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FIELD REPORT

Assessment Report in the Republic of Uzbekistan: Water and Sanitation Health Education Program in Nukus and Urgench

Trip Conducted November-December 1994

December 1994
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Environmental Policy and Technology Project
For the New Independent States of the former Soviet Union
A USAID Project Consortium Led by CH2M HILL

A

ENVIRONMENTAL POLICY AND TECHNOLOGY PROJECT
Central Asian Republics Regional Office

ПРОЕКТ ПО ПРИРОДООХРАННОЙ ПОЛИТИКЕ И ТЕХНОЛОГИИ
Региональный офис республик Средней Азии

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Под руководством CH2M HILL

EPT Field Report Summary

REPUBLIC OF UZBEKISTAN

ASSESSMENT REPORT
WATER AND SANITATION HEALTH EDUCATION PROGRAM

URGENCH AND NUKUS

December 1994

SUMMARY

This report summarizes the findings of a field visit to Tashkent and Urgench in the Republic of Uzbekistan and at Nukus in the Autonomuos Republic of Karalpakstan during November and December 1994 by an Environmental Policy and Technology (EPT) Project team.

The purpose of the trip was to rapidly assess among people who live in the above areas 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, including training to implement this.

This project is a part of the program as defined in the Memorandum Understanding executed between the Governments of the United States and Uzbekistan on 20 April 1994 to "promote improved environmental health" in the environmental disaster areas lying around the Aral Sea.

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FIELD INVESTIGATIONS

Interviews and field visits were made with key persons in government and non-government organizations at the republic, oblast and rayon levels as well as in international organizations. In addition to 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 such as posters, pamphlets, and lectures given by doctors.

This information was analyzed according to the criteria developed in the report. The findings indicated that certains actions are needed to strengthen the capacity of the republic and oblast government organizations to plan, develop, implement, and evaluate effective health education programs and services to promote improved water and sanitation conditions and practices.

RECOMMENDATIONS

Four major recommendations are made:

1. Increase the capacity of the Urgench and Nukus Health Centres to produce new and improved health education materials related to water, sanitation, and personal hygiene by supplying them with certain basic audio-visual equipment.

2. Increase the ability of key staff members in the Research Institute for the Sanitation, Hygiene and Occupational Diseases (RISHOD) in Tashkent, the republic, oblast and rayon agencies in Urgench and Nukus, and other agencies, such as health, hospitals, schools, agriculture, and communication media, together with community leaders in these areas to do joint assessment of health needs and joint planning and implementation of health education programs through a five day Interagency Planning Seminar.

3. Promote the use of effective health education methods and materials in the target areas by establishing several model centers such as at a school, hospital, collective farm or workplace.

4. Improve collaboration between all organizations and agencies that have responsibility for financing, planning, implementation and evaluation of health education programs for improving environmental health conditions in Uzbekistan.

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EXECUTIVE SUMMARY

This report summarises the findings of a field visit to Tashkent and Urgench in the Republic of Uzbekistan and at Nukus in the Autonomous Republic of Karalpakstan during November and December, 1994 by an Environmental Policy and Technology (EPT) Project team. The purpose of the trip was to rapidly assess among people who live in the above areas 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, including training to implement this. This project is a part of the program as defined in the Memorandum of Understanding executed between the Governments of the United States and Uzbekistan 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, oblast and rayon levels as well as in international organizations. In addition to 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 such as posters, pamphlets, and lectures given by doctors.

This information was analyzed according to the criteria shown in Appendix 3 and the findings are reported in the body of the report. The findings indicated that certains actions are needed to strengthen the capacity of the republic and oblast government organizations to plan, develop, implement, and evaluate effective health education programs and services to promote improved water and sanitation conditions and practices.

Four major recommendations are made:

1. Increase the capacity of the Urgench and Nukus Health Centers to produce new and improved health education materials related to water, sanitation, and personal hygiene by supplying them with certain basic audio-visual equipment.

2. Increase the ability of key staff members in the Research Institute for the Sanitation, Hygiene and Occupational Diseases (RISHOD) in Tashkent, the republic, oblast and rayon agencies in Urgench and Nukus, and other agencies, such as health, hospitals, schools, agriculture, and communication media, together with community leaders in these areas to do joint assessment of health needs and joint planning and implementation of health education programs through a five day Interagency Planning Seminar.

3. Promote the use of effective health education methods and materials in the target areas by establishing several model centers such as at a school, hospital, collective farm or workplace.

4. Improve collaboration between all organizations and agencies that have responsibility for financing, planning, implementation and evaluation of health education programs for improving environmental health conditions in Uzbekistan.

Section 1
Introduction

1.1 Background and purpose

This project is part of the program as defined in the Memorandum of Understanding executed on between the Governments of the United States and Government of Uzbekistan to "promote improved environmental health" in the environmental disaster areas lying around the Aral Sea. This project aims to improve water and sanitation for people living in and around the areas of Urgench, the capitol of Khoresm Oblast, and of Nukus, the capitol of the Autonomous Republic of Karakalpakstan in Uzbekistan.

The majority of the population living in these areas are concentrated in the cities of Urgench and Nukus, and in surrounding collective farms and rural settlements lying southeast of the Aral Sea. These people live under extremely 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 irrigation water laden with bacteria, pesticides and fertilizers.

The purpose of this project is to better understand how to manage public use of water and human wastes, and to improve public understanding of the relationship between potable water, basic sanitation, and human health.

1.2 Project team

The investigations were conducted by the Environmental Policy and Technology team and included Wilbur Hoff, Dr.PH, Public Health Education Consultant, Donald C. Johnson, Dr.PH, Public Health Education Consultant, and Albert Shafransky, M.D., EPT Public Health Assistant.

1.3 Scope of Work

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

a) rapidly assess among people who live in the above areas the health problems, priorities, and needs that are related to water and sanitation.

b) recommend health education programs and services relative to these needs, including training to implement this and

c) plan and conduct a training workshop to strengthen the capacity of local persons to implement these health education programs and services.

This assessment and trip report included the assessment and recommendations.

Section 2
Methodology

The methodology used by the team to collect data for assessing the health problems, priorities, and needs as described in the scope of work, above, included the following:

1. Interviews and field visits with key persons in government, non-government, and international organizations. These included key persons who work in fields of health, health education methodology, medicine, hygiene and sanitation, agriculture, education, ecology, and communication media at the republic (national), oblast (state), rayon (regional), and local levels. See Appendix 2 for list of persons visited.

