

TURKMENISTAN ACTIVITIES
WATER AND SANITATION HEALTH EDUCATION PROGRAM

This is a summary of the water and sanitation health education activities conducted in Turkmenistan as part of the EPT project which are included in the Memorandum of Understanding executed between the Government of the United States and the Government of Turkmenistan on 17 February 1994 "to help meet the critical potable water needs of the rayon of Turkmenbashi and promote improved environmental health "

A field assessment was conducted in November 1994 and detailed recommendations were made in December 1994. A Health Education Planning Seminar was developed and implemented in April 1995 for 65 participants from eight etraps, and attended by UNICEF, Peace Corps, and local NGO's. As the result of training provided at this seminar, eight grass-roots projects were developed and are being implemented by the local participants.

The follow-up field evaluations were conducted in October 1995. A health forum was conducted for 500 students from several schools in Dashhovuz City, with the participation of teachers and medical professionals involved in health education. This event showed a major gap in results of current health education and changes of behavior of children toward water and sanitation.

A team of health education specialists are completing a health plan of interventions to continue the implementation of the public health and sanitation program, which will include the following activities:

- * develop the local monitoring criteria for the evaluation of the health education and EPT interventions,
- * evaluate the impacts, status, and additional support necessary for the locally developed projects resulting from the EPT seminar,
- * define the engineering commodities to be provided in support of the local projects,
- * determine the implementation activities for the effective application of the health education approaches developed at the seminar,
- * establish training criteria for health education personnel, and
- * strengthen the primary health approach in solving water and sanitation problems in the communities.

A health education workshop was held in Turkmenbashi Etrap for 31 participants from different sectors in October 1995. The seminar was attended by the UNICEF representative in Turkmenistan, the representative of UNDP, as well as velayat health authorities. Five demonstration sites were selected for water and sanitation improvements.

The health and sanitation program has had a significant impact to the overall health education strategy of velayat and Turkmenistan. The Ministry of Health requested a similar seminar for high officials of Turkmenistan at a national level and recommended that the report of the activities be delivered to the President.

ENVIRONMENTAL POLICY AND TECHNOLOGY PROJECT
Central Asian Regional Office

REGIONAL COOPERATION IN WATER MANAGEMENT
PROGRAM OVERVIEW

The activities included in the Regional Cooperation in Water Management program are part of the U S Aral Sea program supported by the U S Agency for International Development (USAID) in the Central Asia. The Environmental Policy and Technology (EPT) project is being implemented in the newly independent states by CH2M-Hill International Inc. which is the prime contractor for a team of fourteen subcontractors.

This program is designed to enhance the institutional capacity of the representatives of the five Central Asian Republics in issues related to the analyses, prioritization, and decision-making of water resource management and policy. Many of the environmental and public health problems were caused by inappropriate water resources planning and management under the former Soviet Union. With the collapse of the latter, the CAR were confronted with the immediate need to develop legal, policy and institutional arrangements for the operation and maintenance of a complex international water resource with serious environmental problems.

Previous experience has demonstrated that regional cooperation can effectively be promoted by including the policy experts, water managers, and environmental economists whose technical expertise provide a factual basis for assessing alternative courses of action. This program provides a technical basis for these professionals from the CAR to work together in generating solutions to mutual problems in the region.

The EPT activities in this program include a series of inter-related workshops, partnerships and programs. This activities began with an EPT Study Tour in the United States in April 1994 for 22 delegates from the five countries in Central Asia in an intensive program of two weeks. The Study Tour centered around a series of workshops with extensive involvement of the representatives on issues such as water law, policy and pricing, and basin compacts and treaties. The priorities for subsequent workshops and implementation activities were defined by the participants.

EPT coordinated the development of an Environmental Action Plan (EAP) for the Central Asian Republics in August 1994. An interdisciplinary team was selected to focus assistance on two issues: sustainable water management and reduced industrial contamination. The EAP contained elements to promote inter-regional accords on water use and the control of transnational industrial contamination. The funding for this activity was not secured and the EAP was not implemented by the EPT project.

