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Environmental Policy and Technology Project

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TURKMENISTAN FIELD REPORT

*Assessment Report in the Republic of Turkmenistan:
Environmental and Health Education Program
in Dashhovuz Velayat*

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EXECUTIVE SUMMARY

This report summarises the findings of a field visit to Dashhovuz Velayat in the Republic of Turkmenistan during September 1994 by an Environmental Policy and Technology (EPT) Project team. The purpose of the trip was to rapidly assess the health problems, priorities, and needs that are related to water and sanitation, and to recommend health education programs and services relative to these needs. This project is a part of the program as defined in the Memorandum of Understanding executed between the Government of the United States and the Government of Turkmenistan on 17 February 1994 to "promote improved environmental health" in the environmental disastrous areas lying around the Aral Sea.

Interviews and field visits were made with key persons in government and non-government organizations at the republic and local levels as well as in international organizations. In addition to on-site interviews, information was collected by reviewing records, and documents such as health statistics and demographic data, health education plans and programs, and health education materials. This information was analyzed and the findings indicated that certain actions are needed to provide effective health education programs and services to promote improved water and sanitation conditions and practices.

The recommendations include a professional development program in cooperation with the Dashhovuz Health Department which will train doctors and medical administrators responsible for the public health education in the velayat. A program coordinator was identified who will assist in the identification of participants and in the logistical arrangements necessary for the program. The goals of the training program will focus on water-borne diseases for:

- Improving the health conditions for the local population, and
- upgrading the skills of the health professionals responsible for health education.

The principle objectives of the training program will consist of the following :

- Teach the skills, attitudes and behavior necessary to insure portable water use,
- Utilize participatory learning and teaching methodologies in an interactive format,
- Develop effective methods to disseminate information to the public, and
- Implement a sustainable program using local resources.

Section 1 Introduction

1.1 Background Information

An assessment of the health and sanitation aspects of water use in the Dashhovuz Velayat, Turkmenistan was conducted in early September 1994. This project is part of a USAID technical assistance program, which includes the construction of a water treatment plant in Turkmenbashi Etrap that is scheduled for completion in early 1995. This program is based on a Memorandum of Understanding executed on 17 February 1994 between the United States Government and the Government of Turkmenistan. The intent of this assessment is to develop a training program for government officials responsible for public health and sanitation in the area of Turkmenistan which is within the Aral Sea Disaster Zone.

The majority of the population living in this area is in surrounding collective farms and rural settlements lying south of the Aral Sea. These people live under hazardous environmental conditions caused by bacteriological and chemical contamination of their drinking water and from inadequate disposal of human and other wastes. Families in these areas have been afflicted with increasing health problems, such as acute intestinal infections and allergic reactions and chronic diseases caused by run-off of irrigation water from cotton growing areas that contain pesticides and fertilizers.

1.2 Project team

The investigations were conducted by Susan Moher, Associate Director for the International Health Program, from the Arizona College of Medicine, Department of Family and Communal Medicine; and Michael Palmach, Environmental and Health Training Specialist, from the Santa Cruz Institute which is supported in part by the University of Arizona.

1.3 Scope of Work

The scope of work for the assessment report includes the following:

- rapidly assess the health problems, priorities, and needs that are related to water and sanitation in the area,
- recommend health education programs relative to these needs, and
- plan and conduct training to strengthen the capacity of local persons to implement these health education programs and services.

This assessment report includes the assessment and recommendations and subsequent work is needed to develop the training program. The assessment commenced in Ashgabat with the Ministry of Health officials, and members of the Sanitary Epidemiological Service (SES). Thereafter the team had meetings with members of the Department of Health responsible for Dashhovuz Velayat and in the areas surrounding Turkmenbashi Etrap.

Section 2 Findings

2.1 Demographic Data

The Velayat of Dashhovuz, has a population of 800,000 people and one-half of this population is under the age of 14. The average family size is five children, although family sizes up to 11 are common. The infant mortality rate has a tendency to decrease, although it is very high and in 1993 it was 52.1 per 1000 born (Figure 1). The indicator of crude birth rate shows a dramatic drop down for the period from 1988 to 1989, whereas during the same period the crude death rate has increased significantly and keeps stable for the last four years.