2. Field trips were made to visit with persons in the City of Tashkent and the towns of Nukus and Urgench and to rural communities in collective farms nearby.

The schedule for these field visits was as follows:

23 to 25 November - Tashkent
25 to 27 November - Nukus
27 to 29 November - Urgench
29 November to 1 December - Tashkent

3. During field visits, observations were made to determine unsanitary conditions of existing water standpipes, latrines, and surface drainage.

4. A variety of information was collected by reviewing records and documents such as health statistics and demographic data, health education plans and programs, and health education materials such as posters, pamphlets, and lectures given by doctors.

5. The team formulated a criteria for assessing health conditions related to unsafe water and sanitation and used this as a guideline to collect the required information. See Appendix 3 for the development of criteria used.

Section 3
Findings

3.1 Demographic conditions

3.1.1 Basic health indicators

The information, received from Research Institute for the sanitation, hygiene and occupational diseases in Tashkent and local medical authorities in Nukus, show that in Karakalpakstan the birth rate has been decreasing over last four years, whereas the overall of population has been growing. Indicators of infant mortality for the same period are high (Figure 1). In 1993 a tendency to decline in the mortality rate has been observed. The major cause of infant mortality, which was pointed by the people of the Ministry of Health is acute intestinal infections, such as diarrhoea. In rayons with poor water supply and sanitation, the prevalence of acute intestinal infections, including typhoid is high.

In the Republic Karakalpakstan has been revealed many cases of congenital abnormalities due to contamination of the soil, water and food. It has been mentioned, that even mother's milk contains pesticides.

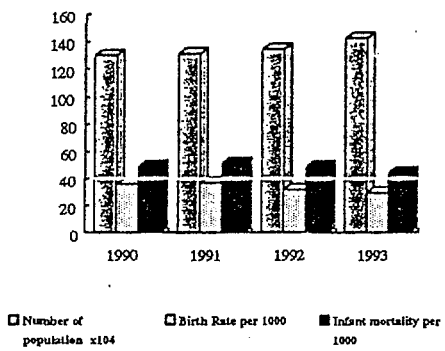

Figure 1.

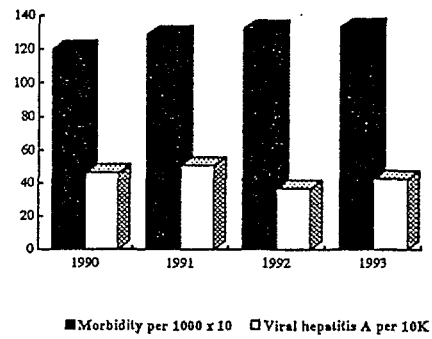

Figure 2.

An overall morbidity is high and exceed 1000 for the last four years per 1000 population without declining. (Figure 2). Most likely it is caused by complex of chronic diseases affected people in Karakalpakstan, such as cardio-vascular, kidney and gall stone diseases. A number of cases of Viral hepatitis A is almost on a constant level.

The anaemia in children and in women of child-bearing age is very common. The statistical data shows an increase of anaemia among this population group in the Republic of Karakalpakstan (Table 1). Anaemia is not an independent disease, but also affects people by decreasing the immunity capacity of the body, which makes one more susceptible to other different diseases that may cause serious results.

In Khoresm Oblast, health indicators show an increase in population with simultaneous decrease in the birth rate (Figure 3). Declining infant mortality has continued for the last two years.

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Overall morbidity is high and includes all chronic and other diseases that have been revealed at a time of examination, and in 1989 exceeded a 1000 per 1000 of population. Morbidity of Viral hepatitis A, over last four years has decreased, but nevertheless, it causes slightly less than a half of morbidity rate (Figure 4).

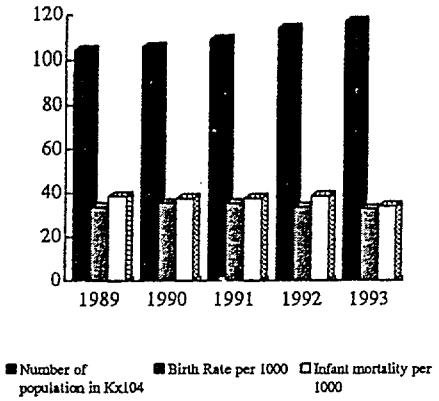

Figure 3.

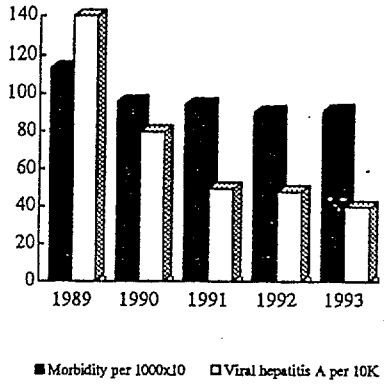

Figure 4.

It has been stated that a number of children and women of reproductive age with anaemia has been gradually increased from 55 per cent of children and 65 per cent of women in 1989, up to 60 per cent and 72 per cent in 1993, respectively (Table 2).

3.2 Environmental conditions

3.2.1 Water sources

The main sources of water for people of Karakalpakstan and Khoresm Oblast are the Amudaria River and its branches. The major water reservoir is behind a dam near the Druzhba settlement which has two artificial lakes for sedimentation and storage of the water. The best water is skimmed off the top of the lakes which are fed upstream by the Amudaria River. This system was designed to provide potable water to Khoresm Oblast and all of Karakalpakstan. See map in Appendix 1.

An estimated 60 to 70 per cent of the people of Uzbekistan are provided with drinking water, the rest secure theirs from open sources. In most cases the piped water does not meet international standards due to the outdated GOST standards in use, lack of modern treatment units, and chronic shortages of chemicals.

There is no piped water in many rural places. Some rural and peri-urban populations use ditch water which is contaminated by human refuse and sewage. The general population has little understanding about how to preserve their own health or the role that water and sanitation has in disease transmission. Hygienic living practices are very poor among many groups in these areas.

The desire for clean water is a high priority for everyone. During the transition period to independence with limited financial recourses, the President of the Republic has

encouraged the people to use their own efforts and resources for improving water and sewage disposals. He has suggested they barter silk and other commodities to help pay for this at the community level.

