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# ARAL SEA PROGRAM - PHASE 1

## AIDE MEMOIRE

### VOLUME 1

World Bank Preparation Mission

March 1994

Europe and Central Asia Region  
Country Department 3  
Country Operations Division I

### **Abbreviations**

<b>DCWM</b>	Department of Coordination of Water Management (under the Technical Director of EC)
<b>DCSREC</b>	Department of Coordination for Socio-Economic Research and Ecological Cooperation (under the Technical Director of EC)
<b>EC</b>	Executive Committee of the ICAS
<b>ICAS</b>	Interstate Council for Addressing the Aral Sea Crisis
<b>ICSDSTEC</b>	Interstate Commission for Socio-economic Development and Scientific, Technical and Ecological Cooperation
<b>ICWC</b>	Interstate Commission for Water Coordination (this is same as ICCWS used in previous Bank reports)
<b>IDA</b>	International Development Association
<b>IFAS</b>	International Fund for Aral Sea
<b>SANIIRI</b>	Central Asian Scientific Research Institute for Irrigation
<b>SIRC</b>	Scientific Information and Research Center
<b>UN</b>	United Nations
<b>UNEP</b>	United Nations Environment Programme
<b>UNDP</b>	United Nations Development Programme

**ARAL SEA PROGRAM - PHASE 1  
WORLD BANK PREPARATION MISSION  
(FEBRUARY 22-MARCH 19, 1994)**

**AIDE-MEMOIRE**

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## **SUMMARY OF THE MISSION'S MAIN FINDINGS AND RECOMMENDATIONS**

1. The project-brief for each project discusses the issues concerning the project, the sector and the institutions and makes recommendations to address them. These recommendations should be considered during project preparation and feasibility studies. The main Mission's findings and recommendations with respect to the overall program and its concepts, policies, institutions and management issues are summarized below.

- The Bank's policy encourages riparian countries to resolve their differences on water rights and water allocations through cooperation. While it stands ready to assist, if asked, the Bank will not interfere with the existing agreements on water rights.
- The Aral Sea Basin involves international issues. It is the Bank policy that all riparian countries should be kept informed of the proposed projects and activities concerning international waters. The Mission reiterates its recommendation that Afghanistan, a co-riparian, should be kept informed.
- The major issues in the Aral Sea Basin are comprehensive management of international waters and redressing the serious damage caused to the environment due to decades of neglect. The Heads of States decided to establish the water commission (ICWC) and the environment commission (ICSDESTEC). The ICWC is operating effectively but the ICSDESTEC has not been established yet although a major part of the basin's problems require management by this institution. The Mission recommends that ICSDESTEC should be established without further delay. It hopes that the Interstate Council will be able to do this before the proposed donors meeting in early June 1994.
- The Executive Committee (EC) of the ICAS and the International Fund for Aral Sea (IFAS) are the key apex management organizations whose efficiency and performance determine the success of the Aral Sea Basin Program. It is a multi-sectoral, multi-country and one of the most complex and formidable programs in the world. The Mission has made a number of suggestions to help improve the management effectiveness of these two key apex institutions. They include:
  - (a) The need to have a full-time EC Chairman stationed at EC's headquarters.
  - (b) The tenure of the Chairman's position which is only one year, should be increased to at least 3 years to provide effective leadership, vision and drive to the organization and demonstrate accountability for the results.
  - (c) The areas for coordination of the activities of EC and IFAS have been defined in their respective statutes approved by the Heads of States. But there is some confusion due to the lack of clarity on the extent of IFAS's involvement in procurement. The Mission has made certain suggestions to improve coordination and avoid possible jurisdictional conflicts. The Mission recommends that ICAS should give due consideration to these suggestions.
  - (d) Both EC and IFAS need General Counsels to advise and ensure quality and precision in drafting interstate and international agreements, protocols, local and international contracts for implementing projects, statutes defining responsibilities of regional institutions, and standards established for controlling pollution and a

host of other matters involving legal implications. The offices of the General Counsels should be established in the EC and IFAS early on in the process.

(e) The EC needs a procurement unit to establish policies and procedures to be followed by the Project Implementation Units (PIUs), monitor and supervise procurement actions, deal with the international agencies and donors on the subject, and introduce competitive bidding to ensure economy and efficiency. The Bank's experience shows that the lack of adequate management of procurement is one of the major causes of delays in project implementation. The Mission recommends that the procurement unit be established in the EC early on in the process.

- The proposed Phase 1 Program is large. Because grant financing may be limited, a major part of the investment costs may have to be financed by loans and credits from the Bank and other sources. This factor should be considered in deciding the size of the Program. Moreover, differences and disputes on sharing the liabilities for loans and credits are inevitable. With the help of EC and IFAS, ICAS should establish the criteria and principles for cost-sharing as soon as possible. This is not only necessary to avoid delays in project financing but more importantly, it is essential to avoid disputes which may adversely affect regional cooperation.
- The Phase 1 Program involves substantial local costs which require financing from the IFAS using funds proposed by the Basin States. The decisions of the Heads of States on the specified contributions from each state should be effectively implemented to ensure efficient implementation of the programs. The prevailing general impression of some officials that all local currency requirements would also be financed by grants and loans is not correct.
- In estimating salary costs of local staff, an average fee/salary of US\$400 per man/month has been assumed in the cost estimates. A policy decision by the ICAS on the salaries/emoluments of staff working for the Program is required for guidance in estimating local costs.
- The Mission recommends that the Executive Committee should not assume responsibility for operation and maintenance (O & M) cost of projects it finances and builds except for the facilities owned and operated by the regional organizations. Projects should be handed over to the concerned states and local authorities after completion.
- The tentative schedule for implementing the Program is tight. Without prompt decisions by the ICAS on the size of the program, project priorities, cost-sharing, strengthening the management of the apex institutions of EC and IFAS, and ensuring timely contributions by the States to IFAS, delays in program implementation will be inevitable.

2. The international community and the Bank will assist the EC and IFAS in managing the proposed program to the maximum extent possible. However, without the initiatives, timely decisions and effective actions by ICAS, EC and IFAS on a host of issues concerning formulation and implementation of the program, it will not be possible to achieve the program objectives successfully.

Aral Sea Program - Phase I  
World Bank Preparation Mission

Aide-Memoire <sup>1/</sup>  
Tashkent: March 19, 1994

**A. INTRODUCTION**

Preparation Mission

1. Following the Heads of States decisions at the meeting held at Nukus on January 11, 1994 on the concepts, the programs and the regional institutions for addressing the Aral Sea crisis, the Interstate Council for Addressing the Aral Sea Crisis (ICAS) asked the World Bank on January 17, 1994 to take concrete actions on the programs approved by the Heads of States. Further, in February they identified counterpart organizations who would deal with the Bank Mission on the approved programs.

2. A World Bank Preparation Mission led by Mr. Michael Rathnam visited the Aral Sea region for varying periods between February 22 and March 30, 1994 for assisting the Executive Committee (EC) of the ICAS in preparing specific projects concerning the programs approved by the Heads of States. Mr. Parvez Hasan, Chief of the Central Asia Regional Mission participated in some key meetings. The Mission included the following members:

Michael Rathnam	Mission Leader
Guy Le Moigne	Advisor, Water Resources
Raj Krishna	Legal Advisor
Janusz Kindler	Water Resources Specialist
Syed Kirmani	Institutional and Program Management Advisor
Thomas Daves	Economist - Irrigated Agriculture (from the Tashkent Resident Mission)
Dilek Barlas	Counsel, Legal Department
Alfred Duda	Water Resources/Environmental Specialist
Jan Post	Sr. Environmental Specialist
Walter Ochs	Drainage, Waterlogging and Salinity Engineer
Geoffrey Matthews	Hydro-meteorological specialist
Mahmud Tirmazi	Irrigation and Drainage Engineer/Procurement Specialist
Arthur Bruestle	Water Supply and Sanitation Engineer
Nawaz Tariq	Water Supply, Sanitation/Environment Public Health Engineer
Harvey Olem	Environmental Engineer
Donald Parsons	Water Resources Management Specialist

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<sup>1/</sup> This aide-memoire includes changes agreed at the Wrap-up meeting and the comments received from the EC following the mission's departure.

This Aide Memoire presents the main proposals and findings of the Mission which were discussed and agreements reached with the EC. The proposals presented in the Aide-Memoire are subject to the Bank Management's review.

### Bank-UNEP-UNDP Collaboration

3. The Bank will continue Bank/UNEP/UNDP collaborative efforts in addressing the complex problems of the Aral Sea crisis as it did during the International Seminar on Aral Sea held on April 26, 1993 and during the joint Bank/UNEP/UNDP identification Mission to the region in early June 1993. Since UNEP and UNDP were not able to participate in this Preparation Mission, the Bank will share its findings and recommendations and this Aide-Memoire with these agencies, collaborate in processing the program and request them to join in organizing the proposed donors' meeting in May/June 1994 as a joint Bank/UNEP/UNDP sponsored meeting similar to the one held in Washington on April 26, 1993.

## **B. THE ADVANCE MISSION**

4. An advance team of the Mission led by Michael Rathnam and comprising Messrs. Guy Le Moigne, Raj Krishna, Janusz Kindler, Syed Kirmani and Thomas Daves visited Tashkent prior to the arrival of the main mission. The purpose of the Advance Team was to discuss with the EC and its designated teams the objectives of the Mission, develop a framework of understanding on the concepts, programs, and institutional arrangements; finalize the specific projects to be considered for preparation; agree on arrangements for preparing the projects; and prepare the ground to facilitate work of the main mission which was scheduled to arrive a week later.

5. The Advance Team, under the leadership of SIRC-SANIIRI, had useful discussions with the EC Teams who were assigned to prepare projects. These teams reviewed the proposals, developed locally, on various programs, and agreed on the scope and content of specific projects to be prepared. The Advance Team also reached agreement with the EC on team leaders and members responsible for preparation of each project. The Mission members who would assist on each project were also designated.

### First Meeting of the Executive Committee

6. On February 26, 1994, the Advance Team held its first meeting with the EC. The meeting was chaired by Minister Ammanazar Ilamanov, Chairman of the EC. Mr. Yuriy Bobko, First Deputy Chairman of the EC, Mr. V. Karamanov, Executive Director, and Mr. Yunusov, Head of Department of the International Fund for Aral Sea (IFAS), Mr. R. Giniatullin, Minister of Melioration and Water Management in Uzbekistan and member of the Interstate Council, Mr. S. Sh. Khabibullayev, Chairman and Mr. V. Konyukohov, first Deputy Chairman of the State Committee for Nature Protection, Mr. V. Dukhovny, Director General of SPA-SANIIRI, Mr. Salykov, Head of the Ecological Department, Cabinet of Ministers of Kazakhstan, and other senior officials participated in the meeting.



7. In his presentation to the EC (Attachment 1), Mr. Rathnam explained the objectives of the Mission and the efforts made so far by the Bank to obtain grant financing for project preparation and capacity building. Also, he outlined the Bank's preliminary views on the modalities of channelling funds through the IFAS and procedures for procurement of works, goods and services for the program. He explained the Bank's policy on riparian issues and the need to keep Afghanistan, a co-riparian, informed about activities relating to the Aral Sea Program. Finally, he expressed the Mission's concern with the difficulties inherent in having a part-time Chairman for managing such a difficult and complex program, and strongly recommended that the ICAS consider the appointment of a full-time Chairman for this formidable task. Further, during the discussion, the Mission also stressed the need for implementing the Heads-of-States' decision to establish the Interstate Commission for Socio-Economic Development and Scientific, Technical and Ecological Cooperation (ICSDSTEC), given that the approved programs involve not only water issues but include the need for addressing the serious environmental and socio-economic problems of the Basin.

8. The Chairman and other participants discussed the issues raised in Mr. Rathnam's presentation and there was broad consensus on his suggestions. However, there was reservation on the need to keep Afghanistan informed about the Aral Sea Program activities. Several reasons were given to explain the EC's position such as : Afghanistan is a co-riparian of only the Amu Darya, not the Syr Darya; the present conditions in Afghanistan are not appropriate for communication and sending information on the program would not serve any useful purpose; the program is at the conceptual stage and keeping Afghanistan informed would be meaningful only at the project stage; and the program does not interfere with Afghanistan's uses on the Amu Darya.

9. The Mission prepared a draft Memorandum of Understanding, but it was amended by the EC Chairman who deleted a paragraph on Afghanistan (Attachment 2). However, Mr. Rathnam's presentation, which included the Mission's position concerning Afghanistan, was attached to the Memorandum of Understanding in order to reflect the Mission's views and suggestion. There was agreement on all the other points in the Memorandum. The EC Chairman agreed to submit the Mission's suggestions on the need to establish the ICSDSTEC and to appoint a full-time EC Chairman at the next meeting of the ICAS scheduled for March 28, 1994. He also invited the Bank to participate in that meeting.

10. Following the EC meeting with the Mission, a meeting of the EC and IFAS was held separately on February 26, 1994. Its agenda included the mechanism for interaction between the EC and IFAS, development of projects for Phase I of the Program, and proposals for the next meeting of ICAS. A copy of the Protocol of the meeting was given to the Mission (Attachment 3). The Protocol reflected the Mission's suggestions on appointment of a full-time Chairman and establishment of the ICSDSTEC, but made no reference to the Afghanistan issue. It recorded the decision to appoint Mr. Gribach Gennadji as the Chairman of the Expert Council of the EC and instructions to the Scientific Information and Research Center (SIRC) headed by SANIIRI to expedite preparation of Phase I projects with the assistance of the Mission.

## Specific Projects and Project Preparation Teams

11. The specific projects agreed between the SIRC/SANIIRI and the Mission to implement the programs approved by the Heads of States are given in Attachment 4. The EC teams established for preparing these projects and the Mission members assigned to assist the EC teams are given in Attachment 5. The project management arrangements by the EC to review and control the quality of outputs of the implementing organizations of the ICWC and ICSDSTEC are shown in Attachment 6. In a meeting held at Ashgabad on March 3, 1994 between Mr. Rathnam and Chairman Ilamanov, the above arrangements were agreed thereby setting the stage for the main Mission members, who started arriving from March 1, 1994, to assist the EC teams in project preparation.