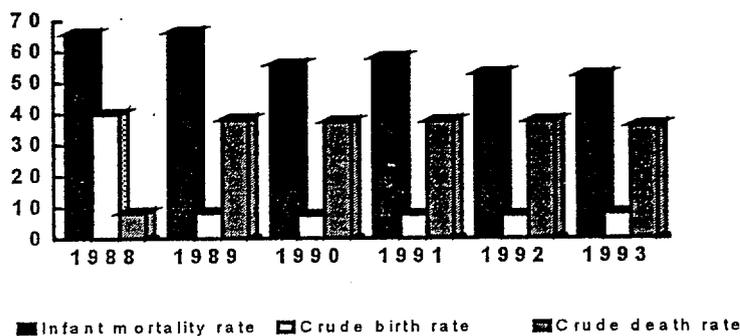


Figure 1.

Mortality from respiratory diseases is highest in the northeastern region of Dashhovuz. The diarrhea of childhood is usually associated with enteropathic *E. coli* in the warm season and rotavirus during the cold season. The health authorities stated that the most prevalent diseases are diarrhea, hepatitis and kidney disease.

2.2 Health Conditions

Water

Forty percent of the population in the target area receives piped water which is pumped intermittently for a few hours per day. The frequent operation and shut down of the water system allows ample opportunities for contamination of the water. The local water system is antiquated and can be assumed that all water, whether delivered through piped systems, by trucks, or obtained from wells or open sources, may be contaminated and unsafe for human consumption.

It was not possible to undertake a thorough assessment of contaminants and sources. There is awareness in the general population of chemical contamination in the environment, particularly from agricultural sources. The SES, under recommendation of the Center for Health, recently banned the aerial application of pesticides.

Water tested in wells in the Dashhovuz Velayat showed contaminants in quantities

higher than World Health Organization (WHO) standards – sulfite levels 50 times higher, chlorides 40 times higher, calcium 17 times higher and magnesium 10 times higher. The drinking of contaminated water is responsible for hundreds of deaths each year.

Standing water from running pipes, broken pipes and household usage is apparent in the areas. One finds water standing in so-called drainage canals wherever there is low-lying land or uncultivated lands. These drainage canals are alongside roadways and paths and near housing areas. However, the canals only collect the excess water from fields laden with salts, pesticides, fertilizer, and organic wastes. The water becomes a breeding ground for bacteria, viruses and parasites as well as repeated contamination for children who play in the canals and from domestic animals and insects who use the water.

Waste Disposal

The water based plumbing system can be characterized as extremely limited, and it is dependent on the piped water supplied. Connections of toilets to the sanitary systems are often leaking. Sewerage holding tanks observed outside of apartment buildings in the semi-urban area were poorly sealed and likely to leak raw sewage into the street and roadside drainage areas. In both the urban and rural settings, latrines are utilized, and is the major form of human waste disposal. These vary from very well-maintained latrines to those that are overflowing and open to animal and insect entry.

Food and Food Handling

In the homes of well educated families, hand washing with soap appeared to be a standard practice. However, in public settings, little care appears to be taken to ensure the sanitary handling of foods or to protect foods from access to flies. Although there are campaigns to teach people to wash fruits and vegetable, the water that is untreated and fruits and vegetables are likely source of pathogens.

Breast-feeding

Health workers stated that breast-feeding was on the decline, but that new campaigns have been instituted to promote breast-feeding through the first year of a child's life. However, recommendations for breast-feeding focus on feeding on schedule, rather than on demand. One physician at a rural clinic stated with some pride that all mothers used bottle feeding and formula and that they knew how to sterilize feeding bottles and nipples. Given the likelihood of a contaminated water supply it is doubtful that feeding by bottle is a sanitary and healthful procedure in this area.

Oral Rehydration Therapy Practices

Oral Rehydration Therapy (ORT) packets are maintained by health clinics and used as a medicinal treatment after dehydration occurs, not as therapy to prevent

dehydration. Little knowledge of homemade rehydration formulas exists. On three occasions, doctors with responsibility for the care of mothers and children and family outreach centers were unable to describe methods of making and utilizing ORT. In an incident where ORT was required, five doctors with family practice and health education responsibilities had no knowledge of the process of making or administering ORT. Messages, especially breast feeding and ORT, do not appear to be in line with UNICEF practice.

2.3 Health Education

Health education – whether for SES employees, Health Department employees, medical practitioners, patients, or the public – is very basic in nature. SES and Health Department personnel receive directives to conduct public health activities. The Health Department has wide responsibility for promotion of a “Healthy Way of Life,” which includes smoking cessation, prevention of drug abuse, and health and sanitation programs. Description of propaganda (promotion) methodologies are based on giving lectures, and “telling the people what to do.” Media utilized include television, radio, newspaper articles, pamphlets, mobile cinemas, and programs conducted by doctors (lectures conducted by doctors in the cotton fields, or in the evenings at other times of the year).