Nukus city

Theper centage of the Karakalpakstan Autonomous Republic population provided with piped drinking water is 38 per cent. About 65 per cent of the Nukus city population has piped drinking water and about 12 per cent of people living in rural areas are provided with the piped drinking water. More than half of all collective farms, which are located mostly in rural areas have no facilities for drinking water. About 34 per cent of existing water purifying systems do not meet existing sanitation requirements, due to either shortage or absence of devices for producing potable water or essential components for the system, (for example, chlorine is in short supply). In those collective farms that have water, it is not safe and is highly mineralized and cannot be used for drinking. Existing water systems are very old. It was reported that most were built during the last century.

Most of the water purifying equipment has been imported from Russia or other Republics of the former Soviet Union. In the meantime there are a number of foreign purification units being installed with the assistance of foreign specialists as humanitarian aid. The main problem with proper usage of these units, as well as old ones, is maintenance as no staff are trained to maintain and manage these systems. There are also insufficient supplies of reagents.

Urgench

The Amudaria river is the main source of water for this area. The river is very contaminated with pesticides, organic fertilizers, and nitrates and other chemical compositions which drain from about sixteen re-collection channels from up-stream irrigated farmlands. Sewage and wastes, as well as chemicals from factories, also contribute to the problem. The Ministry of Health of the Republic of Uzbekistan reports that in 40 per cent of cases the rate of contamination of the water is considered to be "high or very high".

Health authorities reported that an adequate supply of drinking water is not available to many people in the oblast. And though there has been a degree of success in controlling bacterial contamination through the water treatment system, particularly in Urgench, the drinking water contains high non-organic components which are not possible to eliminate with the processes currently installed. Artesian wells are the main source of drinking water at the collective farms. Some of these wells are in need of repair and others have been left unused. Underground lenses of water exist which can be exploited for drinking water sources.

Authorities have identified animal and human wastes as the sources of bacterial contamination. They have indicated that during the last two years the number of water samples containing harmful bacteria have increased. Factories currently dispose of their chemical waste products into the rivers. Nearly half of all drinking water systems in the

oblast reported chemical contamination in 1992.

In Khorezm Oblast, 46 per cent of water samples were not up to bacteriological standards in 1994, while it was only 21 per cent two years ago. This indicates that bacterial contamination is increasing.

3.2.2 Methods of waste disposal

There are no sanitary waste disposal sites in Nukus or in Urgench. Also no incinerating plants have been built though this has been planned for in the general development scheme of communal services.

The common practice for human waste disposal in rural areas is to use home-made pit latrines. Most of these are made of wood, have earth covered floors and are difficult to clean. They are open and are easily accessible to flies. Medical authorities reported that a number of rural villages along the small rivers have built latrines on the river bank or have a bucket system where excreta is collected and emptied into the river.

In some places the underground water levels are very close to the surface of the soil and therefore are easily contaminated. In these areas, some latrines have been built above ground level with raised earthen mounds and concrete pits. In the more remote rural areas there are no concrete pits to prevent bacteria from contaminating the underground and surface waters.

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Section 4

Socio-economic and behavioral conditions

4.1 Organization of communities

In the cities, communities are organised in city-districts by territorial divisions. Inside of the districts there is a smaller formation called mahalla. Although the cities have a well developed infrastructure of water supply and sewage facilities, many private houses have no access to the centralised sewage system and they use covered soak pits. The number of children in city families ranges from 2 to 5.

In the rural areas there are collective farms with settlements of people who work there. Every settlement has all essential facilities for living, such as hospitals, cultural center and food shops.

4.2 Cultural background

4.2.1 Uzbekistan

Uzbek is the primary language, with Russian spoken by almost all to some extent. Religion is predominantly Moslem as Uzbekistan has some of the major Moslem centers in Central Asia. Schools are compulsory up to the secondary level for all children. But children and adults in the more remote areas are less educated as they are not reached by the present education system. The land and climate in Uzbekistan is very favourable for growing of a large variety of agricultural products.

4.2.2 Karakalpakstan

In the Autonomous Republic of Karakalpakstan, 80 per cent of the rural farms are agricultural and 20 per cent are cattle farms. The main language is Karakalpak which is similar to the Kazakh language. The traditional people of Karakalpakstan have mutual roots with people of Kazakhstan, but when they live close to Uzbekistan they absorb the this culture too. The quality of the land improves from the north to the south. On the north, cattle farms prevail. Toward the south, one finds crops and other types of agriculture.

4.2.3 Khoresm oblast

Children and adults in the more remote areas of Khoresm Oblast are also less educated because the present education system does not reach them. People were not able to attain a higher level of literacy because they had to work in the cotton fields as this was the highest priority of the former Soviet State. Nonetheless, cultural habits have been inherited from generations since ancient times.

The Khoresm Oblast was a part of Khoresm imperia, existing along with two others on the territorium of present Uzbekistan, with the centers of science and literature. In Khiva, the ancient city adjacent to Urgench, there were about 40 Islamic training schools

(madreses) which served people living here and in surrounding countries including Turkey,Iran, Iraq, Afghanistan, Pakistan and the present Central Asian Republics. Now the infrastructural development in Urgench as well as in the whole of Uzbekistan, can be credited to the history of these areas.

4.3 Health problems and priorities

There are a many serious health conditions that have been described by medical workers of the regions. Negative socio-ecological factors have contributed to the worsening of these public health conditions. The Ministry of Health's special team on evaluation of health conditions, which covered 95 per cent of the population of Karakalpakstan and 96 per cent of the population of Khoresm Oblast revealed that 66per cent of the people of Karakalpakstan and 72 per cent of Khoresm oblast have a number of health problems. The most common disease is anaemia (43 per cent of examined population), which is caused by inadequate nutrition. It is assumed by medical authorities that the low amount of iron in the drinking water and the high incidence of intestinal infectious diseases, also contribute to this condition. Cardio-vascular diseases (21 per cent) and kidney diseases (13 per cent) are the next most common diseases. The level of mineralisation of drinking water plays an important role in the formation of gallstone and kidney stone diseases. The increase in these diseases is 2.3 times higher in Karakalpakstan and is 1.8 times higher in the Khoresm Oblast as compared to the average in Uzbekistan. Also the incidence of tuberculosis and cancer in these areas is several times greater than that for the republic as a whole.