## **C. THE MAIN MISSION**

### Introduction

12. The total number of selected projects for consideration in the Phase I program was 20, one more than the total identified by the Bank-UNEP-UNDP mission in June 1993. In addition, a proposal for capacity-building assistance to the EC and IFAS for managing the Program is to be prepared. With few exceptions, the projects for Phase I are those which were included in the "Needs Program" prepared by the Bank-UNEP-UNDP mission in June 1993. This feature not only provides assurance that the selected projects are of high priority but it also facilitates the preparation work because substantial work in analyzing these projects was done previously by the Bank-UNEP-UNDP mission.

13. The Mission, was handicapped to some extent due to the lack of adequate representation of environment experts in the EC teams. Because the environment commission (ICSDSTEC) has not been established, all the projects concerning water supply, sanitation, health and restoration of the Aral Sea ecosystem had to be handled by SIRC/SANIIRI, which is mainly the water organization of the ICWC. Moreover, the Mission was concerned that minimal representation from the other States in the teams might raise questions on the objectivity of the preparation work and decisions. This problem was corrected to some extent in the later stages of the preparation work. Despite these handicaps, the EC teams and the Bank staff made their best efforts to ensure the quality of preparation work. The Mission wishes to place on record its appreciation of the hard work and excellent contributions of the EC teams and of the dynamic leadership and untiring efforts of Dr. Victor Dukhovny without which it would have been difficult to complete the preparation work on time.

### Outputs of the Preparation Mission

14. The outputs of the preparation teams include a project brief and terms of reference (TORs) for each project. The standard format for the project brief provides background on the project followed by information on project objectives, scope, major issues, cost estimates, implementation arrangements and justification. The briefs provide sufficient detail to enable international financing agencies and donors to determine and indicate their interest in financing the preparation costs of the projects. The TORs attached to the project briefs also cover sufficient information to enable consultants, joint ventures of foreign and local consultants, and experienced local design/research institutes supported by foreign experts, to submit meaningful proposals (bids) for preparing the projects.

15. Volume two of the Aide Memoire includes the project briefs and TORs for all the projects, plus a supplementary capacity building program, for consideration in Phase 1 of the Aral Sea Program. Each project brief has a one page summary cover sheet which gives the basic information on the project. The one-page summaries of the selected projects are also included in Attachment 7.

Proposed Phase I Program

16. Attachment 8 provides a summary of the cost estimates and time schedules for completing preparation of the 19 projects. If all these projects are included in Phase 1, the total cost of preparing them to standards acceptable for international financing amounts to about US\$40.48 million, of which US\$33.51 million would be foreign exchange costs. Attachment 9 gives the probable total investment costs (both local and foreign) of implementing the projects. If all these projects are included in Phase 1 Program, the total investment cost would amount to US\$199.5 million. A summary of the costs of the projects included in each program is given below.

PROGRAMS APPROVED BY THE HEADS OF STATES	NO. OF PROJECTS	COST OF PREPARATION UP TO APPRAISAL (million US\$)			PROBABLE INVESTMENT COST (million US\$)
		LOCAL	FOREIGN	TOTAL	
Program 1	3	0.16	0.62	0.78	7.00
Program 2	2	0.35	2.17	2.52	27.50
Program 3	2	0.22	0.72	0.94	15.00
Program 4	3	0.34	2.43	2.77	75.00
Program 5	5	3.06	15.11	18.17	61.00
Program 6	1	0.04	0.16	0.20	2.00
Program 7	2	0.70	5.30	6.00	12.00
Subtotal	18	4.87	26.51	31.38	199.50
Capacity Building EC/IFAS	1	2.1	7.00	9.10	---
Total	19	6.97	33.51	40.48	199.50

## Program Implementation

17. The EC and its departments are new regional organizations. Although the Interstate Council has stated that the Executive Committee is its "Operational Organ" for the Aral Sea program and has given the Committee extensive powers to plan and implement the program, the EC has to use state organizations to the maximum extent and avoid the temptation to create a bureaucracy of its own. This approach is not only efficient and economical, but it would ensure regional-state collaboration and enhance mutual cooperation. The EC will operate more as a planning, management and coordination organization than as an organization for constructing projects. The project management arrangements shown in Attachment 6 have been agreed by the EC. The EC teams established for preparing project briefs (see Attachment 5) will be replaced and/or expanded to establish Project Implementation Units (PIUs) for management of implementation. As stated earlier, the environment commission (ICS DSTEC) has not yet been established, but the Chairman of the EC agreed to get an ICAS decision on the Mission's recommendation to establish it. The Mission hopes that the ICS DSTEC will be set up before the donors meeting in early June 1994.

18. The PIUs for implementing the projects after they are prepared will remain as part of the organization of the ICWC and ICS DSTEC. The EC should establish procedures defining the responsibilities and functions of the PIUs. They should be required to carry out all studies and works -- engaging consultants, design institutes, joint-ventures of foreign and local design and construction institutions, as appropriate in each case. Works assigned to local institutions for implementing should also be based on contracts defining prices, conditions and time schedules. The PIUs should be responsible for managing and supervising these contracts and the EC should exercise overall quality control through supervision of the PIUs. Procedures should be established to define the role of the parent organizations of the PIUs and the roles that ministers of the Five States who are members of the Commissions (the ICWC and the ICS DSTEC) will play. The Mission recommends that cooperation arrangements between the EC and the two Commissions should be defined as soon as possible.

19. The Statutes of the EC and IFAS define their respective responsibilities and functions but there is need to define the modalities for coordinating their activities. The issue was on the agenda of the EC and IFAS meeting held on February 26, 1994, but the Protocol (Attachment 3) did not describe the decisions made on this subject. This issue is discussed further under Section D.

## Implementation Schedule

20. The project briefs and TORs for inviting proposals from consulting firms, joint ventures of foreign and local firms, or from selected local institutes supported by foreign experts, was discussed at the wrap-up meeting with the EC on March 19, 1994. The ICAS is expected to review and discuss this Aide Memoire in April 1994. A donors' meeting is planned in early June 1994 when decisions on funding the cost of project preparation would be taken. Assuming that these events take place as planned and grant financing for project preparation is approved at the donors meeting, the preparation work could start from July 1994 (FY95). A bar chart showing the tentative schedule for project preparation, appraisal, funding, and implementation is given in Attachment 10. It is assumed that it would take about six months to complete preparation and appraisal, and secure implementation financing commitments after project preparation funding is approved. This schedule is tight and in some cases it may be too optimistic because everything may not work as planned. However, Attachment 10 presents a scenario that indicates the earliest dates when the projects are likely to be completed.

## Preparation of Projects for Phase 2 of the Aral Sea Program

21. The program framework for addressing the Aral Sea Crisis approved at the International Seminar held on April 26, 1993 envisaged a 3 phase program. Phase 1 of the Program, which is the subject of this Aide Memoire, was to include preparation of projects for Phase 2. The projects selected for preparation and subsequent implementation shown in Attachment 4 do include provisions for preparing projects to be considered for Phase 2. For example, the Regional Water Strategy will recommend policies and investment projects that should receive high priority in Phase 2; and the Wetlands and Soil Stabilization programs, Environment Assessment Studies and the Water supply and Sanitation projects will include policy development and preparation of the next series of such projects.

## Capacity-Building Assistance for Project Implementation

22. This Mission, as well as previous missions for the Aral Sea Program, attempted to assess the capacity of institutions in the Central Asian States to prepare and implement projects to the standards required by international financing agencies and donor countries. These assessments, which are still incomplete, present a mixed picture. The existing dams, irrigation works, and other infrastructure in various sectors of the economy demonstrate high levels of expertise and capacity to prepare and implement major development projects as compared to those observed in other developing countries. On the other hand, the results of "division of labor" and the apparent emphasis on production without adequate attention to quality, economics and the impact of developments in one sector on another are manifested in the serious problems now faced by the Aral Sea Basin States. One example of this is the diversion of the water resources of the Amu and Syr rivers to achieve high levels of agricultural production in a relatively short period without adequate attention to the impact on the environment.

23. The Mission observed many apparent contradictions in the views of local professional staff on the subject of institutional capacity. It noted that the education levels of local people are high and the professional staff are experienced and competent. However, it was also told that many experienced and competent staff have left the region and that exodus is continuing. The Mission was told that the project preparation and implementation units are fully competent and do not require the assistance of consulting firms from developed countries: appointment of a few advisors for each project would be adequate to assist them. At the same time local managers laid great emphasis on the need for training, new technologies, and the comprehensive approach followed by developed countries in planning, project preparation and sector analysis. The Mission's review of local reports on the proposed projects indicated the massive effort involved and the substantial technical data generated to produce them. But the review also indicated a lack of economic analysis and sectoral perspective that is necessary to ensure selection of priorities and sound investment.

24. These observations generated interesting debates within the Mission for selecting the best approach to ensure efficiency and economy in procurement and successful management and implementation of the projects. The Mission concluded that while the local institutions should be used to the maximum extent possible for preparing and implementing the projects under the Aral Sea Program, there is a clear need for substantial technical assistance to strengthen their capacity to plan, prepare and implement the projects to standards required by the international agencies and donor countries. However, the modalities of technical assistance (e.g., use of foreign consultants, joint ventures of foreign consultants and local design bureaus, or providing experts to assist local institutions) should be decided on the merits of each case.

25. Attachment 11 gives the provisions for capacity building included in the cost estimates for preparing the projects to be considered in Phase 1 of the programs. The following table provides a summary:

PROGRAMS	TRAINING	OFFICE TECHNOLOGY AND COMMUNICATION	TECHNICAL ASSISTANCE	TOTAL
	US\$million	US\$million	US\$million	US\$million
Program 1	0.09	0.05	0.48	0.62
Program 2	0.08	0.07	2.02	2.17
Program 3	0.01	0.04	0.67	0.72
Program 4	0.11	0.27	2.05	2.43
Program 5	2.63	1.86	10.62	15.11
Program 6	0.02	0.01	0.13	0.16
Program 7	0.40	1.60	3.30	5.30
Supplementary Capacity Building Program	1.40	2.10	3.50	7.00
Total	4.74	6.00	22.77	33.51

#### Capacity Building Assistance to EC and IFAS

26. The provisions for capacity building assistance summarized in the above table relate to the ICWC and ICSDSTEC organizations and the PIUs who will prepare and implement the projects under the direction and supervision of the EC. The apex organizations for operations, EC and IFAS, who have overall responsibility for management of the Aral Sea Program in accordance with the Heads of States decision also need capacity building assistance. However, the nature of assistance required by them will be different. Their responsibilities include management, supervision, quality control, monitoring and evaluation. They also must deal with financing institutions, coordinate regional and national efforts, and develop consensus on interstate conflicts. Therefore, a supplementary capacity building assistance project has been prepared for the EC and IFAS. Its total cost amounts to US\$9.1 million of which US\$7 million will be required in foreign exchange, US\$2 million of which will be required in the first year. Grant financing for the first year requirement would be provided under the Bank's Special Grants Program. The first year needs of US\$ 2 million include one million dollars for providing advisors to assist the EC and IFAS in managing the overall Aral Sea Program, \$400,000 for office technology and communications equipment, \$500,000 for training and \$100,000 for foreign travel. The categories of assistance required in the subsequent years would depend on the special

needs in those years. The \$9.1 million capacity building project is expected to meet the needs of the EC and IFAS during Phase 1 but it may also be necessary to provide continuing assistance in Phase 2 of the Program.

#### Meeting with NGOs

27. The Central Asian NGOs wanted to meet with the Mission to express their views about the Aral Sea crisis and to know what the Bank is doing to address it. The Mission consulted Mr. S. Sh. Khabibullayev, Chairman of the State Committee for Nature Protection of Uzbekistan. He said that the NGOs include some scientists who are former employees of the Government and he met with them several times in the past. He encouraged the Mission to meet with them and said that they would appreciate the rationale of the proposed Aral Sea Program currently under preparation.

28. The Mission met with the NGOs on March 15, 1994. Altogether representatives of 12 NGOs attended the meeting including Mr. Yusuf Sh. Shadymetov, President of "ECOSAN" International Fund, Mr. Mirzayev, Chairman of the Aral International Society, Mr. Permat Shermukhamedov, Chairman of the Public Committee for Salvation of the Aral Sea, Mr. Rakhimov, Academy of Sciences, Mr. Karimov, Aral International Company and officials of 7 other NGOs.

29. Each representative of the NGOs presented his opinion on the major causes of the Aral Sea crisis and suggested measures to address them. Although there were considerable differences in their views, the main emphasis was on the urgent need to improve water supply, sanitation and health conditions of the people and reduce the effects of salinization and agro-chemicals in the disaster areas. Restoration of the Aral Sea is not considered possible by most NGOs, but stabilization of its level was suggested by some, to prevent climatic changes and reduce the salt and dust storms.

30. The Mission explained the proposed program to address the crisis, which dealt with practically all the issues raised by the NGOs. There was a high degree of consensus on the proposed program. The Mission also outlined the Bank's policy to encourage NGO participation, but some NGOs misunderstood that to mean their employment in project preparation, or financing of their projects. The Mission clarified the Bank's role to assist the Governments.

### **D. ISSUES**

#### Management of the Apex Institutions

31. The structure of the regional institutions established by the Heads of States is shown in Attachment 12. The apex institutions are the ICAS, with EC as its operations organ, and the IFAS. The ICAS has 25 high level members, 5 from each State. Its current membership is shown in Attachment 13. The ICAS, which meets twice a year, depends on its EC to formulate policies and programs for addressing the Aral Sea crisis and to implement them in accordance with its directives and decisions. Thus the key counterpart apex organizations for the international community for the Aral Sea Program are the EC and the IFAS. A full time Executive Director of the IFAS was appointed last year to a one year term. The headquarters of IFAS is at Almaty in Kazakhstan while that of the EC is at Tashkent in Uzbekistan. The Chairman of the EC was appointed in January 1994, also to a one-year term. But, he is a part-time Chairman and retains his full responsibility as

the Minister of Water Resources Management of the Government of Turkmenistan. Moreover, he operates from Ashgabad and proposes to establish a small secretariat there to assist him in managing the EC's responsibilities. The Technical Director and First Deputy Chairman of the EC is stationed at the headquarters in Tashkent and manages the EC's activities in consultation with the Chairman through telephone, fax message and occasional visits to Ashgabad for discussions. The organization of the EC is shown in Attachment 14.