An EPT Information Management Workshop was conducted in Tashkent, Uzbekistan in December 1994 attended by 73 representatives. The participation was highly interactive with a mix of scientists and operating managers. Facilitated sessions provided opportunities to describe the technologies in the collection and application of information for water resources management, and promote the sharing of information and interregional cooperation. As part of the efforts in capacity building, criteria were established for the evaluation of proposals for partnerships and applied demonstration projects for related activities. A total of 32 proposals were received and evaluated.

PROGRAM OVERVIEW

(Continued)

An EPT Water Management and Policy Workshop was conducted in Ashgabat Turkmenistan in April 1995 attended by 50 representatives. The participation was again very interactive and included policy makers and authorities for implementing programs. Six main topics were discussed in detail ranging from water compacts and treaties to water pricing issues. An additional 24 applied demonstration project proposals were received and evaluated.

A significant amount of regional cooperation has begun based on these activities, and in April 1995 the water management ministers from all five republics in Central Asia executed a water sharing agreement in Chimkent, Kazakstan. A subsequent agreement was executed in Buhara, Uzbekistan in June 1995.

Recently, other international donor organizations such as the World Bank, The European Union Water Resources Management and Agricultural Production Program (EU WARMAP), the World Health Organization (WHO), and the United Nations Development Program (UNDP) have begun addressing issues of water quality in the region. In an order to collaborate with these efforts, USAID and the respective donor and regional organizations are coordinating activities on water quality issues. The "Monitoring, Standards, and Criteria for Water Quality" seminar, held in Chimgan, Uzbekistan in August 1995 is an example of a successful joint effort by these organizations. A total of 50 participants from the Central Asian Republics and many others from international organizations attended the seminar.

A broad range of issues were addressed at the seminar that are both very pertinent, and priorities were identified in three main areas: water quality standards, water quality monitoring, and water quality management. The water quality seminar clearly showed the benefits of collaboration among the various international donor and regional organizations addressing the water management problems in the Aral Sea Basin.

Another activity is the EPT Water Pricing Seminar conducted in Bishkek, Kyrgyzstan in November 1995 which was attended by 50 representatives. This was the first pricing seminar in Central Asia and created significant interest in all five countries. The participants included representatives of the Ministries of Economics, Health, Nature Protection, and Water Management, and others from International organizations such as the European Union Water Resources Management and Agricultural Production (EU WARMAP) program, the Harvard Institute of International Development (HIID), the Interstate Council on the Problems of the Aral Sea Basin (ICAS), Utah State University, and USAID. The seminar defined a series of continuing activities on pricing issues and focused seminars addressing issues such as water quality and allocation.

The regional cooperation in water management activities encourages proposals for applied demonstration projects to be conducted by local individuals and for partnerships between regional organizations and US organizations. Guidelines for proposals were prepared and more than 50 proposals were received and evaluated based on a set of criteria including program relevance and scientific merit. A total of ten applied demonstration projects from the five republics were recommended to USAID for funding. In addition, two partnerships from US organizations and four of the republics were recommended. The results of the applied demonstration projects and the partnerships will be presented at regional seminars in late 1996.

December 1995

ENVIRONMENTAL POLICY AND TECHNOLOGY PROJECT
Central Asian Regional Office

REGIONAL COOPERATION IN WATER MANAGEMENT
WATER QUALITY STANDARDS SEMINAR

The activities included in the Regional Cooperation in Water Management program is part of the U S Aral Sea activities supported by the U S Agency for International Development (USAID) in the Central Asia Republics by the Environmental Policy and Technology (EPT) project

In August 1994, EPT recommended the local water quality standards for drinking water be evaluated and revised to meet International guidelines. The current GOST standards were promulgated in 1973 and 1984 in the former Soviet Union and have not been revised since that time. EPT on-site testing at water treatment plants in the region indicated some serious revisions were needed. For example, the current standard for turbidity is almost 18 times higher than the WHO guideline for equivalent turbidity units. High turbidity levels interfere with the disinfection process at the treatment plants and present an immediate health risk to the population served.

Recently, other international donor organizations such as the World Bank, the European Union Water Resources Management and Agricultural Production (EU WARMAP) program, the World Health Organization (WHO), and the United Nations Development Program (UNDP) have begun addressing similar issues and activities in the region. In an order to collaborate with these efforts, USAID and the respective donor and regional organizations are coordinating activities on water quality issues. The "Monitoring, Standards, and Criteria for Water Quality" seminar held in Chimgan, Uzbekistan in August 1995 is an example of a successful joint effort by these organizations.