4.4 Health practices of people

People of the republic have been told for years to boil water to make it safe for drinking. In the past, water filters were distributed to all families and these improved the water quality, particularly for the estimated 20 to 30 per cent that use ditch water for drinking. Authorities wanted these devices to be sold commercially to the people, but found that not everyone could afford them. In a number of rural communities it was reported that the water is distributed to households by water tank trucks.

4.5 Barriers and difficulties

The main problem in many places is an absence of safe drinking water and an adequate sewage system. Another problem which exists is a high level of mineral components in the water which is very difficult to eliminate. There are few low-cost devices available to purify water.

Section 5
Organizational capacity

5.1 Structure of Health Organizations

Water and sanitation education falls primarily under the responsibility of two organizational structures of the Ministry of Health in Uzbekistan: The Sanitation and Epidemiology Stations (SES) and the Health Centers. The SES gives technical direction to and has primary responsibility for implementing water and sanitation activities and the Health Centers collaborate with and support the information and education work of the SES's.

The Republic Sanitation and Epidemiological Department has developed a program for 1989 to 1995, in collaboration with ministries of communal affairs, agriculture and education, to improve the environment and health through: (1) reducing the chemical impact of agricultural areas on water and the environment, and (2) improving the quality of drinking water.

5.1.1 Republic level

The health information program is implemented throughout the Republic mainly through institutes, hospitals, clinics, and health posts, workplaces, rural areas and schools. This health information is disseminated by over 200 health centers in the oblasts, rayons and cities of Uzbekistan, and approximately 25 medical institutes of various kinds and by more than 70,000 doctors.

The Ministry of Health, Ministry of Education, research and training institutes for medical and other health personnel and school teacher training institutes are key organizational components for developing strong and effective health and sanitation education programs in Uzbekistan. A Deputy Minister of Health on Sanitation and Epidemiology directs the Department of Sanitation and Epidemiology and is responsible for the republic's sanitation and epidemiological services.

The Health Ministry's Department of Methodology and Training maintains overall responsibility for health education of the public and the training of medical personnel. It oversees the Republic Health Center which plans and implements the national health propaganda (information) and education program through printed materials, audio-visual aids, and mass media. This Center collaborates with and supports the SES's water and sanitation education activities.

The Research Institute for Sanitation, Hygiene and Occupational Diseases (RISHOD) in Tashkent, which operates under direction of the Health Ministry's Department of Sanitation and Epidemiology, has taken a leading role in training sanitary doctors and other medical and health personnel for their health education responsibilities. Unfortunately, the training programs of the Institute have been suspended for the time being because of lack of funds.

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Non governmental organizations which support water and sanitation education are primarily those concerned with ecological issues of the area. They have clubs in Tashkent, Nukus and Urgench.

5.1.2 Oblast level

The Oblast Health Center collaborates with other ministries in developing a long term program in support of the water supply activities in the oblast. It is a collective program on water and sewage systems being implemented during the period 1989 to 1995. Just one month ago, the head of the Oblast Health Center forwarded a proposal to the Director of the Oblast Health Department for his consideration and approval to establish an inter-agency commission to plan, coordinate and oversee the region's water and sanitation education activities.

Karakalpakstan - Nukus

The Deputy Minister of Health was concerned about providing health propaganda ("agitation") to the people when there are no adequate facilities for drinking water, sewage disposal, no soap available, and no opportunity to practice what is being advocated. He said that many people don't follow rules even though they know very well what they are. The Sanitary Doctors have been developing education programs in the kindergartens with child care personnel and parents helping them to know how to use scarce water resources for drinking and for personal hygiene of the children and their families.

The Karakalpakstan Republic Health Center develops an annual plan for health information campaigns and coordinates the sanitary education methodology activities of the Ministry of Health and other ministries and agencies of government. It is currently focusing on prevention of diseases and promotion of healthful living. It serves as the resource center for the educational activities of all medical and health workers and prepares radio and television presentations as well as providing the press with health news and information. Normally health education materials are printed in the Center's own printing house in the major languages used in Karakalpakstan. Shortages of funding, paper, and ink have severely cut back on output of printed materials, nevertheless, new pamphlets on acute intestinal diseases have just been published this year (1994).

Leaflets are distributed through the 17 Rayon Health Centers of Karakalpakstan to hospitals, clinics, schools, and cultural centers. The Health Center in Nukus gives health education training to students in medical and health worker training institutions. The students come to the Health Centers for their practical field work. Here they learn how to prepare and give a lecture, how to prepare a sanitary bulletin, how to give counsel to individuals and to lead group discussions. Experience is provided for educational work in out-patient departments and with patients in the hospital. The Center staff also give training to school teachers in the teacher training colleges that include health inforamation that teachers need in the classrooms. The Health Center organizes group meetings for interested community people in the evenings when they can ask questions and discuss problems with appropriate medical experts.

The major campaign this past summer was focused on prevention of cholera

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which emphasized the importance of drinking only boiled water and carrying out hygienic practices. Fly control information promoted the killing of flies and covering windows with screens. The Center staff needed visual aids and tried to prepare appropriate photographic materials, but their limited resources - equipment, supplies and funding - hampered their effort.

Supplies have been cut off for the work of sanitary doctors due to shortage of funds. They have nothing to work with. In the past they have had Regidron packets for diarrhoea and also vaccines for children. Presently vaccines are not available. The Uzbekistan Institute of Epidemiology and Microbiology has recommended home made oral rehydration solution made with water, sugar, and salt.

In a rural collective farm near Nukus, the health workers make frequent educational home visits to help people learn what to do to control and overcome health problems they face. There is a booklet in each house on which instructions are written for each family by the visiting medical and health workers.

Khorezm Oblast - Urgench

In Urgench, the Khorezm Oblast Ministry of Communal Affairs has a program to improve the quality of communal life in the cities and rayons. Water and sanitation are important components of this effort. This program has been approved by the Minister of Communal Affairs and steps are being taken to implement it.

Departments concerned with water and sanitation education include the Sanitation and Epidemiology Station (SES), the Oblast and Rayon Health Centers, the oblast water authority, and non-governmental organizations dealing with communal affairs, ecological issues, and related health and welfare matters.