32. The Mission appreciates that these arrangements reflect compromises needed to sustain cooperation of all States for addressing the Aral Sea crisis. However, efficient management is also essential for the success of the Program. There is hardly the need to emphasize the complexity of the Aral Sea Program. The EC has identified 20 projects for Phase I of the Program, and project briefs have been prepared. Activities under each of the 20 projects involve several hundred decisions and actions concerning procurement; contractual disputes and claims; dealing with donors and the Bank on legal and project agreement issues; interstate interests; certification of expenditure statements and bills; making payments on time, and coordinating operations with IFAS. Obviously, EC cannot carry out these responsibilities efficiently without a full-time Chairman. At the first meeting of the EC on February 26, 1994, the mission strongly recommended that the Chairman be appointed on a full-time basis. The Chairman agreed to raise this issue at the next meeting of the ICAS.

33. During preparation of the project briefs, the problems inherent in managing a program of this size and complexity with the present arrangements became increasingly clear. The Chairman of the EC is like the "General Manager" or the "Chief Executive Officer" of a large program. The Executive Director of the IFAS also has a similar functional responsibility. To be successful they should be fully in charge. Their vision, drive and goals set the style, pace and achievements of their organizations. Because they are the heads of regional organizations belonging to all the States, their objective approach to all issues and the perceptions of the States of their objectivity are extremely important. The Mission believes that the Chief Executives of the EC and the IFAS should be effective managers. They should work with their staff and be available at all times to guide them. They cannot lead and manage them effectively without being a part of them. They need not be technical experts in any particular field because technical expertise can be provided by the operational staff or by the technical assistance from outside if needed. They should be the ones who have the capacity to lead.

34. The Mission appreciates the need to appoint the Chairman of the EC and the Executive Director of the IFAS for a fixed period so that representatives from all States might have an opportunity to hold these positions in turn. But the tenure period of one year is too short to grasp the complex issues and lead the effort to address them. The Mission suggests a time period of at least 3 years for these important roles. Their familiarity and personal relations with counterparts at high levels in the donor countries and international organizations will be important to expedite major decisions concerning the program and obtain assistance and intervention when issues at staff levels can not be resolved. A tenure period of one year is too short for this purpose. Moreover, during the preparation of project briefs, it became increasingly clear that it is highly desirable that the Chairman be stationed at the EC headquarters. Such arrangements will become more important as the program activities increase during the project implementation period which starts next year. The Mission recommends that the ICAS give serious consideration to these suggestions.



35. Another important issue that arose during the joint meeting of the EC and the IFAS on February 26, 1994 related to the roles of the EC and IFAS in implementing the Aral Sea Program, the coordination of their activities in preparing and implementing projects, and in management of procurement. Unfortunately the Protocol (Attachment 3) does not record the discussion or a decision on this matter. Given its importance and the need to avoid possible jurisdictional conflicts, the Mission prepared a paper (Attachment 15) outlining its understanding of the respective responsibilities of the EC and IFAS. The paper emphasizes the need for coordination of those activities where EC and IFAS have responsibility to take joint actions, and lists those activities where they could act independently but should keep each other fully informed. The Mission hopes that EC and IFAS will give due consideration to these suggestions.

#### Staffing of the Apex Institutions

36. The EC is planning its staff requirements and defining the functions of various departments. The IFAS, which was established a year earlier, has prepared its staffing plan but because there has not yet been significant activity on the Aral Sea Program, it is not fully mobilized to play an active role. Given the crucial roles of the EC and IFAS to ensure the success of the Aral Sea Program, the Bank would like to review the staffing plans of the EC and IFAS and render such assistance as they may require.

37. The organization structures of IFAS and EC shown in Attachments 12 and 14, do not indicate whether they have a nucleus for legal services. The Bank's Legal Department's review found that the quality of legal instruments pertaining to the Aral Sea Program created so far leave much to be desired. Agreements and protocols concluded in connection with the Program reflect minimum legal inputs in the preparation of these important documents. The agreements reached by the Heads of States, the protocols agreed by the regional institutions and the agreements and contracts that will be executed with the regional and international institutions require careful and legally sound drafting to avoid potential differences in their interpretations. Moreover, the EC and the IFAS will be involved in legal issues relating to interstate water rights, water and land use management, industrial and non-commercial pollution, ecology and wetlands management standards and a host of other matters. New laws and regulations setting forth regional and international standards will need to be prepared for adoption by individual States. The regional institutions have to enter into contracts with local and international contractors and consultants. The provisions of these laws, regulations, agreements and contracts will have to be enforced.

38. The Mission suggests that an Office of the General Counsel be established in both the EC and IFAS. The General Counsels will be advisors and will participate in all meetings of the EC and IFAS. They will also render such legal assistance to their departments, the ICAS and the Board of IFAS as requested. The staff of the General Counsels should comprise qualified lawyers. Their expertise should, inter alia, include international law, environmental law, water law, land law and corporate law. The offices of the General Counsels in the EC and IFAS should be constituted and staffed early on in the process. The proposed capacity-building assistance will include provision for legal assistance and training.

39. Another staffing issue that is of particular importance to EC is the management of procurement of works, goods and services. The Bank's experience shows that procurement problems and disputes on interpretation of contracts are major causes of delays in project implementation. Because the procurement practices in the region are different from those required by international

agencies and donors, a competent nucleus of procurement specialists in the EC is essential for efficient management of procurement. The Mission suggests that this nucleus be established early so that it could be trained under provisions of the Capacity-Building project.

40. As stated earlier, EC and IFAS are the apex management institutions. Their staff plans should give as much, if not more, emphasis to the legal, procurement, accounting, environment and public relations aspects of management as to engineering and technical aspects.

#### Size of Phase 1 of the Program

41. At the international seminar held in Washington on April 26, 1994, the donors were informed that US\$50 million of grant assistance would be required to meet the most urgent needs concerning stabilization of the environment of the Aral Sea, rehabilitation of the disaster zone, comprehensive management of the international rivers, and preparation of projects for Phase 2. The period envisaged at that time for Phase 1 was three years. The "Needs Program" identified by the joint Bank-UNEP-UNDP mission in June 1993 for Phase 1 amounted to US\$212 million and the period envisaged for this program was five years. The Phase I program included in this Aide Memoire is likely to cost US\$199.50 million. The implementation period of this program is five years, but some projects require a longer period to complete.

#### Local Currency Costs

42. All phases of the project cycle (project preparation through implementation) provide for maximum use of local staff. However, due to the high salary costs of expatriate advisors and consultants, the total cost of local staff will be substantially lower than for foreign staff. The estimated local currency cost of preparing projects (see the table in para 16) amounts to US\$6.97 million equivalent, or about 20 percent of the total costs. These local staff costs are based on an assumed average fee/salary of US\$400 per man/month. The EC and IFAS should determine the basis for estimating the cost of local staff in the project estimates.

43. There seems to be a general impression that the local costs will be financed by the donors and the Bank. This impression is not correct. While there may be some exceptional cases where local currency expenditures are financed from donor grants and Bank loans and credits, the Mission proposes that for purposes of planning, it should be assumed that all local costs of the Aral Sea Program will be financed by IFAS from funds provided by the Basin States. This is necessary not only to undertake a larger program with the available foreign exchange funds but also to demonstrate the commitment of the regional organizations and the States to the Aral Sea Program.

#### Sources of Financing

44. The estimated total cost of implementing the Phase 1 projects amounts to US\$ 199.5 million. If the local currency cost is 20 percent, foreign exchange funds amounting to about US\$ 160 million would be required to complete Phase 1 of the Program. Because the available grant financing for the Program may be limited, large amounts of loans and credits may be required from the World Bank and other donor agencies to implement the Program. The ICAS should take this factor into account in deciding the size of Phase 1.

## Cost-Sharing

45. The Program activities are concentrated in the lower areas of the Amu and Syr Darya basins where the main problems exist. Although the projects are intended to redress hardships imposed on the people living in these areas due to decades of mismanagement of international waters to benefit people in the middle and upper areas of the basin, they are likely to be seen as benefiting some States more than others. Therefore, cost-sharing issues are inevitable, particularly for projects financed by loans. The ICAS should develop an understanding at an early stage on how to deal with these issues. The criteria and principles for cost-sharing should be agreed during preparation of each project in order to avoid delays in financing decisions and implementation. The EC and IFAS should assist the ICAS in developing criteria applicable to various cases. Given the political sensitivities inherent in cost sharing, the international community and the Bank expect the ICAS to make cost-sharing decisions in consultation with the member States.

## Maintenance and Operation of the Completed Projects

46. The Mission discussed the issue of operation and maintenance (O&M) of the projects with the First Vice Chairman of the EC and suggested that the EC should not assume responsibility for O&M of projects except for facilities owned and operated by the regional organizations (e.g., facilities of the BVOs) and pilot projects designed to test the feasibility and cost effectiveness of proposals before they are built on a large scale. All other works, including pilot projects after they have passed the pilot phase, should be handed over to concerned ministries and local agencies, public or private, for O&M. This approach will avoid diversion of the EC's focus from its main responsibilities. The First Vice Chairman of the EC did not comment on this suggestion. The Mission recommends that the ICAS should address this issue during one of its meetings. The international community would like to be assured that the projects they finance are properly maintained. Project agreements with the EC should require that the authorities responsible for O&M are clearly identified and that the EC executes an agreement with them to establish their liability for maintenance.

## Procurement

47. The EC has to use state ministries and local organizations to prepare and implement most projects, usually with assistance from foreign and local consultants and contractors. However, the ministries and local institutions are not familiar with internationally accepted procurement procedures. Many projects involving numerous small and widely scattered activities have to be implemented by local organizations that are used to central direction and control. These projects require special attention to ensure efficient procurement. Under existing practices in the region all contracts for civil works are handled by construction trusts/bureaus attached to various ministries and other governmental organizations. Because goods purchases and work are allocated without competitive bidding, they may not meet international standards of economy and efficiency. These practices cannot be changed quickly. Procurement procedures to be followed by the EC should be consistent with international standards. Competitive bidding should be introduced through a planned transition process.

48. The Advance Mission briefly outlined the Bank's policy on procurement in its presentation at the EC meeting on February 26, 1994. The subject was discussed to some extent by the Mission members who assisted the EC teams in preparing project briefs. However, the opportunity for substantial discussion with the EC on this issue had to be deferred because of the absence of the Chairman and the fact that the EC is in the initial stages of establishing its organization.

#### **E. NEXT STEPS**

49. The following steps have to be taken to start the preparation and feasibility studies of the projects in Phase 1 of the Program:

- Meeting of the Interstate Council      Early April 1994
  
- Bank management confirmation of the Mission's recommendations      April 15, 1994
  
- Preparation and issue of the briefing papers to international agencies and donors      May 5, 1994
  
- Donors conference      Late June 1994
  
- Start preparation of the Phase 1 Projects (some projects could be started with the donor funds already committed if the EC organization is adequately established).      July 1994

**Aral Sea Program  
Meeting Held on February 26, 1994  
Between the Executive Committee, the Aral Sea Fund,  
and the World Bank**

**Introductory Remarks by Michael Rathnam**

Your Excellencies:

1. At the outset, I wish to congratulate your excellencies, the Heads of States, members of the Interstate Council and the Aral Sea Fund for the far-reaching decisions taken on the concepts, the institutions and programs for addressing the Aral Sea crisis.
2. We wish to assure you that, in general, we share and support those decisions. We appreciate that in the interest of cooperation of all the states, compromises had to be made on some issues but cooperation of all states is important and everything may not be perfect. However, we hope, as we go forward, we would be able to improve on what we have today.
3. We know that concerns have been expressed by some, both within and outside the region, that progress has not been fast enough on taking concrete actions. On our part, we thought that the decisions on the concepts, the institutions and programs are important to serve as a sound and sustainable framework for future actions. Now that you have achieved this objective we wish to assure your excellencies that we would be able to move fast and work with the institutions you have designated for planning and implementing concrete actions for addressing the Aral Sea crisis.
4. In the absence of the Executive Committee, the operational organ of the Interstate Council for the Aral Sea, the last World Bank/UNDP/UNEP joint mission asked you to decide on priorities because we wanted to ensure consensus and to avoid being seen as pushing forward our own ideas and preferences. With the regional institutions established now to plan and implement the projects, we have counterparts to discuss all issues freely and objectively. We would be able to play a proactive role and give our advice and suggestions to help and expedite the decisions.
5. There are certain policy issues, however, which the Bank follows on projects concerning international rivers.
  - (a) The Bank encourages riparian countries to resolve their differences on water allocations and water rights through cooperation and stands ready to assist, if asked, to support such cooperative efforts. However, it will not interfere with the existing agreements on water allocations and water rights of the riparian States. These are issues which the States should resolve. Fortunately, the Aral Sea Basin States have established the agreements and have the regional institutions of Interstate Council,

Executive Committee and Interstate Coordination Commission for Water Resources to address the riparian issues. The Bank will support these institutions and help them find solutions which are mutually satisfactory to them.

- (b) The Bank policy requires that other riparians, for example Afghanistan, should be kept informed of the proposed projects and other development on the international rivers. We hope the five Aral Sea Basin States, or one of them on behalf of the other four, would keep Afghanistan informed. We suggest that this process be initiated as early as possible

### Purpose of the Mission

6. We have informed the ICCWS, The Executive Committee and the Aral Sea Fund of the main objectives of our mission. In brief, we hope during the mission to:

- (a) agree on specific projects to implement the decisions of the Heads of States;
- (b) finalize the arrangements for preparing these projects;
- (c) identify the technical and financial needs for building the capacity of the regional institutions to plan and implement the agreed projects.
- (d) discuss and agree on the procedures for the flow of funds, both grants and Bank loans and credits, for preparing and implementing these projects.
- (e) discuss and agree on the procedures for procurement of goods and services

7. We hope that our Advance Team would be able to reach an understanding on the five issues mentioned above and prepare a memorandum of understanding which will serve as a framework for the planning and implementing institutions designated by you and for our main mission which will arrive in the beginning of March to proceed with the detail work expeditiously.

