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AGENCY FOR INTERNATIONAL DEVELOPMENT
WASHINGTON, D.C. 20523

PROJECT MEMORANDUM

NEW INDEPENDENT STATES ENVIRONMENTAL POLICY AND TECHNOLOGY ARAL SEA INITIATIVE (110-0003)

Approved: February 9, 1994

USAID

U.S. AGENCY FOR
INTERNATIONAL
DEVELOPMENT

FEB 9 1994

ACTION MEMORANDUM FOR THE ACTING ASSISTANT ADMINISTRATOR, ENI BUREAU

THROUGH: Barbara Turner, Acting Director, ENI/NIS

FROM: Carlos Pascual, NIS/PAC

SUBJECT: Environmental Policy and Technology Project Amendment (110-0003): Aral Sea Initiative

Proposed Action: That you approve $15 million to finance assistance for the Aral Sea Iniative though an amendment to the Environmental Policy and Technology Project (110-0003).

Background: The Aral Sea, once the world's fourth largest lake, is fed by the Syr River entering through Kazakhstan on its north shore, and the Amu River running through Uzbekistan and Turkmenistan to the south. Thirty years ago, Soviet planners expanded cotton production through irrigation in Central Asia by diverting both rivers into an extensive system of canals. Today, the Aral Sea has shrunk in volume to one-third its 1960 size. Diversion of river water has resulted in increased salinity of ground and surface water sources, while intensive use of chemicals has wrought serious ecological damage in the Syr and Amu river basins. This has had dire consequences on the availability of potable water and environmental health in the Aral Sea basin, many areas of which have experienced increased incidence of water borne diseases and high morbidity rates.

In October, 1993 Secretary Christopher announced a commitment by the United States to provide $15 million to the Central Asian republics to help alleviate detrimental environmental conditions and foster regional cooperation in the Aral Sea Basin. The proposed program of assistance was developed by a USG design team that visited ten sites in three republics in the Aral Sea disaster area in November. Given the enormity of the Aral Sea environmental disaster, AID's objectives are modest but

immediate: to demonstrate USG support by assisting local governments with critical water supply, sanitation and health education needs; and to provide support for regional cooperation in water management. The Aral Sea Initiative will also support reforms in water pricing for cost recovery in potable water systems. The proposed activity was designed consistent with the larger, more comprehensive World Bank plan for multi-donor assistance to the Aral Sea disaster area.

Description of Activities: The goal of the USG assistance plan is to gain credibility for larger scale policy reforms by addressing emergency potable water and public health education needs in communities most affected by water-borne disease and increasing infant mortality. The proposal incorporates findings of exploratory work of the Aral Sea disaster zone already completed, as well as Mission input. It is designed as a highly visible, rapidly implementable activity that is manageable with limited USAID field staff.

The project has two primary components.

1. <u>Potable Water and Public Health Activities</u> ($12.1 million)

This will include public health education, demonstration of potable water systems, provision of laboratory equipment and training, and introduction of water pricing concepts. Latrines will also be built and installed for residents of target communities. Activities taking place in each of the participating countries are summarized below and include:

- In Kazakhstan, 50-100 kms of potable water branch distribution pipeline will be provided along with latrine construction, laboratory equipment, metering and health education. The primary beneficiaries will be the residents of Aralsk and Kazalinsk, although all 200,000 residents of Kzyl Orda Oblast should benefit from the public health education activities. The estimated cost for this portion of the program is $4.3 million.

- Approximately $4.5 million will be provided to finance a reverse osmosis water treatment plant, pit privies, laboratory equipment and health education in Turkmenistan. Activities will take place in Tashauz Oblast (pop. 400,000) which has the highest infant mortalities in the Aral Sea Basin.

- In Uzbekistan, an estimated $3.3 million will finance demineralization units, water storage, laboratory equipment and health education. This effort will focus on high risk populations in some 80 state care facilities (e.g. maternity houses, children's hospitals) in the Khorezm Oblast and Nukus.

The Kzyl Orda Oblast of Kazakhjstan, the Tashauz Oblast of Turkmenistan, and the Karakalpakstan and Khorezm Oblast of Uzbekistan were chosen as regions for public health education and potable water demonstration sites because they are experiencing the highest infant mortalities and, as areas near the termini of the Amu and Syr rivers, receive the most polluted and saline water. Specific demonstration sites chosen in each oblast were identified by local authorities as the areas most in need of potable water and/or best suited for water distribution, as is the case with the water dispensing unit in Tashauz Oblast.