The Director of the Khoresm Oblast Health Center in Urgench was interviewed about his experience with staff for conducting various kinds of health education approaches and methods. He said that a number of these had been implemented under the direction of and with adequate funding from the former Soviet Union and had included healthful living demonstrations at schools, factories, collectives, homes, and other community locations.

Following independence, a beginning has been made to develop locally formulated plans and services and community involvement strategies that focus on a partnership of individuals, families, government and nongovernment organizations. The strategy has been to use readily available resources rather than depending almost entirely on central authority to provide and direct everything. These developments are in keeping with the strategy of the Primary Health Care Declaration set by world health leaders at Alma-Ata in 1978.

Self direction and self-help skills and technology are being fostered at a beginning stage, and have much potential if they can originate from real concerns of the people and involve local population (with support from experts) to find feasible, affordable, appropriate and sustainable solutions.

5.1.3 Rural level

At the most peripheral rural level, the primary health care service includes the system of Feldcheur-Accoucher Health Posts, Rural Sectoral Hospitals, and Rural Doctor's Ambulatorias (out-patient clinics). These are situated in the collective farms. Medical workers in these institutions carry out programs on health education using a variety of methods according to plans that are approved from above.

The Oblast Health Center collaboarates with other ministries in developing a long term program in support of the water supply activities in the Oblast. It is a collective program on water and sewage systems being implemented during the period 1989 to 1995. Just one month ago the head of the Oblast Health Center forwarded a proposal to the Director of the Oblast Health Department for his consideration and approval to establish an inter-agency commission to plan, coordinate and oversee the region's water and sanitation education activities.

5.2 Health education policies, goals and objectives

There has been a national policy for providing health propaganda (information) on important topics to all oblasts and rayons. A special program to inform and educate the population on scientific technology for environmental protection was initiated as part of the "Health for All by the Year 2000" strategy of the Republic. A special order of the Cabinet of Ministers inaugurated the 1989-1995 program during Soviet times, and the Ministry of Health has sought to continue the program following independence. Among other things, this program placed a special emphasis on protecting and strengthening the provision of safe drinking water to households and to food processing plants. It has not been possible to implement the program because financing has not been available.

5.3 Health education programs and services

Health lectures by doctors have been the predominant feature of previous years, but the Uzbekistan Health Center has fostered development of its program through a number of other channels of communication. Radio and TV programs with a monthly total of 40 minutes of broadcasting feature two programs each month. In addition there is a 30 to 40 minute program called the "Doctor's Screen" and a monthly 40 minute "Mother's School" which includes instruction on motherhood, child care and nutrition. These programs are provided as a public service (free) by radio and television stations in the Uzbek, Turk, Kasakh and Russian languages. In summer the TV and radio stations have given additional time for information broadcasts about water borne diseases and sanitation.

Doctors are required to give four hours of health education lectures each month. These are given in hospitals, out-patient clinics, health posts (FAPs), health and maternity houses, schools, factories, at collective farms, to sports groups and to others. A popular activity is evening meetings with a panel of doctor specialists who discuss topics of interest to those attending the meetings.

Feature articles are written by scientists on medical and health topics appear at least

twice a month in more than 20 newspapers published in the Uzbek and Russian languages. Ten themes are selected by the Ministry of Health at the beginning of each year and which follow seasonal patterns of health problems.

Prior to independence, the Republic Health Center issued 40 to 50 brochures a year on many topics and also prepared placards and posters for distribution and use in many locations where people congregate, including market places, the post office, cultural centers, schools and work places. With financial constraints following independence, printed materials are now limited to leaflets and pamphlets on prevention of diseases. They are distributed mainly through the schools and in connection with special presentations on hygiene.

The health education and information staff of the Health Center in Tashkent and the oblasts and rayons help train sanitary doctors and other medical and health personnel for their health education work at the Research Institute for Sanitation, Hygiene, and Occupational Diseases in Tashkent and at about 25 other medical and health worker training institutions in the Republic.

The Research Institute of Sanitation, Hygiene and Occupational Diseases (RISHOD) in Tashkent has an Educational Methodology Department which collaborates with the Republic's Health Centers on health education training and a very active educational program with collective farm and factory workers, school teachers, day care center staff, parents and others.

Developing approaches for working effectively with small community groups called "mahallas" has been an important focus the Institute's work in strengthening educational approaches through community participation. Food handlers are trained for meeting minimal sanitation and hygiene standards for the food industry.

The Institute develops health information for radio, television and the press. Loud speaker systems and radios bring information programs on water and sanitation and other health issues through loud speakers in communities and market places in local languages. The Institute prepares a full page newspaper feature each month for Tashkent's leading daily newspaper, the "Evening Tashkent" and press releases are prepared for other news outlets in the Republic. Placards and posters and health focused poetry are also products prepared by the Institute. The Institute's 300 staff each give at least 36 hours per year for public presentations of health information.

An attempt was made to determine what methods the Health Center workers considered to be the most effective. They felt that television is probably the most effective because most people watch television both in cities and in rural areas. The next most effective method, they felt, was video clips. Some clips have been produced on safe water and prevention of intestinal diseases. They are good for use on television and in schools, out-patient department waiting areas, and in factories during breaks and at lunch time. To date there are only a limited number of centers with video equipment.

Audio cassettes are the third most favored method. About 80per cent of the

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medical institutions have radios and most have tape recorders which are played through hospital hall-ways for the patients. In Tashkent, all of the markets have radios and audio cassettes players. These broadcast sanitation and health messages to thousands of market goers. Evening meetings with panels of medical experts who discuss medical and health issues of interest to the participants appear to be favored over the didactic lectures.

5.4 Health education facilities for the communications

The Karakalpakstan Republic Health Center has its own printing and publishing house and a photo laboratory. There are a number of printing houses serving the requirements of the health centers throughout the republic. Previously these were very functional, but now funds have been cut off and paper and ink supplies are very limited so there is little opportunity to publish informational materials. Some international assistance has been forthcoming, but that has been short-lived.

There is a shortage or non existence in oblast and rayon Health Centers of new or recent printed materials or visual aids such as posters, brochures, graphic materials, and videos.