8. It is our intention to support the local institutions to the maximum extent possible for planning and implementing the projects.

9. We were informed by Minister Giniatullin that, of the 8 programs approved by the Heads of States, SANIIRI would be our counterpart institution for Programs 1,2,3,4, and 6; The Amu Darya and Syr Darya BVOs for Program No 7; a special joint organization or task force of the Ministries of Water Resources, Public Health and Municipal Economy, including "Committees of Surroundings of the five States" would be responsible for Program 5;

10. We are looking forward to working with these institutions in developing the specific projects. We already had the opportunity to meet with SANIIRI and we are glad to report that we reached preliminary agreement on various issues.

Funding

11. We estimate that a total amount of about \$20 million would be required of which about \$12-13 million would be for preparing projects to standards acceptable for international financing and \$7 million for building the capacity of the regional institutions. We have been exploring possible grant financing from donors and international agencies for this amount. The responses we received are encouraging.

12. In accordance with the decisions taken during the April 1993 Seminar held in Washington on the Aral Sea crisis, it is our understanding that upon completion of the Missions work, that the Bank will convene a meeting of the international agencies and the donor countries in April/May 1994 to get firm commitments of about \$20 million of grant financing for project preparation and capacity building.

13. We are planning to appraise in September/October 1994 as many projects as possible that are ready for implementation and organize a Donors Meeting again early in 1995 to secure financing for implementing the appraised projects. If preparation of some projects is delayed, we propose to take up those projects in the next phase so that the first phase is not delayed. The cooperation of the regional institutions for preparing projects to internationally acceptable standards as expeditiously as possible is important to ensure a reasonably large size of the Phase I program.

14. We need to discuss the modalities of channelling the funds. At this stage our preliminary views are:

- (a) During the project preparation and capacity building phase, grant funds administered by the Bank would be channeled through the Aral Sea Fund to the implementing and other appropriate agencies under such technical and legal arrangements as may be necessary with the Aral Sea Fund and the said agencies.
- (b) For implementing a program of the magnitude and complexity as the Aral Sea program, lending modalities and instruments for World Bank loans and credits would be in accordance with the Bank's standard policies, practices and procedures and the needs and challenges presented by the specific projects.

15. The procedures for procuring goods and services financed by grants administered by the Bank as well as by Bank loans and credits would be in accordance with the Bank's standard policies and procedures and the needs and challenges presented by the specific projects. The main Mission will explain these procedures in detail.

Final Comment

16. I am sorry for this long introductory presentation. I thought it would be useful to let your excellencies know our present thinking and seek your views and suggestions.

17. There is one final comment on an issue which is of some concern to us. Although the Phase I Program may be modest in size, it is difficult because the institutions are new and unfamiliar with

international policies and procedures. We also believe that the Phase 1 program is important for laying the foundations for the larger Phase 2 and Phase 3 programs. While the Heads of States have established the permanent Executive Committee in Tashkent, we had hoped that for managing programs of such magnitude and complexities, the Chairman of the Executive Committee would be full time Chairman. In the interest of expediting the project preparation and capacity building activities, we are prepared to work with the present arrangements. But we hope, when we reach the project implementation stage early in 1995, the Heads of States would appoint a full time Chairman.

Thank you



**Aral Sea Program**  
**Meeting held on February 26, 1994**  
**between the Executive Committee, the Aral Sea Fund,**  
**and**  
**the World Bank**

**Memorandum of Understanding on the Decisions Reached**

1. The Chairman welcomed the World Bank Mission and made brief introductory comments on the decisions taken by the Heads of States during their meeting held in Nukus on January 11, 1994 on the establishment of the Executive Committee, the appointment of its Chairman, and the approval of programs for addressing the Aral Sea Basin crisis. He then requested the World Bank delegation to present its views and proposals on planning and implementing the Heads of States decisions.

2. The Bank Delegation presented its view on various aspects of preparing the projects to implement the Heads of States decisions and the arrangements for funding, and outlined the main objectives of the Mission. A copy of the Bank's presentation is attached. Specifically, the Bank delegation underlined the following objectives:

- (i) agree on specific projects to implement the decisions of the Heads of States;
- (ii) finalize the arrangements for preparing these projects;
- (iii) identify the technical and financial needs for building the capacity of the regional institutions to plan and implement the agreed projects;
- (iv) agree on the procedures for the flow of funds, both grants and Bank loans and credits, for preparing the implementing these projects;
- (v) agree on the procedures for procurement of goods and services;

3. There was discussion on the Bank's presentation and, in general, there was agreement on the Bank's views and proposals. Specifically, agreement was reached on the following:

- (a) The projects to be prepared and implemented will be based on the Plan of Action approved by the Heads of States on January 11, 1994 at their meeting in Nukus;

- (b) The institutions designated by the Executive Committee for planning and preparing projects were agreed: ICCWS with its Scientific Information Center (SPA SANIIRI with other regional institutions<sup>2/</sup>) for programs 1,2,3,4 and 6; ICCWS-Amu Darya and ICCWS-Syr Darya BVOs for program 7 and a special joint organization of the Ministries of Water Resources, Public Health and Municipal Economy, including "Committees of Surroundings of the five States" for program 5.
- (c) It was agreed that the scope and the terms of reference of specific projects will be prepared by the institutions mentioned in (b) above in consultation with the Bank Mission. Further, the arrangements for preparing these projects, identifying the technical and financial needs for capacity building for the regional institutions, the procedures for the flow of funds, and the procedures for procurement of goods and services will be discussed and agreed among the above mentioned institutions, the Executive Committee, the Aral Sea Fund and the Bank.
- (d) Upon finalization of the TORs mentioned in (c) above, the activities to be performed (such as feasibility studies, designs, surveys, etc.) shall be carried out by regional, international or local agencies or any combination thereof through open competition.
- (e) It was agreed that during the project preparation and capacity building phase grant funds administered by the World Bank would be channelled through the Aral Sea Fund. Lending modalities and instruments for World Bank loans and credits would be in accordance with the Bank's standard policies and practices.
- (f) The proposal for the Bank to convene a donors' meeting in April/May 1994 to get firm commitments for US\$20 million required for project preparation and capacity building was endorsed. The Bank delegation stated that the representatives of Executive Committee and the Aral Sea Fund will be invited to this meeting.
- (g) It was agreed that after the projects are prepared they will be appraised in September/October 1994 and that a second donors' meeting to seek commitment of donors' and international agencies will be convened late 1994/early 1995 to obtain funding and start implementation of the projects.
- (h) There was discussion on the need and importance of implementing the decision to establish the Interstate Commission for Socio-Economic Development and Scientific, Technical and Ecological Cooperation. The Chairman of the Executive Committee agreed with the need for this commission and that this matter would be taken up at the next meeting of the Interstate Council scheduled to take place towards the end of March 1994.

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<sup>2/</sup> Uzvodoproekt, Kazgiprovodhoz, KirgNII of irrigation, Turkmen giprovodhoz, Sredaz-giprovodhlopok, TadjNIIGIM, PKTE "Vodinformatica", Aralvodproect, "Bugaev" Institute of Meteorology, Gidrometservices of 5 states.

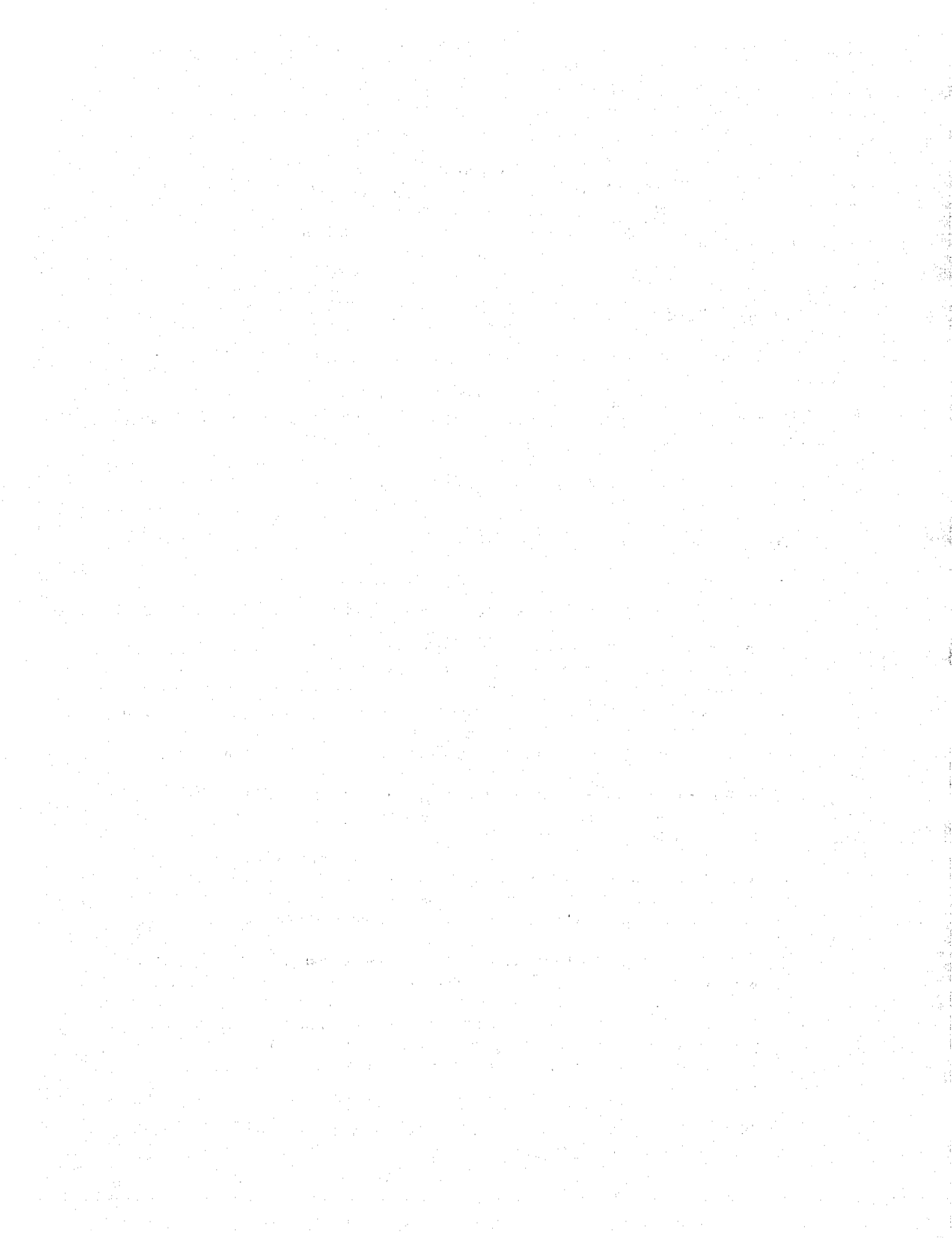
4. The Bank strongly recommended that the Chairman of the Executive Committee should be appointed on a full time basis given the magnitude and complexities of the Aral Sea Program. The Chairman of the Executive Committee stated that he would submit this suggestion to the Interstate Council for consideration by the Heads of States.

5. The Chairman said that the designated agencies for planning and preparing projects will work with the Bank Mission and by about will be the middle of March 1994 a firm program of projects prepared. A meeting of the Interstate Council will be convened towards the end of March 1994 to review and approve this program.

6. The Chairman of the Executive Committee invited the Bank to attend the next meeting of the Interstate Council scheduled to take place towards the end of March, 1994.

Mr. A. Ilamanov  
Chairman  
Executive Committee  
Ashgabad

Mr. Michael S.V. Rathnam  
Mission Leader  
World Bank



**The Protocol  
of the Meeting of the Executive Committee of the  
IC on the Aral Sea Problems  
Joint Meeting of EC and ED of the Aral Fund  
Tashkent, February 26, 1994**

1. Presentation of the Heads of E.C.
2. Acquaintance of the World Bank Mission with the decisions adopted by the Leaders of Central Asian States in Nukus on January 11, 1994 on the Aral Sea problems.
3. Discussion of the mechanism of interaction between EC, ED of International Aral Fund and other organizations of the Interstate Council.
4. On development of the first stage projects from the programs of real actions for the nearest 3-5 years and financing of the above.
5. Discussion of the proposals to the next meeting of Interstate Council on the Aral Sea problems.