Representatives of the Executive Committee of the Interstate Council on the problems of the Aral Sea Basin (ICAS) and the Central Asian Scientific-Research Institute of Irrigation and Reclamation cooperated in the organizational and administrative work for the seminar. A total of 50 participants from the Central Asian Republics and from international organizations attended the seminar.

The original intention of the seminar was to focus primarily on drinking water quality issues, however, the scope was widened at the request of the local agencies to include water quality for agricultural use. The updating of water quality standards is of great concern to the representatives of the Central Asian Republics. A broad range of issues were addressed at the seminar and priorities were identified in three main areas: water quality standards, water quality monitoring, and water quality management.

The results of the water quality seminar clearly indicated the benefits of collaboration among the various international donor and regional organizations addressing the water management problems of the Aral Sea Basin.

December 1995

ENVIRONMENTAL POLICY AND TECHNOLOGY PROJECT
Central Asian Regional Office

REGIONAL COOPERATION IN WATER MANAGEMENT
WATER PRICING SEMINAR

The activities in this program are part of the U S Aral Sea Program supported by the U S Agency for International Development (USAID) in the Central Asian Republics and implemented by the Environmental Policy and Technology (EPT) project. The regional cooperation program began with a study tour to the United States in the spring of 1994 which recommended the priorities for the subsequent workshops which were information management, water resources management and agricultural management. The Water Pricing Seminar is the fourth step in the Regional Cooperation in Water Management program. The following is a summary of the workshop conducted in Bishkek, Kyrgyzstan in November 1995.

The water pricing issue was recommended at the Water Management Workshop and this seminar was conceived to be a highly-focused discussion of water pricing issues. Water pricing is a controversial subject due to the current trends toward market reforms in Central Asia and since each republic approaches this issue from a different perspective. This seminar was the first opportunity for the representatives to assemble with this specific subject as their agenda. The main objectives of the seminar was to begin a process of understanding these issues and establish a framework for resolving sources of conflict among the republics. The seminar provided a forum for airing the individual concerns and approaches of each republic and offered the means for future discourse of these issues. The seminar addressed the problems as well as the mechanisms by which they can be resolved.

The seminar was conducted over three days and the agenda was organized in a systemic manner and included six topics: (1) overview of water pricing strategies, (2) presentations of water pricing issues by each republic, (3) presentation of water pricing issues by usage, (4) comparative evaluation of key water pricing issues, (5) prioritization of water pricing issues, and (6) development of an action plan for addressing these issues.

Many of the issues discussed during the seminar have both legal and economic implications. Some of the concepts discussed include institutional oversight of water basin activities, legal framework for managing resources, allocation of resources among individual republics and the requirement to maintain a certain level of quantity and quality of water downstream.

The workshop was conducted with open discussions by all participants, who included water ministers, policy makers and local authorities. The main organizers of the workshop were the Institute of Water Problems and Hydroelectric Power of the Republic of Kyrgyzstan and the EPT project. The 40 participants at the workshop were provided an opportunity for the representatives from the five republics to discuss their issues of water pricing in a framework of regional cooperation related to water policy. Specialists in economics and water policy from Utah State University made technical presentations and assisted the process as facilitators.

The participants enthusiastically endorsed the process and are collaborating on developing a partnership to address the specific issues raised during the seminar.

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ENVIRONMENTAL POLICY AND TECHNOLOGY PROJECT
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TURKMENISTAN ACTIVITIES
SUMMARY OF EQUIPMENT INSTALLED IN 1995

I TURKMENBASHI WATER TREATMENT PLANT

A Water Supply System -

- 1 six water supply wells and well houses
 - Capacity of 2 lps each provided and installed by the GOT
- 2 pump control equipment
 - Well pump motor starters
- 3 wellfield transmission pipe
 - 1790 meters provided and installed by the GOT