Equipment for the production and use of health education materials, such as copy machines, video cameras, recorders, and viewers, cameras and slide projectors is almost non-existent at Oblast and Rayon Health Centers. Most of the equipment that does exist is very old and is either not used or non-functional. Local artists serve on the staffs of local health centers.

5.5 Quality of human resources

The established infrastructure of health centers at the Republic, Oblast and Rayon levels has good potential for providing leadership and coordination to facilitate community participation in developing effective community action to overcome the major health problems of Uzbekistan and Karakalpakstan. A reorientation from the conventional centrally directed didactic approach to one which starts with people at the local community level to identify problems and work out solutions with support from other concerned agencies would re-vitalize the effectiveness of the service.

There is evidence that under the old Soviet system Health Centers in Uzbekistan and Karakalpastan were among the most adequately and extensively developed and organized health information centers to be found in the USSR. They were well managed, had a comprehensive medical and health information (propaganda) program, and were adequately supported technically and financially from Moscow. The propaganda of the Health Centers (which were called "Houses of Health and Sanitation") functioned as an important and integral component of the political indoctrination system of that era.

Methods, materials and innovations emanated from Moscow and were well implemented in both the Uzbekistan and Karakalpakstan republics, with key relevant materials being translated and reproduced in Uzbek and Karakalpak languages.

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With independence, the central support system from Moscow is no longer available. Traditional functions for programming and preparing informational materials and guidelines for doctors and health workers to give health lectures have continued under direction from the republic level, but the funding support needed to continue these operations has been severely reduced.

There appears to be a move away from a strictly medically oriented didactic methodology to a broader based form of inter-agency and community participation. Uzbekistan and Karakalpakstan are two republics with good potential for developing a methodology where health concerns eminate primarily from community leaders and those they represent rather than primarily from the medical specialists.

5.6 Financial resources

Finances are in extremely short supply. There has been insufficient monies to pay many workers for three months and salaries are quite low. For example, there are 250 Sanitary Doctors in the Karakalpakstan Republic. One hundred thirty-four operate in the field, the remaining serve in bacteriological, virology and radiological laboratories. Some are now leaving to go to the commercial sector because it is difficult to live with the very low salary provided (300 sums per month)*. It becomes necessary to supplement salary by raising cattle and some small farming. (A sack of flour costs 250 sums - almost one month's salary)

Sanitary doctors are also not invited to international meetings. Only clinical doctors attend, so the important work on water and sanitation education has not been adequately represented. Top officials tend to support clinical services and not preventive/promotive programs. It appears that the political and professional support needed to sustain the morale of commited health service givers under austere circumstances is lacking.

5.7 Collaboration between agencies

The EPT Project can usefully join United Nations, the World Bank and other international programs in supporting and facilitating both the participatory methodologies and "learning by doing" techniques of development and health education. Initiating health action at the community level with inter-agency support should be possible to help facilitate solutions for preventing and controlling diseases of water and sanitation origin, and for promoting health practices and lifestyles that enhance health and quality of life. It is likely that this is possible as long as respect for and approval are sought from appropriate responsible authorities of concerned ministries and agencies at the republic, oblast, rayon and local levels.

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* The exchange rate in November 1994 was 1US$ = 23 sums

Sector 6
Recommendations

In view of the findings in this report the team recommends several actions to strengthen the capacity of government organizations to plan, develop, implement, and evaluate health education programs and services, particularly related to the improvement of water and sanitation practices and conditions.

The following recommendations have been discussed with SES and Health Center authorities in Tashkent at the Republic level, and with authorities at the Autonomous Republic of Karakalpakstan in Nukus and in the City Urgench of Khoresm Oblast and they are in general agreement.

Recommendation 1.

Increase the capacity of Health Centers located at Urgench and Nukus to produce new and improved health education materials for water, sanitation, and personal hygiene. This could be done by supplying Nukus and Urgench with some basic equipment such as the following and including necessary supplies:

- copy machine to enlarge/reduce images
- video camcorder
- 35 mm camera
- slide projector
- portable video tape recorder player and monitor

This equipment would enable key staff at Urgench and Nukus to produce effective visual aids and distribute them to outlying staff in above chosen areas. This would improve the talks and lectures now given by doctors and provide more health education materials and methods to hospitals, schools, and community centers.

Recommendation 2

Increase the ability of key staff members in agencies involved with water and sanitation education, such as health, hospitals, schools, agriculture, and the communication media, to do joint assessment of health needs and joint planning and implementation of health education and action programs for hospitals, schools, rural clinics and health posts (FAPs), sports organizations, industries and other working groups.

This would be implemented by a five day Interagency Planning Seminar which would include representatives of administration, health, education, agriculture, parent groups, and workers in collectives, factories and other work places. Approximately 25 participants would be selected to represent the Karakalpakstan, the Khoresm Oblast, and local areas, and they would include administrators, medical and sanitary doctors, methodologists, FAPs workers, parents, teachers, farmers, factory workers, and communication media persons. The seminar would be under the authority of the Sanitation and Epidemiology

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Department of the Ministry of Health of the Republic of Uzbekistan in close collaboration with the Health Centers and other departments and agencies involved with training and education in water and sanitation, and members of the EPT team. The seminar would be conducted sometime in the spring of 1995.

It is recommended that the five day meeting be convened at Urgench and in the settlement Beruni of the Karakalpakstan to enable the Urgench and Nukus project staff and representatives from local community groups to attend in both places. Urgench has adequate facilities to accomodate seminar participants. Beruni settlement is located 25 km from Urgench and has an appropriate conference hall for the seminar. The surrounding areas also provide opportunities to select a variety of sites for possible demonstration centers.

Recommendation 3

Promote the use of effective health information and education activities in the target areas by establishing several model centers, such as at a school, hospital, collective farm or workplace where staff could try out new or improved health education approaches such as involving parents, teachers, and workers in assessing health needs and planning solutions. These centers could also experiment with using demonstrations, visual aids, and discussion groups to motivate children, students, parents, and workers to develop needed facilities and carry out proper health behaviors regarding water, sanitation and other health areas.

The Interagency Planning Seminar would be used to plan the development of these model centers. Inter-agency collaboration and involvement of the community people in developing the program seems very feasible because of the interest and support of the rayon health authorities, and others including the local agricultural authorities and journalists from the local press, radio and TV.