With allowance for the proposals and opinion exchange the participants decided that:

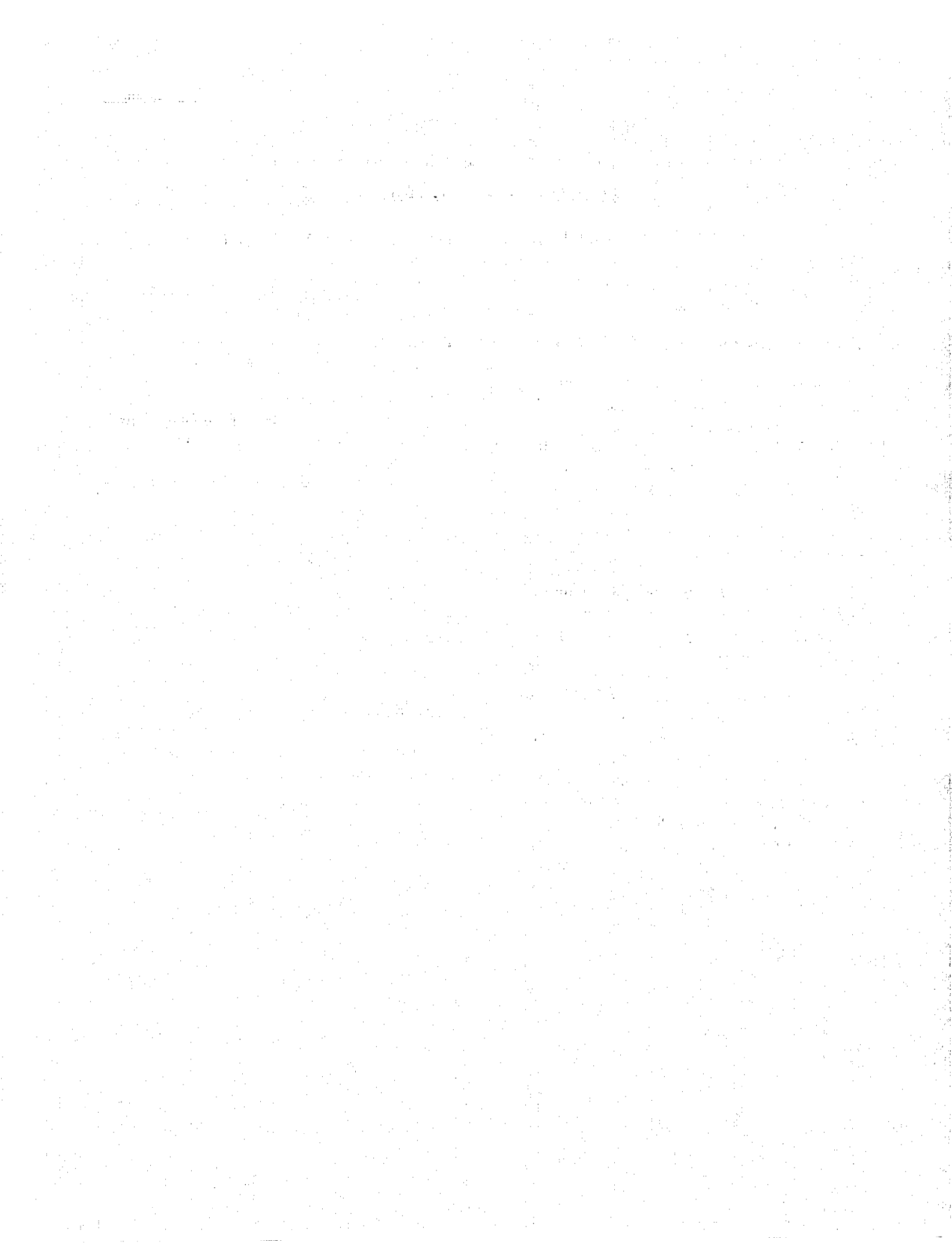
- a. In accordance with the resolution of the Leaders of Central Asian States of January 11, 1994 passed in Nukus with participation of Russian Federation, the Minister of Land Reclamation and Water Management of Turkmenistan, Mr. Ilamanov Ammanazar is appointed as the Chairman of E.C. for a period of one year without leaving his post of the Minister and Mr. Bobko Ju, V., Deputy Director of Minivodkhoz of Republic of Uzbekistan, is appointed as the First Vice Chairman - Technical Director.
- b. As permanent residence of E.C. Chairman is in Ashgabad city while that of Vice Chairman is in Tashkent secretariat of 5 persons will be organized in Ashgabad in order to carry out day to day work with E.C.
- c. It is recommended to appoint the citizen of Turkmenistan Mr. Griback Gennadji Eduardovich as the Chairman of Expert Council of E.C. His candidature will be submitted for the approval by the Interstate Council during the next meeting.
- d. To address the Government of Republic of Uzbekistan for the fulfillment of p.3 of the Resolution of the IC of July 13, 1993 "On provision of corresponding conditions for E.C. Staff" within one month. Simultaneously address the Government for approval of the fact that the activity of E.C. staff is to be financed from the budget of the Republic and these expenses are reckoned towards the payment of Uzbekistan to the Aral Fund. Similar approach will be in force for the expenses of EC Chairman and his secretariat in Ashgabad city.

- e. Take into consideration information on different matters concerning projects, preparation, organization and financing presented by the Head of World Bank Mission, Mr. Rathnam. In his report Mr. Rathnam makes a request for IC through E.C. to speed up formation of the Interstate Commission for Social Economic, Scientific Technical and Ecological Cooperation. He also requested for appointment of full-time Chairman of E.C. taking into account complexity and large amount of work which should be done for a long term Aral Sea Program.
- f. In order to provide efficient coordination and fulfillment of "Program" goals, E.C. sent an enquiry to the Leaders of Central Asian States the members of IC on the Aral Sea problems asking them to submit:
- official person in the Government responsible for interaction with E.C.;
  - proposals on questions and measures to be discussed in IC meeting;
  - proposals on organization, objectives, composition of Interstate Council on socio-economic development, scientific-technical and ecological cooperation;
  - information on already existing international projects which are within the competence of IC.
  - proposals on the projects to be included into regional Program and to present National water-land program on the date when it will be prepared;
  - EC asks the Chairman of I.C. Mr. Kjurabekov I.K. to assist in presenting necessary material for consideration in the next meeting of the IC.
- g. To consider the plan proposed by NITS MKVK -SANIIRI as the first stage of "Program fulfillment (Appendix 1) and begin its execution. The E.C. appoints organizations which will plan and prepare the projects. They are:
- p.o. 1,2,3,4 and 6 - NITS MKVK-NPO SANIIRI together with regional institutions of Uzvodproect, Kazgyorovodkhoz, KirgNII or Irrigation, Turkmengyprovodkhoz, Uzgi-promeli-oNodkhoz, TadjNIIGIM, Vodinformatsiya, aralvodprokt, meteorology institute, Hydro meteocentres of 5 states;
  - p.7 BVO "Amu-Darya and BVO Syr Darya";
  - p.5 Organizations executors of water management ministry, health ministry, municipal and housing ministry and nature committees.
6. EC, MKVK and its center (NITS MKVK) is to prepare within a month period the working plan of the program, specifying goals for each state participant and to submit it for consideration at IC meeting simultaneously to prepare the questions to be considered or approved at I.C. meeting.
7. NITS MKVK (SANIIRI) together with EC, BVO "Amu-Darya" and BVO Syr Darya, Secretariat of MKVK are to prepare and submit for consideration of International organizations the proposals on lump sum allowance in order to start and equip EC, MKVK, Fund and BVO.

8. EC together with corresponding specialists of MKVK, Minvodkhoz, BVO are to prepare within a months period draft joint Decree of Central Asian government "On realization of pgs. 9 and 10 of the "Program" approved by the Resolution of the Leaders of the States on January 11, 1994 in Nukus city"

Written in Tashkent, on 26.02.94 in Russian  
The Protocol is sent to all participants  
The original is kept in EC  
The Chairman of EC of ICAS

A. Ilamanov.





**ARAL SEA PROGRAM - PHASE 1**

**Projects Identified by the Executive Committee and the World Bank  
Which Are Consistent with the Programs  
Approved by the Heads of States**

**Programs Approved by the Heads of States**

1. To prepare a general strategy of water distribution, rational water use, and protection of water resources in the Aral Sea Basin, and to prepare on the basis of this strategy draft intergovernmental legal and normative acts, which will regulate the issues related to the consumption and protection of water from pollution, and the social and economic development of the region.

To prepare and introduce quotas limiting water consumption for agricultural and industrial production, as well as for other technological needs.

2. To prepare and introduce a unified system of water availability and consumption measurement for the countries of the Aral Sea Basin, as well as a regional system of monitoring the environmental situation. To create databases, and to provide the relevant meteorological services with equipment and special devices.

**Projects Identified by the Executive  
Committee and the Bank Mission**

- Regional Water Strategy;
- Improving the Efficiency of the Operations of the Existing Dams for Irrigation Releases and Hydropower;
- Sustainability of Dams and Reservoirs;
  
- Hydromet Services;
- Data Bank;
- Management Information System for Water Quality and Environment;

3. To work out principles of improving the water quality, and limiting pollution. To take measures aimed at reducing, and stopping in the future, the discharge of highly mineralized and polluted drainage water, and of unpurified water used for industrial purposes and in the communal sector, into rivers, water reservoirs, and onto the territories of the neighboring countries.

To complete the construction of collectors along the Syr Darya and Amu Darya rivers, which will prevent the discharge of polluted water into these rivers. To undertake reconstruction and building of water cleaning facilities for inhabited areas, as well as for industrial and agricultural enterprises located in the Aral Sea basin.

To take measures aimed at increasing the water flow in the Syr Darya river bed, and in the discharge control units at the Shardarinsk hydroelectric station in order to provide an adequate amount of water into the Aral Sea.

To take appropriate measures in order to restore and preserve the Smaller Sea.

4. To undertake research work and to decide upon the existing engineering options, to prepare projects and to create artificially watered landscape ecosystems in the deltas of the Amu Darya and Syr Darya rivers and on the exposed Aral Sea beds. To undertake the required melioration work in order to restore the original environmental situation in the above-mentioned areas.

- Water Quality Management;
- Collector Drains;

- Wetland Program;
- Soil Stabilization;
- North Sea Dyke;
- Environmental Assessment;
- Research on Salt Storms;

5. To prepare and implement intergovernmental programs "Clean Water and Health," which provide for supplying the affected population in the Central Asian countries with good quality drinking water and improving sanitary and epidemiological situation in the region.

6. To undertake the required water and environmental research work, and on the basis of such work to take specific measures to improve the environmental situation in the zones of water flow formation.

7. To provide Amu Darya and Syr Darya BVOs with the necessary technological equipment. To install at the above-mentioned BVOs automated systems for managing water resources, and to create information and forecasting centers there.

Implementation of the second stage of the ASUB Syr Darya Project and of the first stage of the ASUB Amu Darya Project.

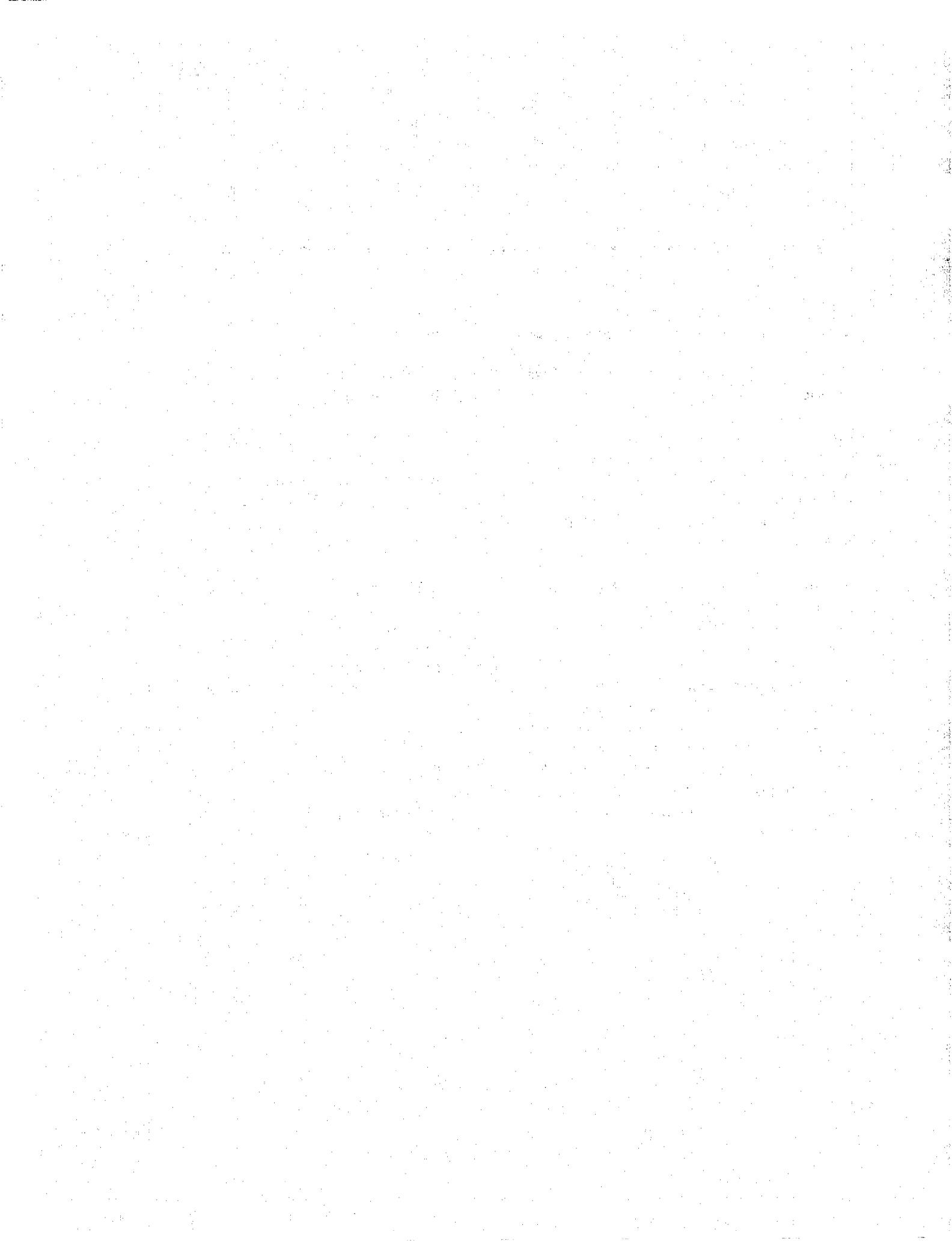
\* Assistance to regional institutions for planning, preparing and implementing the programs approved by the Heads of States.

- Potable Water (Short-term);
- Water Supply (Medium-term);
- Sanitation and Sewerage;
- Health;

- Watershed Management;

- BVO Amu Darya (Civil Works and Automatic Gates);
- BVO Syr Darya (Civil Works and Automatic Gates);

- Capacity-building Project



**ARAL SEA PROGRAM - PHASE 1**

**Project Teams Identified by the Executive Committee and the World Bank  
For Preparing Projects to Implement the Decisions of the Heads of States**

**Programs Approved by the Heads of States**

1. To prepare a general strategy of water distribution, rational water use, and protection of water resources in the Aral Sea Basin, and to prepare on the basis of this strategy draft intergovernmental legal and normative acts, which will regulate the issues related to the consumption and protection of water from pollution, and the social and economic development of the region.

To prepare and introduce quotas limiting water consumption for agricultural and industrial production, as well as for other technological needs.