B Treatment System -

- 1 two metal buildings
 - Each building (21m x 10.5 m) is completed with insulation, partition panels, doors, lights, backup heating, lightning protection, finish flooring, laboratory, and office. Materials for building slabs were purchased locally. Primary heating (hot water) was provided and installed by the GOT
- 2 Pretreatment Equipment
 - manifold skid with pipe, control valves, and gauges,
 - sand separator skid with three centrifugal separators and piping and valves,
 - bag filter skid with three bag filters with piping and valves,
 - pretreatment chemical skids with acid and antiscalant feed pumps, storage tanks with pumping and valves, and
 - cartridge filter skid with three cartridge filter with piping and valves
- 3 Desalination Equipment
 - three membrane skids each with a high pressure pump, six fiberglass pressure vessels containing semipermeable membranes, control valves, control panel, and associated piping
- 4 Post Treatment Equipment
 - three post treatment chemical skids with sodium hydroxide, sodium hypochlorite, and corrosion inhibitor each with three chemical feed pumps, storage tanks and associated piping and valves
- 5 Ancillary Equipment
 - cleaning system skid with storage tank, pump, heater, and mixer,
 - power system with main disconnect switch, main motor control center, galvanized steel conduits, and power supply wires,
 - control system with common control panel and local control equipment and lighting panels,
 - lighting protecting and grounding system,
 - safety equipment with two safety showers and safety clothing,

- laboratory equipment including conductivity pH and colorimeter meters with chemical reagents and
- office furniture including a desk two file cabinets and chairs

C Water Storage and Distribution Systems

- 1 Concrete storage reservoir
 - precast reservoir (21m x 6m x 3.6m high) with a storage volume of 400 m³ designed and installed by GOT. Materials were purchased locally
- 2 Truck Loading Equipment
 - equipment includes two truck loading pumps, associated piping and valves
- 3 Truck Loading Island
 - concrete base and riser pipe, truck boom arms, and valves
- 4 Hydropneumatic System
 - hydropneumatic pump, tank, and air compressor and a dispensing bench with piping and valves

D Site Sanitary and Drainage Systems

- 1 Site Sanitary Facilities
 - two compartment pit privy designed and installed by the GOT
- 2 Site Drainage
 - gravity drainage system with manholes to the drainage canal provided and installed by the GOT

E Additional Materials

- 1 Treatment and Cleaning Chemicals
 - approximately six months supply
- 2 Miscellaneous Tools and Spare Parts
 - assortment of operation and maintenance tools, and
 - variety of spare parts needed for operation
- 3 Draft Operations and Maintenance Manual

F Operations Training

- 1 Collaborated with NET for operations training in the US (November 1994)
- 2 Preliminary training at the site (November 1995)

II DASHHOVUZ HEALTH CENTER

A Health Education Materials (April 1995)

- 1 Miscellaneous materials

B Office Equipment (June 1995)

- 1 desk copier, cartridge, and paper

Note: All materials identified were provided by USAID through the EPT project except those noted which were provided by the Government of the Turkmenistan (GOT)

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ENVIRONMENTAL POLICY AND TECHNOLOGY PROJECT
Central Asian Regional Office

TURKMENISTAN ACTIVITIES
PROPOSED EQUIPMENT INSTALLATION IN 1996

I TURKMENBASHI WATER TREATMENT PLANT

- A Treatment System (Second Quarter 1996)
 - 1 Miscellaneous materials
- B Water Distribution System (Second Quarter 1996)
 - 1 three 5 cu m delivery trucks, and
 - 2 additional materials and equipment
- C Additional Materials (Second Quarter 1996)
 - 1 Treatment and Cleaning Chemicals
- approximately twelve months supply

II SANITARY AND EPIDEMOLOGICAL SERVICES

- A Turkmenbashi Laboratory Equipment (Second Quarter 1996)
 - 1 portable drinking water laboratory,
 - 2 portable pH meter, E coli filtration kit, coliform kit,
 - 3 autoclave, drying oven, microscope,
 - 4 additional apparatuses and glassware, and
 - 5 training, and laboratory operations manual

III DASHHOVUZ HEALTH DEMONSTRATION PROJECTS

- A Water System Materials (Second Quarter 1996)
 - 1 limited supply of pipe and fittings, and related materials
- B Health Education Materials (Second Quarter 1996)
 - 1 miscellaneous materials

IV PARTNERSHIPS AND APPLIED DEMONSTRATION PROJECTS

- A Office Equipment (First Quarter 1996)
 - 1 computers, printers, software, and accessories for projects

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