Public health education training includes the development of health education materials that focus on the role of water in disease prevention and health, and will be carried out at local Sanitary Epidemiological Services (SES) of the Ministry of Health. Health messages will be promulgated through mass media (radio and television), and health educational materials distributed through schools, hospitals and diagnostic centers.

Laboratory equipment to monitor bacteria counts and other water quality indicators, as well as associated training will be provided at regional SES centers.

In order to ultimately achieve not only the means to charge for potable water but also to begin a phased approach to the collection of funds for potable water provided for consumers, the potable water distribution system funded under this activity will be augmented with concepts of water metering, cost recovery and water pricing.

Memoranda of understanding will be negotiated with the governments of Kazakhstan, Uzbekistan and Turkmenistan. Appropriate agreements will be negotiated that specify city and village contributions of construction brigade labor, heavy equipment, assistance in determining latrine locations, and identification of individuals for training in construction inspection techniques in Aralsk and Kazalinsk. Local municipalities will also contribute a treatment plant location, security for treatment and dispensing works, and identification of individuals to be trained in operating the water treatment and dispensing facility in Turkmenbashi. Project activities will be initiated first in Kazakhstan and Turkmenistan. Activities in Uzbekistan are presently on hold pending signature of a bilateral assistance agreement by the Government of Uzbekistan.

Indicators of success in the regions supplied with potable water and public health education in the disaster zone will be: (1) provision of potable water and (2) public health training at local Sanitary Epidemiological Services that focuses on improved monitoring of water-borne diseases.

2. Regional Water Management ($2.9 million)

This component will be carried out under a separate delivery order, and will support regional cooperation on water resource management issues, stabilization of the Aral Sea Basin, and resolution of related environmental issues.

The Central Asian republics have a large number of highly trained and talented scientists who are handicapped in their ability to develop solutions to the Aral Sea problems by a lack of funding, and a tradition of structural solutions to problems without regard for economic efficiency or environmental consequences. The republics can realize substantial benefits from technical exchanges with the United States on improved water management techniques. The physical system of diverting water from the Amu and Syr rivers for irrigation and water supply is well developed, but little attention has been given to economic or environmental considerations, or to the institutional systems necessary to successfully manage these systems. There are numerous water conservation and other nonstructural methods of improving water management that could be implemented relatively quickly, and at limited cost, in comparison with the structural alternatives being considered.

Workshops and partnerships will focus on demonstrating these methods, and establishing informal exchange programs that form links between management and technical staff of the U.S. and Central Asian republics. Some 25 leading government officials involved in water management in the CAR will travel to the U.S. for a study tour of the Colorado River Basin and meetings with various water management agencies. A CAR Water Management Conference will provide incentives for scientists to channel their research efforts into activities that generate cost effective and environmentally acceptable solutions to water managment problems of the Aral Sea. The topics will span a wide range, including sustainable development, water pricing, environmental assessments, dispute resolution, management of agricultural chemicals, water modeling, data base management systems, etc. Selected researchers (non-governmental) will receive project-financed stipends in the range of $5000 to $10,000.

Legislative Requirements: The Congressional Notification submitted advised Congress of AID's intent to obligate $10 million for the Aral Sea Initiative, which was the amount projected to cover financing requirements for a three month period. The Congressional hold placed by the House Foreign Affairs Committee was lifted January 20. An additional Congressional Notification will be required to fully fund this activity.

The Initial Environmental Examination recommends a positive determination for the potable water activities, laboratory support and provision of equipment, and a categorical exclusion

for technical assistance and training. A draft environmental assessment for the three potable water projects has been prepared.

The FREEDOM Support Act and the FY 1994 Appropriations Act contain several provisions that limit assistance or require the Executive Branch to consider certain factors in providing assistance. Section 498A sets forth a number of matters to be taken into account in providing assistance to NIS countries, such as progress toward democracy and economic reform, human rights, peaceful resolution of ethnic disputes and restraining arms transfers. Section 498A also prohibits aid to any NIS country that violates any of a number of restrictions relating to human rights, arms control and nuclear proliferation. State has taken or will take these provisions into consideration in approving this memorandum.

Recommendation: That you sign the attached (1) project authorization amendment increasing life-of-project funding for the Environmental Policy and Technology Project by $15 million for the purpose of financing the Aral Sea Initiative, and (2) Initial Environmental Examination. Of this increase, the initial obligation will be limited to $10 million, and a further Congressional Notification, without objection, will be required to permit obligation in excess of $10 million.