2. To prepare and introduce a unified system of water availability and consumption measurement for the countries of the Aral Sea Basin, as well as a regional system of monitoring the environmental situation. To create databases, and to provide the relevant meteorological services with equipment and special devices.

**Project Teams**

EC Team for Preparing Projects

Vadim Sokolov  
Tadeush Derlyadka  
Representative of Tadjikistan  
Representative of Turkmenistan

Bank Mission's Assistance

Janusz Kindler  
Tom Daves  
Al Duda  
Don Parsons  
Raj Krishna  
Dilek Barlas

EC Team for Preparing Projects

Iraida Sorokina  
Rakhim Ikramov  
Gennady Kuleshov

Bank Mission's Assistance

Geoffrey Matthews  
Guy Le Moigne

3. To work out principles of improving the water quality, and limiting pollution. To take measures aimed at reducing, and stopping in the future, the discharge of highly mineralized and polluted drainage water, and of unpurified water used for industrial purposes and in the communal sector, into rivers, water reservoirs, and onto the territories of the neighboring countries.

To complete the construction of collectors along the Syr Darya and Amu Darya rivers, which will prevent the discharge of polluted water into these rivers. To undertake reconstruction and building of water cleaning facilities for inhabited areas, as well as for industrial and agricultural enterprises located in the Aral Sea basin.

To take measures aimed at increasing the water flow in the Syr Darya river bed, and in the discharge control units at the Shardarinsk hydroelectric station in order to provide an adequate amount of water into the Aral Sea.

To take appropriate measures in order to restore and preserve the Smaller Sea.

4. To undertake research work and to decide upon the existing engineering options, to prepare projects and to create artificially watered landscape ecosystems in the deltas of the Amu Darya and Syr Darya rivers and on the exposed Aral Sea beds. To undertake the required melioration work in order to restore the original environmental situation in the above-mentioned areas.

EC Team for Preparing Projects

Anatoli Krutov  
Igor Zaks  
Abbas Usmanov  
Gennady Degtyarev

Bank Mission's Assistance

Walter Ochs  
Guy Le Moigne  
Janusz Kindler  
Syed Kirmani

EC Team for Preparing Projects

Igor Zaks  
Iskander Ruziev  
Anatoly Krutov  
Mikhail Gilenko

Bank Mission's Assistance

Jan Post  
Walter Ochs  
Guy Le Moigne  
Syed Kirmani

5. To prepare and implement intergovernmental programs "Clean Water and Health," which provide for supplying the affected population in the Central Asian countries with good quality drinking water and improving sanitary and epidemiological situation in the region.

EC Team for Preparing Projects

Gennady Degtyarev

Iraida Sorokina

Bank Mission's Assistance

Art Bruestle

Tariq Nawaz

Harvey Olem

6. To undertake the required water and environmental research work, and on the basis of such work to take specific measures to improve the environmental situation in the zones of water flow formation.

EC Team for Preparing Projects

Abbas Usmanov

Iraida Sorokina

Lev Peberezhsky

Bank Mission's Assistance

To be determined

7. To provide Amu Darya and Syr Darya BVOs with the necessary technological equipment. To install at the above-mentioned BVOs automated systems for managing water resources, and to create information and forecasting centers there.

EC Team for Preparing Projects

Sharkat Rakhimov

Yuri Tolstunov

Oleg Lysenko

Bank Mission's Assistance

Implementation of the second stage of the ASUB Syr Darya Project and of the first stage of the ASUB Amu Darya Project.

Mahmud Tirmazi

Tom Daves

\* Assistance to regional institutions for planning, preparing and implementing the programs approved by the Heads of States.

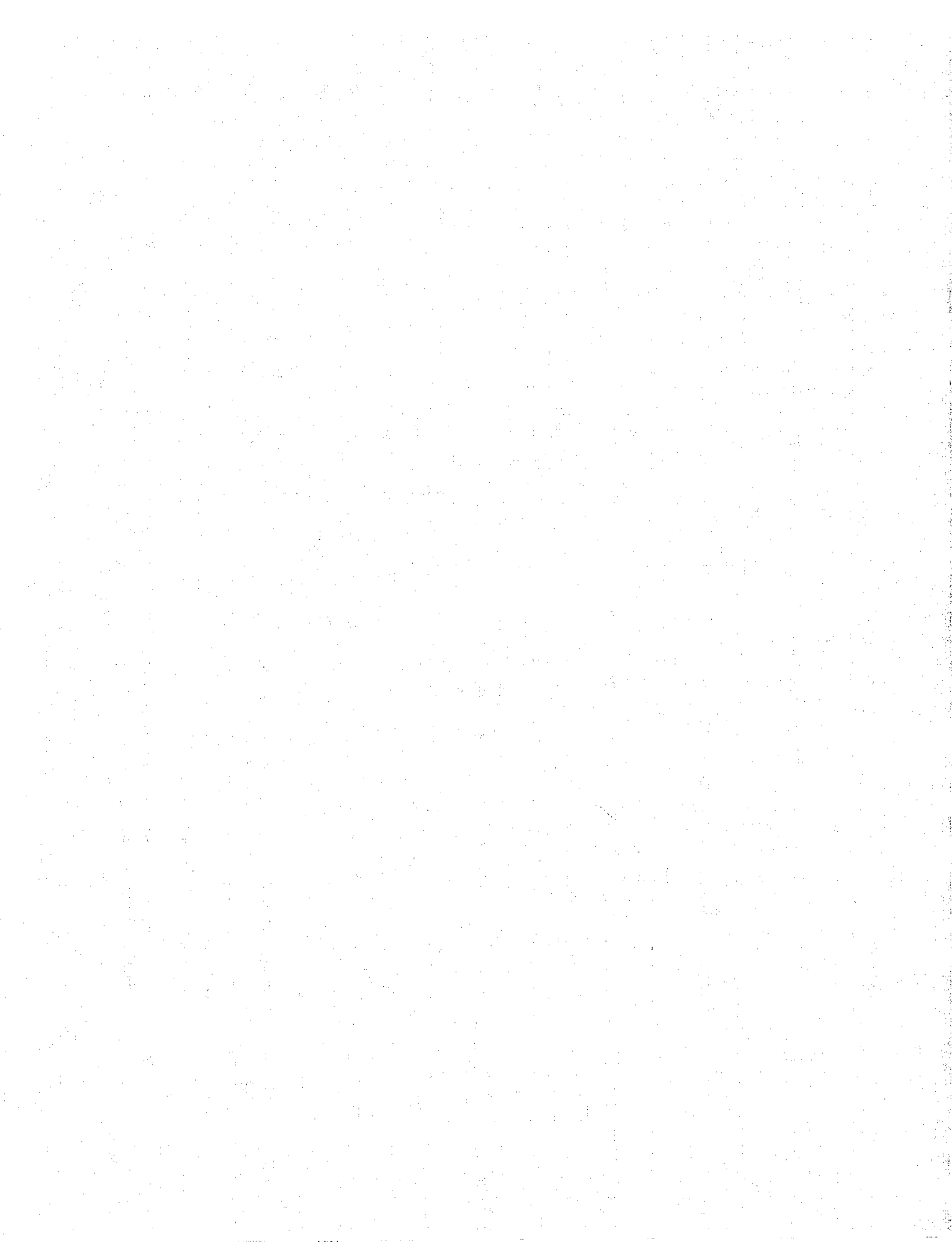
EC Team for Preparing Projects

Yuri Bobko

Bank Mission's Assistance

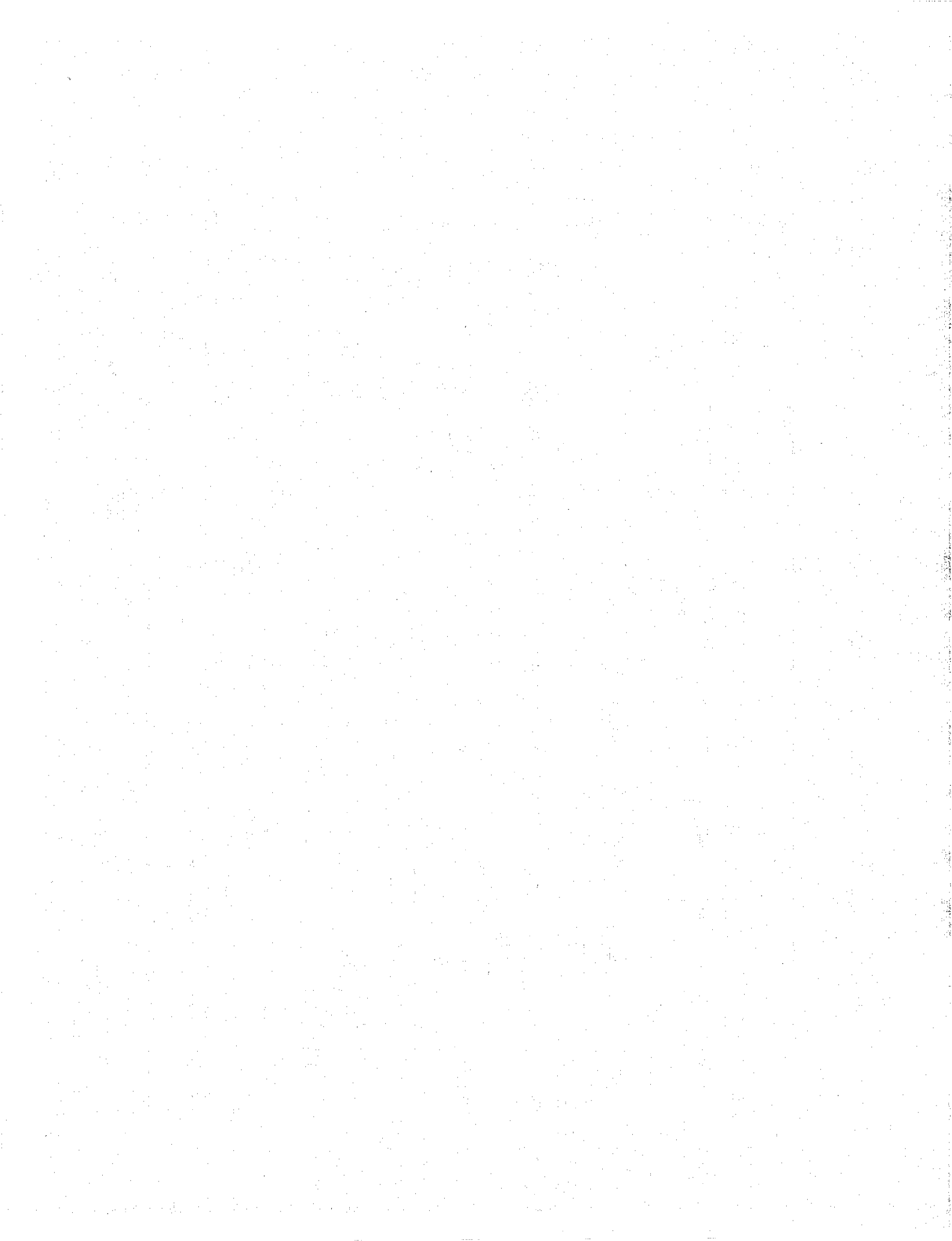
Michael Rathnam

Syed Kirmani









**ARAL SEA PROGRAM - PHASE 1**

**Heads of States Approved Program No. 1**

**Project 1: Regional Water Resources Management Strategy**

**PROJECT BRIEF**

(Summary)

1. **Background.** The massive irrigation investment completed in the Central Asia by the former USSR led to what is essentially full utilization of water resources in the region. Environmental impacts of these developments, in particular shrinking of the Aral Sea, are severe. With the establishment of five independent States in the Aral Sea Basin, move towards economic reform and market-based economies, and increasing population growth pressures, the Heads of the Aral Sea Basin States decided to develop a regional strategy for managing jointly owned water resources.
2. **Objectives.** Develop a regional water resources management strategy that addresses problems, needs and opportunities, to create conditions for ecologically stable socio-economic development of each Basin's State as a whole.
3. **Scope.** "Rapid assessments" to determine critical issues for prompt consideration by the Interstate Council; data collection; water resources and related land assessments; identification of problems and their prioritization; formulation and evaluation of alternative strategies; selection and approval of a preferred strategy; transferral of that strategy to the Basin countries for implementation.
4. **Project Description.** The project will produce an approved regional water resources management strategy containing a set of water management action programs, recommendations for basin-wide legal and normative acts, capacity development through training, institutional strengthening, technical and equipment assistance.
5. **Implementation Period.** Establishment of an interstate Regional Water Strategy Group (RWSG), responsible towards the Interstate Council for development of the strategy. To accomplish this task, the RWSG will establish a number of specialized Task Forces. The project will be carried over three and a half years, including half a year long preparatory phase.
6. **Estimated Costs.** The implementation of the total project program is expected to cost about US\$5 million, including US\$375,000 needed for the six month project preparatory phase.

**ARAL SEA PROGRAM - PHASE 1**

**Heads of States Approved Program No. 1**  
**Project 2: Improving the Efficiency of the Operations of**  
**Existing Dams for Releases and Hydropower**

**PROJECT BRIEF**  
**(Summary)**

1. **Background.** With the establishment of the five Aral Sea Basin States in 1991, reservoir operational objectives and rules that have been established previously, are no longer fully satisfactory to the affected States. Consequently in 1993, the five Heads of States agreed to reexamine those rules of operation, with special emphasis on reservoir releases for hydropower generation and irrigation water supply.
2. **Objectives.** For the States affected by the operation of a given reservoir or reservoirs, the ultimate objective is to reach agreement on a set of goals, on objectives, operating rules, and compensation or inducement that may be necessary to achieve those goals.
3. **Scope.** Collection of relevant data and analyses for all reservoirs having at least power and irrigation purposes. Development of various operational scenarios and estimates of their economic, social and environmental effects so as to prepare for each reservoir under review, a tradeoff analysis.
4. **Project Description.** The project will produce a draft report containing the tradeoff analyses on the most promising scenarios, with the proposed operation rules and a set of compensation and inducement terms, will be circulated for review and comment. A final report containing recommendations will be forwarded to the Interstate Council for approval.
5. **Implementation Period.** Establishment of an interstate Reservoir Efficiency Team drawn from the countries involved for each reservoir to be reviewed, plus one neutral party. Where the same States are involved in more than one reservoir, reviews can be combined. For purposes of coordination and administration, the Team should preferably operate as a special Task Force of the Regional Water Strategy Group.
6. **Estimated Costs.** The total Phase I implementation cost for this project cannot be predicted with confidence at this time because the extend of analyses at complex reservoirs has not been determined so far. This will be assessed in the project preparatory phase, however, project cost may be on the order of US\$1 million. Costs for the preparatory phase are estimated to be US\$200,000.