By law, every doctor in the country is required to conduct four hours of lectures monthly on topics related to public health within their discipline. The lecture content is to be approved by the Lecture Bureau at the Center for Health in each velayat. (Although these activities are required by law it is doubtful that very many of these lectures actually occur; if they do occur, they do not appear to be effective.) Nurses undertake surveys of the families in their area, distribute literature and answer simple questions. In every hospital there is a school for recovering patients where they are taught about the disease they have. There are also training courses for new mothers.

Each year there are two campaigns related to public health, where specific themes are conducted. The summer campaign is related to water, sanitation, and prevention of water borne diseases. This campaign includes promoting the boiling of drinking water, washing of fruits, instructions to take sick babies to the doctor to obtain ORT solution, and promotion of breast-feeding to avoid contaminants in the water. The winter campaign deals with respiratory ailments and treatment of pneumonia, colds and influenza.

Minimal resource materials are available, and no training in public health outreach methodology is provided. Although doctors attend classes in public health as a part of their educational program, this does not to be is not a high priority. The Deputy Chief Doctor in each hospital is responsible for teaching doctors about public health. No training to upgrade the skills for Chief Doctors, doctors or nurses is conducted. Current health education materials are hand made or printed on very poor quality paper and supplies are almost totally unavailable. There is an extreme need for teaching methods and materials. All health education materials observed dated before

1984. SES and Center for Health personnel may receive directives to conduct public health activities. However, minimal resource materials are available and public health methodology training is not provided. The upgrading of skills through professional development courses is not presently conducted. Doctors who leave the centers are supposed to have the knowledge, skills and attitudes necessary to conduct public health activities, and direction regarding timing of campaigns is provided by the Ministry of Health. During the field investigations little or no health education was observed in the school curriculum and it reflects that there is little knowledge of the population on basic hygiene and sanitation.

The health messages propagated by the Ministry of Health are top-down edicts and directives for the general population. Most public health message posters seen in clinics all pre-dated 1988. They focused on drug abuse prevention (including opium usage), anti-smoking, alcohol use, teenage health, nutrition, others/children, AIDS, infectious diseases and respiratory ailments. No time were messages related to diarrhea and dysentery were observed, nor were messages addressing child immunization seen.

2.4 Health Beliefs

It is widely known that diarrheal and parasitic disease is the second highest cause of infant mortality. Yet the common, prescribed treatment for diarrhea is one spoonful of extremely strong green tea – regardless of the age of the child or adult. (This treatment is at best noneffective and at worst counter indicated due to its diuretic properties.)

All medical and sanitation professionals who stated opinions related to water gave the same response: "Water is bad to drink." This belief may have originated with the basic knowledge of pathogen pathways related to waterborne and water-washed diseases. However, the belief that the consumption of any and all waters is dangerous to human health is a generalization in the society which must significantly add to the problem of dehydration and related problems of diarrhea and kidney disease.

The field team met with and obtained the support of officials at the Ministry of Health and the SES in Ashgabad and in Dashhovuz. At the local level in the Dashhovuz Velayat the main contact during the investigations was Ms. Shamsia Kusimisova, Deputy Director of the Health Department. Ms. Kusimisova has been to the United States on a program related to the public health aspects of mother and child care and family planning and is supportive of the recommendations in this report. No significant political, administrative or social barriers were found; however, field personnel have virtually none of the material resources required to conduct the public health training program or for community education projects.

Laboratory facilities

Laboratory facilities of water testing laboratories and epidemiological laboratories

appear to be are non-functional at this time. Although the laboratories were staffed by personnel, they appeared idle. No ongoing tests, collection of data, or any normal laboratory procedures were observed (apart from some of the most basic of water quality tests). Laboratories do not have the basic forms necessary to collect and collate data. Each of the laboratories are required to compile reports of the tests they conduct and are made; however, only one ledger is maintained in each laboratory which is filled out by hand. There is no statistical analysis of data, no computerization of either data collection or analysis, and no copies of results (other than the master ledgers).

All data should be considered suspect. Supplying equipment or reagents should not be considered alone as a resolution to the laboratory situation. Training of personnel and assistance with office infrastructure must be a part of any laboratory improvement program. No supply lines for continual acquisition of reagents or expendable testing supplies are available (access to these items through Russia, the former source, is now impossible). Sufficient budget and administrative procedures must be implemented to assure continued access to these items through commercial supply houses.