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Clear:NIS/PAC:CPascual(draft,PM for)
NIS/EET:DLong (draft)
GC/NIS:BBryant (draft)
NIS/CONT:JWinn (draft)
NIS/FA:TEighmy (phone)
S/NIS:BHeaster (draft)

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ARAL SEA

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FIRST AMENDMENT
TO
PROJECT AUTHORIZATION

Name of Region: New Independent States (NIS)

Project Name: Environmental Policy and Technology Project

Project Number: 110-0003

1. Pursuant to Section 201 of the FREEDOM Support Act of 1992 and Section 531 of the Foreign Assistance Act of 1961, as amended, the Environmental Policy and Technology Project was authorized on February 4, 1993.

2. Paragraph 1 of the project authorization is hereby amended is deleting "$35 million" and substituting "$50,000,000" therefor.

3. Except as modified herein, the project authorization remains in force.

Malcolm Butler
Acting Assistant Administrator
Bureau for Europe and New
Independent States

2/9/94
Date

Clearances: As shown on the action memorandum

INITIAL ENVIRONMENTAL EXAMINATION

(A)	PROGRAM COUNTRY:	Central Asian Republics
(B)	PROJECT TITLE:	EPT (Aral Sea Program) No. 110-0003
(C)	FUNDING:	$15 million FY94
(D)	STATEMENT PREPARED BY:	James Holderbaum, Environmental Consultant, ENI/NIS/EET
(E)	ENVIRONMENTAL ACTION RECOMMENDED:	Positive Determination under A.I.D. Environmental Procedures (22 CFR 216) for the three potable water project components and laboratory support programs under Activity 1 and for the provision of equipment through the Partnerships program under Activity 2. A categorical exclusion for technical assistance and training activities under Activity 2 pursuant to Section 216,2 (c) (2) (i, iii, v and xiv).
(G)	DECISION OF DIRECTOR, ENI/NIS/EET:	Barbara Turner Approved Disapproved 2/9/95 Date
(H)	DECISION OF ENVIRONMENTAL OFFICER, ENI/NIS:	A.O.M. Approved Disapproved Date

EXAMINATION OF THE NATURE, SCOPE AND MAGNITUDE
OF THE ENVIRONMENTAL IMPACT
OF

THE ARAL SEA PROGRAM UNDER THE EPT PROJECT
110-0003

A. DESCRIPTION OF THE PROGRAM:

On October 23, 1993, Secretary Christopher formally announced that the U.S. would contribute $15 million to the Central Asian Republics to provide assistance to help alleviate detrimental environmental conditions and foster regional cooperation in the Aral Sea basin. Following a 3-week field mission by a 4-person technical team to the Aral Sea region, an assistance program was developed that consists of two broad activities. These activities are: (1) potable water and public health education projects to communities most effected by water borne diseases and increasing infant mortality; and (2) technical assistance and training to support regional cooperation in water management.

Activity No. 1 - **Potable Water and Public Health**

This activity includes:

1. Aralsk-Kazalinsk Potable Water Branch Distribution System, Public Health Education and Laboratory Assistance Project for SESs.

   Water wells supplying relatively low saline water provide water through a recently completed 240 km pipeline to Aralsk and Kazalinsk. Water authorities have designed plans to expand and replace the existing water distribution systems in Aralsk and Kazalinsk, however, water supply infrastructure is constructed in a stop and go fashion, when money becomes available. Under this project, with labor contribution from local governmental construction labor brigades, the USG will provide materials and management oversight for construction of approximately 75 km of branch distribution pipeline with watering points. A public health education and laboratory support program will implemented through the Ministry of Health and local SES.

2. Tashauz Reverse Osmosis Potable Water, Public Health Education and Laboratory Assistance Project for SESs.

   Approximately 30 percent of the population in Tashauz Villayet receive water through distribution systems. The

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remaining 70 percent obtain water from shallow water wells. The source of all water provided to these systems is groundwater. Many of the distribution systems water sources are located next to the Amu Darya, which is extremely polluted. Although many of their existing systems provide contaminated groundwater to homes, the Turkmen economy is improving, and country officials are requesting improved water purification technology. Under this project, a reverse osmosis (RO) system would be constructed in Turkmenbashi rayon, the Tashauz Villayet closest to the Aral Sea. The RO system would provide packaged drinking water. A public health education and laboratory support program would be implemented through the Ministry of Health and local SES.