**ARAL SEA PROGRAM - PHASE 1**

**Heads of States Approved Program No. 1**  
**Project 3: Sustainability of Dams and Reservoirs**

**PROJECT BRIEF**  
**(Summary)**

1. **Background.** There are approximately 70 dams and storage reservoirs in the Aral Sea Basin. Some of these have already had their reservoir capacity significantly reduced by siltation and others are threatened, especially in the Amu Darya basin. There is no regional program to address this problem.
2. **Objectives.** Develop a regional program that assesses useful capacities of storage reservoirs so as to facilitate the implementation of the most appropriate measures to eliminate the causes of capacity losses by the State responsible for the specific structure.
3. **Scope.** Collection of appropriate information such as rainfall-runoff rates, sedimentation and capacity loss rates, sediment types and sources and current land practices. Establishment of criteria to determine priority reservoirs and development and evaluation of alternative measures for those locations.
4. **Project Description.** The project will produce a status report on each watershed examined. An in-depth report on each priority reservoir watershed giving the capacity loss sources, rates and impacts (or effects) of that loss. A full range of alternative solutions with their costs and benefits in both economic and environmental terms will be shown with recommendations regarding a preferred solution.
5. **Implementation Period.** Creation of a Reservoir Capacity/Erosion Team that for purposes of administration and coordination should preferably operate as a special Task Force of the Regional Water Strategy Group. This activity will require three and half years that includes a six month preparatory phase.
6. **Estimated Costs.** The total Phase I implementation cost for this project cannot be predicted with confidence at this time because the extend of necessary field work is unknown. This will be assessed and valued in the preparatory phase of the project, however, project cost may be on the order of US\$1 million. Costs for the preparatory phase are estimated to be US\$200,000.

**ARAL SEA PROGRAM - PHASE I**

**Heads of States Approved Program No.2**  
**Project 1: Hydrometeorological Services**

**PROJECT BRIEF**  
**(Summary)**

1. **Background:** Information on the water resources of the Aral Sea Basin to measure and monitor their availability, and consumption, is collected, processed and disseminated by the 5 National Hydrometeorological Services. Unfortunately the economic recession has caused a deterioration in the data gathering infrastructure which is decreasing the quantity and quality of data and information being provided for planning and operations. The project is designed to arrest this decline, and establish a high quality regional hydrometeorological service.
2. **Objective:** The principal objective is to provide the five National Hydrometeorological Services with modern data collecting, processing and information dissemination capacity.
3. **Scope:** The scope would be limited to the 5 National Hydrometeorological Services in the five countries.
4. **Project Description:** The supply and installation of modern hydrometeorological data gathering, transmission, receiving, and processing equipment in the Aral Sea Basin for the 5 National Hydrometeorological Services.
5. **Implementation Period:** There would be a 6 month preparatory phase, followed by a 3 year implementation period.
6. **Estimated Costs:** The project is expected to cost about US\$21 million, including US\$1,5 million for the preparatory period.

**ARAL SEA PROGRAM - PHASE I**

**Heads of States Approved Program No.2**

**Project 2: Data Base and MIS for Water Quality and Environment**

**PROJECT BRIEF**

**(Summary)**

1. **Background:** Information on water, land and environment resources of the Aral Sea Basin to measure, manage and monitor their quality and availability, is collected, processed, stored and used by the five countries in an independent and uncoordinated manner. To coordinate the use of natural resources, this project will provide the means to collect, process and store, water, land and environment data, in a unified electronic data base. This unified information can then be used in a Management Information System to research the issue of the inter-relationship between water quality, land and the environment, and its socio-economic consequences.
2. **Objective:** The principal objective is to create a unified electronic regional data base for water, land and environment in Ministries and regional scientific research and information centers, for the preparation of credible and relevant regional socio economic analyses of water, land, and the environment.
3. **Scope:** The scope of the project will be restricted to the creation of one regional information center and five scientific research and information center in each of the five States.
4. **Project Description:** Supply and installation of modern data bases, computer models, laboratories, and processing equipment for interactive water, land and environmental resources research in a regional information center and five scientific research and information centers with experimental farming areas for technology and water quality research.
5. **Implementation Period:** There would be a 6 month preparatory phase, followed by a 3 year implementation period.
6. **Estimated Costs:** The project is expected to cost about US\$9 million, including US\$1.0 million for the preparatory period.

**ARAL SEA PROGRAM - PHASE I**

**Heads of States Approved Program No. 3**

**Project 1: Water Quality Management**

**PROJECT BRIEF**

(Summary)

1. **Background:** The Aral Sea is the ultimate disposal site for all runoff and discharges within the basin. The Aral Sea salinity level has increased nearly three times, to that of sea water, and serious environmental damage has been caused by increased loadings of agricultural chemicals, municipal wastewater, and industrial effluents in the basin.
2. **Objectives:** The objectives of the project are to:
  - conduct an assessment of all significant sources of water pollution in the Aral Sea Basin;
  - conduct pilot programs and develop action plans (for priority investments) for reducing pollution from irrigated agriculture;
  - establish water quality management programs within existing institutions in the region that are effective in achieving pollution abatement from industrial, municipal, and agricultural sources; and
  - achieve actual reductions of pollution loadings from these sources.
3. **Scope:** In order to address the water quality problems in the Aral Sea Basin, it is critical that pollution prevention and control measures be implemented for all significant pollution sources. Also, sustainable agricultural irrigation systems that use less water from the rivers must be introduced.
4. **Project Description:** The Water Quality Management Project includes two closely interrelated components. Component 1 supports institutional assessment and planning processes that will be jointly conducted basinwide and will include an analysis of alternative methods for greatly reducing the discharge of municipal and industrial pollutants. Component 2 is limited mostly to the irrigated flatlands of the middle and lower basin. This work involves procurement of equipment, demonstration projects, action plans, studies, and research for introducing more sustainable irrigated agricultural systems that are necessary for reducing river withdrawals and improving water quality.
5. **Implementation Period:** The project would begin with a six-month preparation period to prepare final Terms of Reference for a three-year project period.
6. **Estimated Costs:** The total project costs are estimated to be US\$ 15 million. Component 1 is estimated to cost US\$ 4 million and Component 2 is estimated to cost US\$ 11 million. Project preparation costs are estimated to be US \$415,000 (US\$ 125,000 for Component 1 and US \$290,000 for Component 2).



## ARAL SEA PROGRAM - PHASE 1

## Heads of States Approved Program No. 3.

**Project 2: Remodelling of Syr Darya river bed and Shardarinsk Control Units****PROJECT BRIEF****(Summary)**

1. **Background:** As a result of the degradation of the Syr Darya river bed, the supplies released below Chardara reservoir can no longer be passed into the river and are therefore released into the Arnacai depression. The release capacity below the hydropower station is about 1,300 m<sup>3</sup>/ sec, however no more than 400 m<sup>3</sup>/ sec can be released to the Aral Sea. The lowering of the Aral Sea has caused the main bed of Syr Darya, within the delta to erode to a much steeper slope, causing the fan-shaped channels to dry up, adversely affecting the ecosystems and agriculture in the delta area and increasing salinity and pollution.

2. **Objectives:** The Heads of States, at the January 1994 meeting in Nukus, have approved a comprehensive program with the following objectives:

- (a) Increasing the water flow in the Syr Darya river bed;
- (b) Increasing the flow of the river through the control structures;
- (c) Providing adequate amounts of water into the Aral Sea area.

3. **Scope:** The above objectives would be met by a thorough and exhaustive study of the regime of the Syr Darya with particular emphasis on all hydraulic structures, river beds and channels in the delta area. The scope of work would include feasibility studies, preparation of priority program of projects and their implementation.

4. **Project Description:** The project is expected to consist of a number of subprojects and would, inter alia, include, remodelling and reconstruction of the following:

- (a) Spillway and other hydraulic structures for releases downstream of Chardara reservoir;
- (b) Power Channel/Power Tunnel for Shardarinsk hydropower dam.
- (c) Spillway at Kizil-Orda dam and all upstream regulators;
- (d) Zaman and Karaozak branches of Syr Darya and cross drainage structures;
- (e) Waterway at the Aitek diversion weir and downstream river bed;
- (f) Syr Darya, capacity and flows in the delta area, including quality; and
- (g) Environmental and agricultural facilities in the delta.

5. **Implementation Period:**

- |                                |          |
|--------------------------------|----------|
| (a) Prefeasibility Preparation | 6 months |
| (b) Feasibility Studies        | 3 years  |
| (c) Project Implementation     | 10 years |

6. **Estimated Cost:**

- |                                     |            |
|-------------------------------------|------------|
| (a) Prefeasibility preparation cost | US\$ 0.52  |
| (b) Feasibility Studies             | US\$ 10.00 |
| (c) Project implementation          | US\$250.00 |

**ARAL SEA PROGRAM - PHASE 1**

**Heads of States Approved Program No. 4**  
**Project 1: Wetlands Restoration**

**PROJECT BRIEF**  
**(Summary)**

1. **Background.** The desiccation and salinization of the Aral Sea Basin caused the disappearance of most its life, the destruction of the wetlands in the deltas of the Amu and Syr Darya damaging the livelihood of the local population, salt and dust storms and disappearance of biodiversity.
2. **Objectives.** The objectives of the project are to restore at least part of the original Aral Sea ecosystems in and along the delta of the Amu Darya thereby mitigating much of the ecological damage and stabilizing the draw-down zone against salt storms.
3. **Scope.** Many designs and plans for wetland restoration already exist and some studies have been carried out. These need to be reviewed, additional data gathered in the field and a design of (a) pilot wetland(s) made of which the civil engineering works are according to international standards.
4. **Project Description.** The project would include a long term strategy for wetland creation, evaluation of the existing designs and studies, a technical and economic feasibility study for the creation of additional wetlands, and design and cost estimate of a pilot fresh water wetland using river water and a brackish water wetland using drainage water.
5. **Implementation Period.** The project would be implemented in three phases: Phase 1 which would last eight months would produce the strategy, studies and design of the pilot project(s). Phase 2 would last three years during which the pilot project(s) would be implemented, and studied. Phase 3, implementation of the strategy is beyond the scope of this project.
6. **Estimated Costs.** Phase 1: US\$945,000  
Phase 2: US\$25,000,000

**ARAL SEA PROGRAM - PHASE 1**

**Heads of States Approved Program No. 4**  
**Project 2: North Sea Restoration**

**PROJECT BRIEF**  
**(Summary)**

1. **Background.** The drying up and salinization of the Aral Sea has resulted in the Sea becoming a practically dead water body. There is general agreement that it is unrealistic to expect that the Aral Sea can be restored to life. But there is a good chance that at least a part of the Sea can be restored to a state close to what it formerly was with inherent benefits to the population living close to that part of the Sea and restoration of biodiversity. This part would be a large bay in the North of the Aral Sea called North Bay.
2. **Objectives.** The objectives of the project are to fill the North Bay with water from the Syr Darya and to restore its original ecosystem for the benefit of the riparian population and biodiversity.
3. **Scope.** A fairly detailed design has already been made of this project by the Kazakh Design Institute. This design has to be evaluated and the civil engineering structures designed to international standards. Additional field work is likely to be required.
4. **Project Description.** The project would include an estimate of the water available, the kind and size of the ecosystem which can be created, a forecast of the stability of this ecosystem and measures for its enhancement and management. A detailed design and cost estimate should be provided for the dyke which should close off the Bay from the Aral Sea and a discharge sluice at the other end of the Bay to allow for through-flow to prevent salinization. Finally a cost-benefit analysis should be made of the project.
5. **Implementation Period.** The project would be implemented in two phases: Phase 1 would last seven months and would include studies and the design of the dyke and sluice. Phase 2 would last three years and include construction of the dyke and sluice.
6. **Estimated Costs.**  
Phase 1: US\$ 720,000  
Phase 2: US\$ 50,000,000

**ARAL SEA PROGRAM - PHASE 1**

**Heads of States Approved Program No. 4  
Project 3: Environmental Studies**

**PROJECT BRIEF  
(Summary)**

1. **Background.** The environmental problems caused by the drying out and salinization of the Aral Sea have been widely publicized. However, since the break-up of the Soviet Union very little research has been done and many uncertainties remain at present as to the severity and origin of some of the major problems.
2. **Objectives.** The objectives of this project are to study the major problems caused by the desiccation of the Aral Sea with a view to:
  - a. Assist the Governments of the Aral Sea Basin States in the determination of appropriate measures and policies to mitigate the various detrimental effects caused by the deterioration of the Sea.
  - b. Provide sound data on the basis of which the future of the Aral Sea can be developed.
3. **Scope.** A large number of studies have been carried out by various research institutions and a synthesis of these studies for each research subject is urgently needed. In addition, field work needs to be carried out to acquire data.
4. **Project Description.** The project consists of five research subjects: Salt and dust storms, including an assessment of the contribution of the draw-down zone to the precipitation of salt and (pesticide laden) dust in the hinterland; Biodiversity in the Aral Sea Basin, including an inventory of flora and fauna and an assessment of the function of the area for migratory birds; Water Quality in the Aral Sea, including chemical and salinity analysis; Limnology of the Aral Sea, possibly including a hydrological modelling; Research on climate change, including a regional climatic model.
5. **Implementation Period.** The overall study will take one year although some research subjects will take less time.
6. **Estimated Costs.** The estimated costs of all the Environmental Studies together are US\$1,095,000.