Political Organizations

At the national level the health activities are the responsibility of the Cabinet of Ministers where there is a Minister of Health. Under this position there are Deputy Ministers of Health whose responsibilities are divided between health, sanitation, social welfare, public health, and health education. In the Ministry of Health there are a various number of departments carrying out an executive fuction and few decisions can be actually made and implemented at the local level without prior approval and support from above. The organization responsible for controlling the rules and regulations regarding sanitation and hyginical practices is the SES. Almost 70 SES employees are responsible for public health hygiene, in schools, workplaces, factories, and homes.

At the velayat level is a Health Department, Public Health Education Center, and the SES Department. Velayat Health Center is responsible for all doctor's training responsible for environment health education. The Health Centers are the leading organization for the existing health educational campaigns.

2.5 Collaboration between agencies

The Peace Corps is currently developing a health project in Turkmenistan. There is interest for integrating the EPT training program with Peace Corps volunteers to insure sustainability of the proposed program. Volunteers who participate in this training program can increase their skills and work closely with their host-country counterparts in implementing their own activities.

Section 3 Recommendations

Our hosts were very gracious and generous and there was a genuine interest and enthusiasm for the public health training program. The trust and rapport increased as the specific components of the project became more clear, and as the hosts came to believe the program would actually be implemented. (At first there was some resistance and cynicism because they have seen many offers of assistance, none of which have been implemented a program.)

The Dashhovuz Velayat is a remote and difficult area in which to work. There is no doubt that assistance in providing potable water and developing health education and sanitation outreach programs is desperately needed. The recommendations and assessment include the following:

1. Integrate to a comprehensive interagency program the various departments, ministries, and providers responsible for public health, sanitation and environmental issues that can be realised in the proposed workshop.
2. Develop the appropriate education methodologies. In cooperation with the Dashhovuz Velayat Health Department, it is recommended that an Intensive Development Program be designed and implemented that will train the doctors and administrators responsible for public health education for the velayat. Ministry of Health representatives asked the team to integrate environmental health training activities into its spring campaign preparations. A program designed as a result of this assessment would provide an opportunity for field professionals to upgrade their public health skills.
3. Improve the capacity and effectiveness of sanitation education by supplying appropriate learning materials and equipment for their development locally.

It is recommended that these materials be provided to the Dashhovuz Velayat Health Department for use in training the doctors and administrators responsible for public health education for the velayat.

Program Goals and Objectives

The goals of the training program would be to:

- improve the health and sanitary conditions for the local population, and
- upgrade the skills of the health professionals currently responsible for public health education with a focus on waterborne diseases,

Program Schedule and Components

The recommended program should be conducted in the spring of 1995 to

coincide with the preparation for the summer campaign conducted by the Ministry of Health, which focuses on the prevention and treatment of waterborne diseases. This was the recommendation of all Ministry representatives involved with the development of the program. The program will be conducted for from 24 to 36 participants who are in positions of authority and decision-making regarding public health and sanitation issues from the Ministry of Health, SES and Education Department.

Mrs. Shamisa Kusimiso is proposed as the Program Coordinator responsible for selecting participants, the necessary logistical support, such as the training site, arranging accommodations, transportation, translation services, and interpreters.

A tentative program outline is presented in Table 3.1

Date	Morning	Afternoon
Sunday	Arriving of participants	Orientation and program overview
Monday	Assessment and problem solving techniques	Management skills development
Tuesday	Teaching and promotion methodologies	Environmental Health technologies
Wednesday	Visitation of a representative selected communities	Delopment activities in by working groups
Thursday	Presentation of preliminary results by working groups	Interactive assessment of group projects
Friday	Discussion and deliberation of project assessments	Proposed implementation plans and workshop summary

Assessment and problem solving

The assessment and problem solving cycle is the conceptual framework for the workshop and includes the following:

- methods and techniques that are designed to help identify problems,
- how to prioritize problems based on local needs and constraints,
- how to select problems that can be solved based on local resources,
- how to develop interventions to the problem, and
- how to evaluate the intervention to determine if it is successful.

Each participant, alone or in a group, will select a project in the area of health, sanitation and the environment, to develop by the end of the workshop

Management Skills Development

Participants will be required to assess problem areas and develop potential solutions. Topics will include:

- **organizational and developmental skills.** The process of developing a program or a project – assess the issue, define a problem, develop a plan for solution using local resources and technology – will be presented.
- **identify appropriate interventions.** The process of selecting methods and approaches to solving problems, i.e., education, clinical, environmental.
- **develop plans of action.** Each group will develop a plan for their intervention, including time lines and logistical outlines for implemented projects.