These model centers could be used to test methods and materials developed by the Health Centers in Nukus and Urgench and in the RISHOD and they could be used to demonstrate to other doctors, primary health workers, teachers, parent groups, and community leaders how health information and education services can be integrated into the health care system, school curriculums, community centers, and workplaces.

Recommendation 4

Improve collaboration between all organizations and agencies that have responsibility for financing, planning, implementation and evaluation of health education programs aimed at improving environmental health conditions of people in Uzbekistan.

The Interagency Planning Seminar as proposed in Recommendation 2 would be a model on the oblast level of how to involve multiple organizations and agencies in planning and implementing health education programs for various population groups. Members of this Seminar will be selected to represent Ministries such as Health, Education, Agriculture; industry; collective farms; parent and other community groups; and the mass media. One objective of the Seminar would be to involve all relevant agencies and groups

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in identifying needs, priorities and resources, and planning together to evolve practical and sustainable programs to improve health conditions related to water and sanitation.

Incorporating participatory educational methodologies with a strong emphasis on "learning by doing" techniques in the training of professionals involved in health education of the population including medical and sanitary doctors and other health staff, school teachers, community leaders, agricultural and industrial specialists, etc. will do much to facilitate effective education and action toward overcoming problems associated with water and sanitation. Government policies and procedures will need to be adopted which condone and facilitate these methodologies.

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APPENDICES

Appendix 1. Map showing towns and rural areas visited.

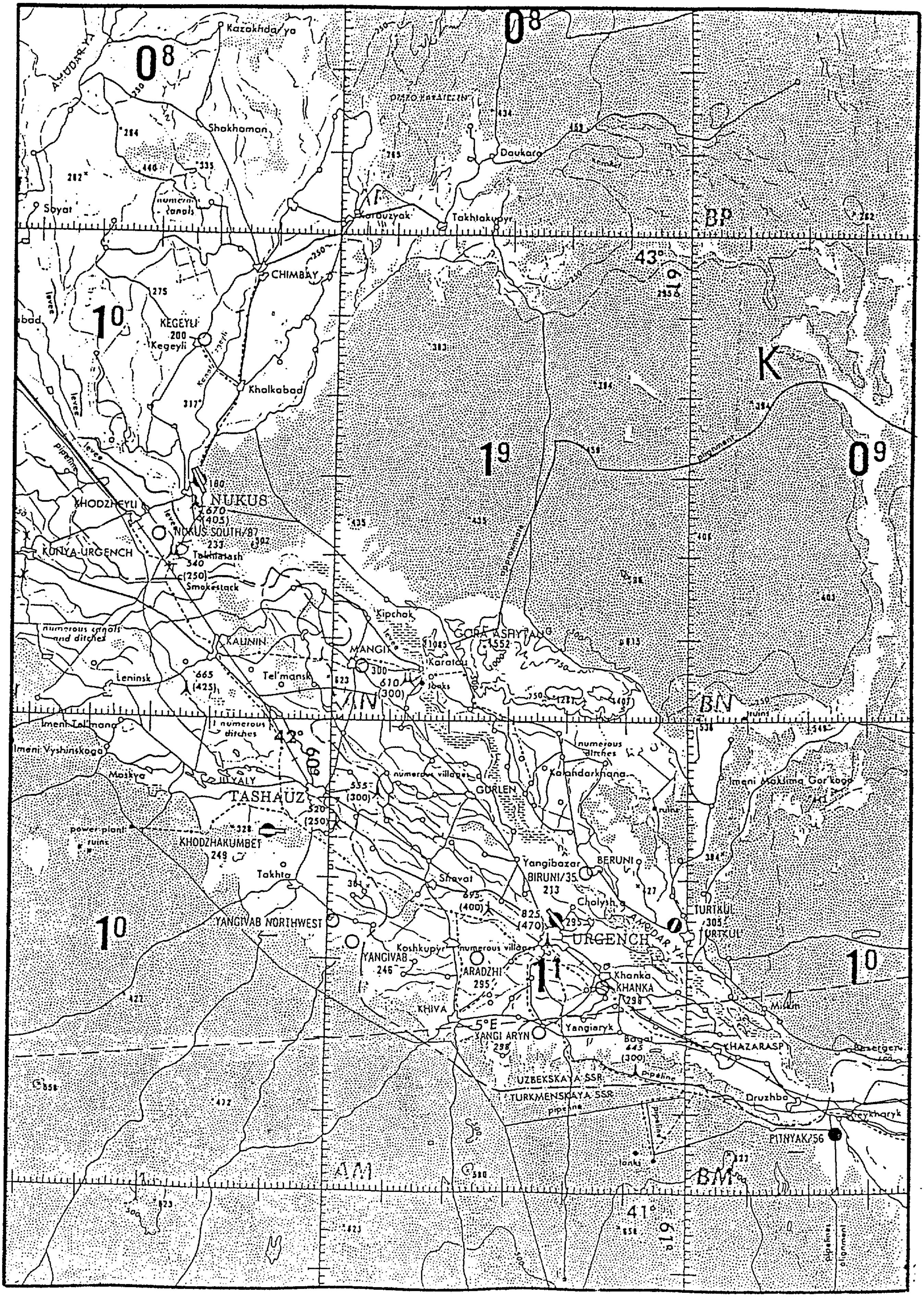
Appendix 2. List of persons visited

Appendix 3. Criteria for assessing water and sanitation conditions in periurban and rural areas of Nukus and Urgench, Uzbekistan.

Appendix 4. Tables showing public health conditions in Autonomous Republic of Karakalpakstan and Khoresm Oblast of the Republic of Uzbekistan

APPENDIX 1.

Map showing towns and rural areas visited.



