



SEMINAR ON WATER POLLUTION CONTROL

EM/SEM.WAT.POLL.CTRL./15

Khartoum, 20-27 November 1972

1 November 1972

ENGLISH ONLY

EDUCATION, TRAINING AND UTILIZATION OF WATER POLLUTION SPECIALISTS

O U T L I N E

by

Dr H.C. Preul*
WHO Temporary Adviser

1. Activities of Water Pollution Specialists in Practice

- a. Planning, Design and Construction of Facilities
- b. Operation and Maintenance of Plants and Facilities
- c. Inspection and Regulatory Quality Control - Public Health
- d. Research and Development
- e. Education
 - (1) Institutions - Colleges, Technical Schools, etc.
 - (2) Training Field Personnel and Short Courses
- f. Public Information and Meetings on Problems
- g. Governmental Administration

2. Utilization of Water Pollution Specialists

- a. Central Government Organizations
- b. Provincial Government Organizations
- c. Municipal Government Organizations
- d. Private Corporations
 - (1) Engineering firms
 - (2) Sales firms - Equipment and Supplies
 - (3) Private Laboratories
- e. Academic Institutions

* Professor of Civil and Environmental Engineering, Department of Civil and Environmental Engineering, University of Cincinnati, Cincinnati, Ohio

3. Education of Water Pollution Specialists

a. Technical Schools

- (1) Sanitarians
- (2) Laboratory Analysts
- (3) Plant Operators
- (4) Maintenance Personnel - Mechanics, Electricians, etc.
- (5) Public Health Inspectors

b. Bachelor's Degree Programmes

- (1) Sanitary Engineering
 - (a) Basic Courses
 - (b) Optional Courses
- (2) Public Health
- (3) Professional Experience Assignments

c. Post Graduate - Masters Degree and Diploma Level

- (1) Specialization and Selection of Students
- (2) Professional Experience Assignments
- (3) Curricula - Adaptation to National Requirements
- (4) National Education vs. Education Abroad
- (5) Research and Special Projects

d. Post Graduate - Doctors Degree Level

- (1) National Education vs. Education Abroad
- (2) Need for Ph.D. in Water Pollution
- (3) Curricula and Selection of Students
- (4) Research and Development

4. Training Programmes

- a. One-Year Training Programmes - i.e., three-month assignments in various governmental ministries or divisions.

b. Specialized Training Schools and Short Courses

(1) Up-dating Field Personnel and Practicing Specialists

(2) Training of Operating Personnel

(a) Courses and Qualification Requirements

5. Professional Meetings and Organizations

a. Various Organizations

(1) Engineering Societies; Water Pollution Specialists;
Waterworks Specialists, Water Resources; etc.

(2) Regular Meetings - Annual, Monthly, etc.

(3) Symposiums and Seminars

(4) Regional and International Cooperation and Meetings

6. Summarizing Philosophy