This activity will detail how the participants will plan and carry out a program related to health and sanitation, including the process for teaching or training others.

Teaching and Promotion Methodologies

The training program will be conducted utilizing active/interactive methodologies. The discovery approach to learning will be implemented – learning by doing will be demonstrated, rather than by using a strictly lecture format, which include the following:

- **develop a teaching module.** This involves assessing, implementing and evaluating for effective teaching or training.
- **adapt information for a variety of audiences and age levels.** Each group will develop their module for different audiences, i.e., training programs, home care nurses, mothers, children, teachers and the general public.
- **develop public education materials.** All groups will be required to develop an appropriate method for informing the public; a group process on how to best inform the public. Each group will design a method of promotion for pamphlet, radio and television.

Environmental Health Technologies

Participants will discuss health and sanitation techniques needed to prevent diarrheal diseases, including the following:

- **water treatment at the household level.** Participants will learn how to develop better methods for maintaining a clean, potable water supply, i.e., cistern care, household water storage and common hygiene practices.
- **isolating human waste from the environment.** The use epidemiological methods to trace possible sources of diarrheal infection will be presented. There will be a discussion of all the places and means at their disposal to interrupt the cycle.
- **treatment for the prevention of dehydration.** Instructors will teach the indications and methods for the use of ORT, using worldwide recognized UNICEF standards.

APPENDIX 1

INDIVIDUALS CONTACTED

CITY OF ASHGABAT:

Mr. Joseph S. Huilings, US Ambassador to Turkmenistan
Ms. Clair Archard, NET Project Representative
Douglas B. Archard, DCM and Political/Economics Officer, USEMB/Ashgabat
Thomas V. Boiani, Site Manager, Perini International Corp.
Vladimir Glazovsky, Head Nature Protection Board, Ministry of the Environment
Mark W. Holt, Director, US Peace Corps, Turkmenistan
Jorma Jalknen, Area Manager, Lemminkainen Construction
Ms. Ogulgurban Jurmenek, Head of "Saglik" (medical propropaganda program)
Ms. Tatiana Lihacheva, Head Family Planning Board, Maternity and Childcare Hospital
Ms. Caryn McClelland, Second Secretary, AMEMB/Ashgabat
Ms. Lori Beeson, Medical Officer, Peace Corps

DASHHOVUZ VELAYAT:

Alim Baltayev, Head, Dashhovuz SES Department
Khodja Garayev, Chief Doctor, Velayat SES Department
Ms. Katy Hirshman, Peace Corps Volunteer
Ms. Shamsia Husemisova, Deputy Head, Regional Department of Health
Garbanbeldy Kakajanov, Chief Doctor, Dashhovuz SES Department
Ms. Shamsia Kusimitova, Deputy Director, Velayat Health Department
Nurmet Matyakabov, Head, Velayat SES Department
Joel Sherwin, Peace Corps Volunteer
Redjepdurdy Tadjibayev, Head, Velayat SES Central Laboratory
Khaldurdy Yazduzdyev, Chief, Dashhovuz Health Department
Ms. Aisha Yazieva, Chief Doctor, Velayat Public Health Education Center

TURKMENBASHI ETRAP:

Redjep Akmamedov, Chief Doctor, Turkmenbashi District Hospital
Geoklen Atdekov, Medical Doctor/Practitioner, Medical post FAP-33
Ms. Bairamgool Amanova, Deputy Hakim for Health
Jebbar Esenov, Deputy Chief, Turkmenbashi Etrap Construction
Rezhap Khodzhaev, Hakim, Turkmenbashi Etrap
Nazim Odayev, Chief Doctor, Turkmenbashi SES
Khodiayev Seidberdy, Medical Doctor, Etrap Department of Public Health

Appendix 2

Table showing basic demographic indicators in Dashhovuz Velayat

Table A-1 showing infant mortality, crude death, crude birth rates in Dashhovuz Velayat

	1989	1990	1991	1992	1993
Infant mortality rate per1000	66.1	55.6	57.7	52.6	52.1
Crude birth rate per 1000	8.2	7.4	7.7	7.5	8.0
Crude death rate per 1000	38.0	37.1	37.3	37.3	36.0

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Acronyms

EPT	Environmental Policy and Technology [Project]
MOU	Memorandum of Understanding
NGO	nongovernmental organization
NIS	Newly Independent States
O&M	operation and maintenance
PVO	private voluntary organization
SES	Sanitary Epidemiological Service
TDS	Total Dissolved Solids
USAID	United States Agency for International Development
USG	United States Government
WHO	World Health Organization
GOT	Government of Turkmenistan