

- 1 Stop watch, 1/5th second with recording dial up to 30 minutes, type dp-11370, made by A. Gallenkamp & Co. Ltd.
- 1 5 lb bag, Sodium chloride, technical
- 1 2 lb can, Fluorescein dye
- 1 Portable water laboratory field kit, type Taylor Water Analyser

Surveying equipment

- 1 Precise Level, Paragon type No. P5026 of Keuffel & Esser Co., complete with tripod No. 5197, fixed legs
- 1 Levelling Rod, type Philadelphia "C", No. 6210C-13 of Keuffel & Esser Co.
- 3 Engineers' Field books, type K & E Co. No. 360
- 1 Steel measuring tape, meter graduations, 30 m, No. 7325M of Keuffel & Esser Co.

Drawing Equipment

- 1 Roll, 50 yds long, 50 cm wide, cross-section paper, graduated in mm, type No. 303G of K & E Co.
- 2 Rolls, Tracing cloth, for pencil and ink drawings, type "Imperial", of K & E Co., 36 ins wide, 20 yds long
- 1 Set, Drawing instruments, type "Paragon", of K & E Co., No. 846
- 1 Transparent Protractor, circular, 6 in., type No. 1273-6 of K & E Co.
- 1 Triangular Scale, type Paragon, of K & E Co., No. 1655P
- 1 Triangle, transparent Xylonite, 12 in., 45°, No. 1856, K & E Co.
- 1 " " " " 12 in., 30°-60°, No. 1855, K & E Co.
- 6 Drawing pencils, black, 3H
- 6 " " " HB
- 1 Slide rule, 10 in., Mannheim type of K & E Co., No. 4161-3

Reference literature

- 1 Irrigation Engineering, by I.E. Houk, 2 vol., New York, Wiley, 1956
- 1 Handbook of Hydraulics, by King and Brater, McGraw, 1954

Miscellaneous equipment

- 1 Camera and films