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APPENDIX 2

LIST OF PERSONS VISITED IN UZBEKISTAN

Persons visited in Tashkent

1. Rimma Nozhkina-	Head of Sanitation and Epidemiology Department of the Ministry of Health of the Republic of Uzbekistan
2. Akram Azizov	Deputy Head Doctor of the Republic Health Center
3. Rihsitilla Halmetov	Director of the Research Institute of thr Sanitary, Hygiene and Occupational diseases of the Ministry of health of the Republic of Uzbekistan

Persons visited in Nukus

1. Saparbay Masharipov	Head Doctor of Republic SES of Karakalpakstan, Deputy Minister of Health of the Republic of Karakalpakstan
2. Karzhoubay Dauletov	Doctor on Sanitation Education of the Republic Health Center
3. Yakushin Anatoliy	Head of Tuyamuun-Nukus Water-Sistem
4. Makhset Erezhepov	Head of the Water Sistem

Persons visited in Urgench

1. Karim Dzhabbarov	Head of Oblast Health Care Department
2. Zakir Khodzhaev	Deputy Head of Oblast Health Care Department
3. Bachtiyar Dosganov	Head Doctor of Oblast SES
4. Azod Adambaev	Deputy Hakim of the Oblast
5. Madiar Kolondarov	Head of the Water Sistem
6. Khakim Muminov	Head Doctor of the Oblast Health center

Persons from Tashkent and Nukus visited in Almaty

Mr. Yusup Lamalov	Head of Ecological Club in Karakalpakistan, Nukus
Mr. Andrei Zatoka	Member of Ecological Club Uzbekistan, Tashkent

APPENDIX 3

CRITERIA FOR ASSESSING WATER & SANITATION CONDITIONS IN PERIURBAN AND RURAL AREAS OF THE ARAL SEA, KAZAKHSTAN & UZBEKISTAN

November, 1994

A. Demographic and environmental conditions

1. general health statistics of populations in the areas, ie population, birth rates, family size, morbidity and mortality of diseases related to unsafe water and sanitation; age and sex distribution.

2. information related to water - sources, quantity and quality, delivery, storage, consumption, & drainage

3. information on methods of human waste disposal

B. Socio-economic and behavioral conditions

1. organization of communities, ie., where located, size, income

2. literacy level, language, religion, cultural background

3. health problems and priorities of people

4. beliefs and attitudes regarding health

5. practices of people regarding health, ie. drinking water, food preparation, human waste disposal, etc.

6. human or other barriers and difficulties that exist, ie, previous negative experiences between communities and agencies

C. Organizational capacity

1. Structure of health organizations at different levels that have responsibility for improving water and sanitation conditions in communities:

a) **Republic (national) level,** i.e.:
Ministries of Health, Education, Social Services
International orgs, ie WHO, UNICEF, UNDP
NGOs

b) **Oblast (regional) level,** i.e.:
District hospitals
NGOs

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c) **Rayon (local) level**, i.e.:
   local rayon government
   FAPs and rural clinics
   indigenous sources of health practitioners
   collective farms
   religious groups

d) **Private Sector**, i.e.:
   small businesses
   industries

2. **Organization policies, goals and objectives** that relate to improving water and sanitation, health education and training services.

3. **Health education programs and services** provided by the above organizations.

4. **Facilities for developing and utilizing health education methods and materials.**

5. **Quality of human resources**

   The **capability** of community leaders, health educators, trainers, and others to promote/provide community involvement and organization, health education and training in water and sanitation, such as skills in:
   a) leadership
   b) organization and management
   c) health education
   d) training
   e) promoting community participation

6. **Financial resources**

   The availability of funding for health education and training services in water supply and sanitation programs such as:
   a) budgets within existing programs
   b) outside funding sources
   c) different sources of budgeting, ie, collective farms

7. **Extent of collaboration between organizations** on health education and training services and programs.

APPENDIX 4

Tables showing public health conditions in Autonomous Republic of Karakalpakstan and Khoresm Oblast of the Republic of Uzbekistan

Table 1.
Data showing Public Health indicators in Karaklpakstan

Item	1990	1991	1992	1993
Number of population in 1000	1,267	1,307	1,343	1,568
Birth Rate per 1000	35.9	37.0	31.7	29.6
Death rate per 1000	6.5	6.8	6.7	6.6
Infant mortality per 1000	49.1	51.4	49.1	44.6
Morbidity per 1000	1,198	1,286	1,322	1,335
Viral hepatitis per 10000	46.4	50.6	36.6	42.5
Dysentery	4.42	5.19	5.26	4.46
Number of children with anemia in 10000	-	1,830	1,923	2,056
Prevalence of anemia among women of reproductive age per 1000 deliveries	676	829	874	926

Table 2.
Data showing the status of public health in the Khoresm oblast

Item	1989	1990	1991	1992	1993
Number of population in 1000s	1,039	1,055	1,086	1,139	1,173
Birth Rate per 1000	33.6	35.5	35.3	33.7	32.7
Death rate per 1000	5.7	5.9	5.8	6.0	5.9
Infant mortality per 1000	38.5	37.5	37.5	38.6	34
Morbidity per 1000	1,136	957	942	902	911
Viral hepatitis per 100K	692	796	495	479	396
Typhoid per 1000	3,14	5.4	3.4	2.8	3.0
Dysentery per 1000	39	38.1	37.6	25	11
Number of children with anaemia in per cent	55	56.5	57.8	59	60
Prevalence of anaemia among women of reproductive age in 1000 deliveries	65	66	67.6	71.3	72
Maternity mortality	57.7	59.6	46.5	44.7	34.6

The Environmental Policy and Technology (EPT) Project: Environmental degradation and natural resource mismanagement threaten public health, biodiversity and economic vitality in the New Independent States (NIS). To assist the NIS in alleviating these problems, the U.S. Agency for International Development (USAID) began the EPT Project in 1993. EPT provides technical assistance and policy advice in the environmental sector and promotes environmentally sound economic development through public and private, U.S. and NIS partnerships. The EPT Project is managed by USAID with support from the U.S. Environmental Protection Agency (USEPA). For assistance in project design, management and implementation, USAID has agreements with CH2M HILL International, Harvard Institute for International Development and ISAR. As the primary EPT contractor, CH2M HILL International has the lead role in delivering technical assistance, logistical support and policy support for selected projects. EPT Regional Offices are located in: Washington, D.C.; Moscow, Russia; Kiev, Ukraine; and Almaty, Kazakhstan.

CH2M HILL International Consortium of Subcontractors: Center for International Environmental Law; Clark Atlanta University/Historically Black Colleges, Universities and Minority Institutions Technology Consortium; Consortium for International Development; Ecojuris; Environmental Compliance Inc.; Harvard Institute for International Development; Hughes Technical Services Company; International Programs Consortium; International Resources Group; Interfax; K&M Engineering; Ogden Environmental and Energy Services; Price Waterhouse; the World Wildlife Fund; and numerous local subcontractors and cooperators throughout the NIS.