3. Karakalpakstan Individual Potable Water Distillation Units, Public Health Education and Laboratory Assistance Project for SESs.

   Karakalpakstan is a vast area of 160,000 square kilometers. Approximately 1.3 million people live in Karakalpakstan and an additional 1.3 million people live in neighboring Urgench Oblast. A pipeline from Tuyamen reservoir provides saline water to Urgench and Nukus. To augment the water system, canal water is often used. Small villages in Karakalpakstan and the Urgench Oblast use highly saline groundwater. Bacteria counts are consistently higher than accepted standards for drinking water. Under this activity, small demineralization units will be provided to strategic populations such as maternity homes, children hospitals, kindergartens, clinics, etc. A public health education and laboratory support program would be implemented through the Ministry of Health and local SES.

<u>Activity No.2</u> **- Regional Cooperation: Capacity Building-Water Pricing and Management**

This activity is related to support of regional technical entities to promote better water management by technical staff. Component elements of this activity are designed to foster functional diplomacy in support of regional cooperation in water resources management. In recognition of the evolving nature of institutional relationships and the need for fundamentally new approaches, e.g. introduction of price mechanisms, the three elements of this activity will provide carefully targeted assistance to key policy and technical staff of appropriate regional organizations.

This activity includes:

1. Water Management and Environmental Protection Study Tour

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Approximately 25 leading government officials involved in water management, policy, and planning in the CAR will travel to the U.S. for a 15 day study tour. Participants will be introduced to regional water management planning by a field survey of the Colorado River Basin from the headwaters of the river basin to the border with Mexico. Discussions will be held with representatives of Water Conservancy Districts, Salinity Control Forms for the 7 Colorado River Basin States, the International Boundary and Water Commission, and the Bureau of Reclamation. Participants will include representatives from CAR Hydromets, Ministries of Nature Protection, Water Economies, Heads of BVOs, and Interstate Water Council.

2. Conferences and Workshops

This activity is designed to refocus and empower some of the leading scientists and technical organizations in the CAR by redirecting their approaches to water management problems. A call for papers for the first workshop will be issued in January before CAR leaders depart for the U.S. Water Management and Environmental Study Tour. Abstracts showing promise of innovative, cost effective, and environmentally acceptable solutions will receive a research stipend. Papers will be selected for presentation at a regional workshop to be held in Tashkent in July, 1994. A second workshop would be planned for 1995. Topics for research papers will include, but not limited to:

1. water pricing
2. strategies for sustainable development
3. environmental assessments
4. dispute resolution and collaborative problem solving
5. demand management and integrated resource planning
6. institutional arrangements for water management

3. Partnerships

A Partnerships program will be established to foster professional linkages between management and technical staff of United States water resources management sector and their counterparts in the CAR. The Partnerships program would have the advantage of sustaining the professional relationships developed during the study tour and workshop activities. The Partnerships program will also serve as a mechanism for meeting limited but critical equipment needs of participating CAR institutions, as these are identified through a collaborative process. Anticipated support includes urgent computer upgrading, field oriented water monitoring equipment, and technical upgrades at water

quality laboratories. Organizations demonstrating a commitment to reform will be eligible for such assistance. Lastly, this activity will identify key opportunities for high-impact support to the water management policy process in the CAR, as well as providing a quick-response capability to implementation emergencies.

B. RECOMMENDED ENVIRONMENTAL ACTION:

Potable water project activities described in Activity 1 fall under the *Classes of Actions Normally Having a Significant Effect on the Environment* section of 22 CFR 216 Regulations (216.2 (d) (1) (xi). Therefore, an Environmental Assessment of the three potable water project activities is recommended. Support for laboratory facilities under Activity 1 may pose environmental risks in the handling of chemicals and reagents and disposal of byproducts and laboratory wastes. It is recommended that specifics for laboratory support activities be reviewed prior to implementation and subject to Environmental Assessments as appropriate. Under Activity 2, the provision for procuring unspecified equipment necessitates further review of environmental impact once specific equipment is identified. It is recommended that individual requests for equipment procurement be reviewed and a Threshold Decision be made on a case-by-case basis as equipment is identified and requested.

Public Health education, and remaining activities under Activity 2 fall under Categorical Exclusion pursuant to Section 216,2 (c) (2) (i, iii, v and xiv).

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