**ARAL SEA PROGRAM - PHASE 1**

**Heads of States Approved Program No. 5**

**Project 1: Clean Water, Sanitation and Health - Uzbekistan (short term)**

**PROJECT BRIEF  
(Summary)**

1. **Background.** The water supplies for the communities of the Amu Darya river are highly mineralized and further contaminated by agricultural, industrial and human wastes. As a consequence the rates of water born diseases of the population are higher than national averages. The provision of safe water and adequate sanitation to the population has been accorded high priority in the Aral Sea Program.
2. **Objectives.** The objectives of the project are to rapidly stabilize and improve the unsatisfactory water-related health situation of the target population through: (i) the provision of safe water for drinking and household use; (ii) the provision of appropriate sanitation facilities; and (iii) raising the population's awareness to the role water and sanitation plays in improving health.
3. **Scope.** The project would provide safe water for drinking and household use, sanitation facilities and contain a health education program.
4. **Project Description.** The project consists of physical works for water supply including wells, treatment facilities and distribution systems; appropriate sanitation facilities; water-related institutional development; health education and applied research.
5. **Implementation Period.** The feasibility study for the program is expected to be carried out by the local design and research centers, in joint venture with foreign consultants. The completion of the feasibility study and designs to permit appraisal would take about nine months. Implementation of the physical works would take about three years.
6. **Estimated Costs.** The cost of project preparation through final design would be about US\$825,000. Implementation of entire project would cost about US\$18 million.

**ARAL SEA PROGRAM - PHASE 1**

**Heads of States Approved Program No. 5**

**Project 2: Clean Water, Sanitation and Health - Turkmenistan (short term)**

**PROJECT BRIEF**

**(Summary)**

1. **Background.** The water supplies for the communities of the Amu Darya river are highly mineralized and contaminated by agricultural, industrial and human wastes. As a consequence the rates of water born diseases of the population are higher than national averages. The provision of safe water and adequate sanitation to the population has been accorded high priority in the Aral Sea Program.
2. **Objectives.** The objectives of the project are to rapidly stabilize and improve the unsatisfactory water-related health situation of the target population through: (i) the provision of safe water for drinking and household use; (ii) the provision of appropriate sanitation facilities; and (iii) raising the population's awareness to the role water and sanitation plays in improving health.
3. **Scope.** The project would provide safe water for drinking and household use, sanitation facilities and contain a health education program.
4. **Project Description.** The project consists of physical works for water supply including wells, treatment facilities (including desalinization devices) and distribution systems; appropriate sanitation facilities; water-related institutional development; health education and applied research.
5. **Implementation Period.** The feasibility study for the program is expected to be carried out by the local design and research centers, in joint venture with foreign consultants. The completion of the feasibility study and designs to permit appraisal would take about nine months. Implementation of the physical works would take about three years.
6. **Estimated Costs.** The cost of project preparation through final design would be about US\$825,000. Implementation of entire project would cost about US\$18 million.

**ARAL SEA PROGRAM - PHASE 1**

**Heads of States Approved Program No. 5**

**Project 3: Clean Water, Sanitation and Health - Kazakhstan (short term)**

**PROJECT BRIEF**

**(Summary)**

1. **Background.** The lower Syr Darya river is grossly polluted by agricultural, runoff and human and industrial wastes. Some 700,000 people live in the region, and many have suffered adverse health effects caused by sub-standard drinking water and poor sanitation.
2. **Objectives.** The objectives of the project are to stabilize and improve the unsatisfactory water-related health situation of the target population through: (i) the provision and augmentation of municipal water supply; (ii) the provision of appropriate sanitation and sewerage facilities; and (iii) raising the population's awareness to the role water and sanitation plays in improving health.
3. **Scope.** The project would bring safe, piped water supply to the cities of Aralsk and Kazalinsk and adjacent communities. It would also provide for sewerage and sanitation, as appropriate, and contain a health education program.
4. **Project Description.** The project would further develop the existing ground water well field Saribulak, explore a new well field north of Kazalinsk, complete ongoing and construct new transmission mains, and build distribution systems for Aralsk and Kazalinsk. It would also build sewerage and sanitation systems for the two cities.
5. **Implementation Period.** The feasibility study for the program is expected to be carried out by the local design and research centers, in joint venture with foreign consultants. The completion of the feasibility study and designs to permit appraisal would take about nine months. Implementation of the physical works would take about three years.
6. **Estimated Costs.** The cost of the feasibility study and final designs for the project is about US\$1.3 million. Implementation of entire project would cost about US\$18 million.

**ARAL SEA PROGRAM - PHASE 1**

**Heads of States Approved Program No. 5**

**Project 4: Medium-Term Provision of Water Supply**

**PROJECT BRIEF  
(Summary)**

1. **Background.** Approximately 3.5 million people, half of them rural and half urban, live in the disaster zone of the Amu Darya river delta. Historically people there have drawn their water from surface sources, but these have become polluted by agricultural runoff and industrial and human wastes. Contaminated drinking water and inadequate sanitation is in significant part the cause of the high incidence of disease in the region.
2. **Objectives.** The objectives of the project are to develop and improve the provision of sustainable safe water supplies, sewerage and sanitation to the cities and smaller communities of the region which lies north of the Tuyamuyun Reservoir.
3. **Scope.** The project would consist of studies of physical works for water supply and sanitation, water-related institutional development and health education.
4. **Project Description.** Regarding water supply, the project would initially review the feasibility and design of planned and partially completed works including intakes at Tuyamuyun Reservoir, treatment plants, booster pumps, feeder mains, a river crossing and distribution systems. It would also study the feasibility of alternative water sources such as desalinization plants or pipelines from distant but high-quality water sources. Regarding sewerage and sanitation, the project would review the current situation in the region and plan expansions of existing and construction of new systems. Institutional arrangements for water supply and sanitation would be studied and improved, and health education programs expanded.
5. **Implementation Period.** The feasibility study for the program is expected to be carried out by the local design and research centers, in joint venture with foreign consultants. The completion of the studies and final designs in sufficient detail to permit appraisal would take about two years. Implementation of the physical works would take about four years.
6. **Estimated Costs.** The cost of project preparation, including studies of alternatives, feasibility studies, designs reviews and the preparation of final designs for water supply; studies for sanitation and sewerage; and the health education program, would cost about US\$8.25 million. Implementation of entire project would cost about US\$100 million.



**ARAL SEA PROGRAM - PHASE 1**

**Heads of States Approved Program No. 5**

**Project 5: Long-term Strategy for Water Supply and Wastewater Management**

**PROJECT BRIEF**

**(Summary)**

1. **Background.** The problem of adequate quality potable water is the most pressing of all for the seven million people living in the ecological crises zone of the Aral Sea region. For this reason the provision of safe water has become the highest priority of the government. At present about 80% of the urban and 50% of the rural population are served through centralized water supply. However, about one third of the urban and one half of the rural water supplied does not meet drinking water standards, and water borne disease rates are inordinately high. Adequate sanitation and sewerage is also lacking throughout the region.

2. **Objectives.** The objectives of these terms of reference are to prepare terms of reference of long-term technical, policy and institutional strategies for (a) the augmentation and development of water supply for urban, rural and industrial use for the lower Amu Darya and Syr Darya river basins and (b) the management of municipal and industrial wastewater, with the goals of reducing environmental impact and promoting conservation through reuse.

3. **Scope.** While short-term measures for addressing the problem are agreed and are being acted upon, there is at present no agreed long-term strategy for urban, rural and industrial water supply nor for wastewater management. There have been several studies prepared over time (see the list of references) and these provide valuable information, analysis and alternatives for development, but because of changed conditions none have the complete backing of the major stakeholders.

4. **Project Description.** The consultant would (a) obtain information and documents and interview experts, to develop an understanding of the current water supply and sanitation/sewerage situation and the investment strategies which have been put forward; (b) develop an understanding of the institutional arrangements, international agreements, laws and policies which are relevant to the water supply and wastewater sector of the region; (c) determine and agree the boundary conditions for strategy development; (d) prepare draft terms of reference and present it in a workshop format to concerned stakeholders and obtain feedback; and (e) prepare final terms of reference. The output would be a Terms of Reference acceptable to the Interstate Council for the preparation of technical, policy and institutional strategies for water supply and wastewater management, including an estimate of costs and the capacity building program to train local experts in strategy development and implementation.

5. **Implementation Period.** The preparation activity would take six months. Preparation of the strategy would take about three years.

6. **Estimated Costs.** The estimated cost of this activity is US\$400,000, including local and foreign staff costs, travel, training and equipment. Preparation of the strategy would cost US\$4 million to US\$7 million, the amount would be determined as a result of this preparation activity.

## **ARAL SEA PROGRAM - PHASE 1**

### **Heads of States Approved Program No. 6**

#### **Project 1: Integrated Land and Water Management in upper Watersheds**

### **PROJECT BRIEF**

(Summary)

1. **Background.** The upper watersheds of the Aral Sea appear to include significant environmental, economic, and health problems and consequences for the millions of people living there. Erosion problems are caused by deforestation and overgrazing of farmland. Pollution from mining degrades environmental quality; sewage releases affect water bodies, and industrial activities affect surface water and groundwater. The Aral Sea Basin salinity and other water quality problems begin in the Kyrgyz Republic, Tajikistan, and the upper watersheds of Uzbekistan, thus solutions to the basinwide problems begin here.
2. **Objectives.** The objectives of the project are to:
  - a. assess existing conditions and impacts of land and water management activities on surface waters, groundwaters, and soils;
  - b. investigate and assess more appropriate methods of land and water resources management in the upper watersheds; and
  - c. predict possible improvements in environmental quality that may result from implementation of remedial actions.
3. **Scope.** The project requires the assessment of previously-reported scientific studies, research, and field tests. It also requires the performance of new laboratory studies and field tests.
4. **Project Description.** A project team would gather all relevant existing environmental information and data on anthropogenic activities in the upper watersheds. Sites of major problems would be visited and follow-up studies would be implemented to provide the basic information needed to eventually develop land for remedial action.
5. **Implementation Period.** The project would begin with a six-month preparation period to prepare final Terms of Reference for a one and a half year project period and will be initiated as a Task Force under the Regional Water Resources Strategy Group.
6. **Estimated Costs.** The total project costs are estimated to be US\$2 million. Project preparation costs are estimated to be US\$200,000.

**ARAL SEA PROGRAM - PHASE 1**

**Heads of States Approved Program No. 7**

**Project 1: Automatic Control System and Civil Works for the Amu Darya Basin**

**PROJECT BRIEF**

**(Summary)**

1. **Background.** The Heads of States for Kazakhstan and the four republics of Central Asia have decided to provide the BVO Amu Darya with the engineering means to introduce an automated control system for water management including repairs to civil works and to support a capacity building program.
2. **Objectives.** The objectives of the project are to ensure timely and adequate delivery of water resources to various users, stimulate economic growth and to deliver water to the Amu Darya river delta to hold environmental degradation.
3. **Scope.** The proposed project would, when fully implemented, provide real time automated regulation, covering about 42 off-take structures on the Amu Darya. The project would also include repairs to civil works and capacity building activities for the BVO Amu Darya.
4. **Project Description.** The project would include a computerized automated regulation program and procurement and installation of hardware and software to ensure its implementation. The requirements of BVO Amu Darya in terms of repairs to civil works and capacity building would also be included.
5. **Implementation Period.** The feasibility study for the program is expected to be carried out by local design and research centers and bureaus, in joint venture with foreign consultants. The preparation of the project is expected to take 18 months. The implementation is expected to take about three years.
6. **Estimated Costs.** In addition to US\$1 million for capacity building, the cost of the feasibility study for the project is expected to be in the range of US\$0.75 million. Completion of the final design would require about US\$1.25 million in addition. Implementation of the entire project is expected to cost about US\$158 million, including physical and price contingencies.

**ARAL SEA PROGRAM - PHASE 1**

**Heads of States Approved Program No. 7**

**Project 2: Automatic Control System and Civil Works for the Syr Darya Basin**

**PROJECT BRIEF  
(Summary)**

1. **Background.** The Heads of States for Kazakhstan and the four republics of Central Asia have decided to provide the BVO Syr Darya with the engineering means to introduce an automated control system for water management including repairs to civil works and to support a capacity building program.
2. **Objectives.** The objectives of the project are to ensure timely and adequate delivery of water resources to various users, stimulate economic growth and to deliver water to the Syr Darya river delta to hold environmental degradation.
3. **Scope.** The proposed project would, when fully implemented, provide real time automated regulation, covering about 250 water off-take structures on the Syr Darya. The project would also include repairs to civil works and capacity building activities for the BVO Syr Darya.
4. **Project Description.** The project would include a computerized automated regulation program and procurement and installation of hardware and software to ensure its implementation. The requirements of BVO Syr Darya in terms of repairs to civil works and capacity building would also be included.
5. **Implementation Period.** The feasibility study for the program is expected to be carried out by local design and research centers and bureaus, in joint venture with foreign consultants. The preparation of the project is expected to take about 18 months. The implementation is expected to take about four years.
6. **Estimated Costs.** In addition to US\$1 million for capacity building, the cost of the feasibility study for the project is expected to be in the range of US\$0.75 million. Completion of the final design would require about US\$1.25 million in addition. Implementation of the entire project is expected to cost about US\$157 million, including physical and price contingencies.

**ARAL SEA PROGRAM - PHASE 1  
Capacity Building Program**

**PROJECT BRIEF  
(Summary)**

1. **Background.** On January 11, 1994, the five heads of States approved the concepts, programs and regional institutions for addressing the Aral Sea crisis. The decisions of the Heads of States were consistent with the Bank-UNEP-UNDP mission's suggestions. The regional institutions approved by the Heads of States include the following:

- (a) The Interstate Council for Aral Sea (ICAS)
- (b) The International Fund for Aral Sea (IFAS)
- (c) The Chairman of the Executive Committee of ICAS and the Executive Director of the Executive Board of the IFAS are the top operations managers of the ICAS and the IFAS.

2. **Objectives.** The main objectives of the proposed capacity building project are to build and strengthen the organizations of the EC and the IFAS to carry out the responsibilities defined in their respective statutes approved by the Heads of States and to coordinate their activities effectively to ensure the efficiency and success of the Aral Sea Program.

3. **Scope.** The proposed project would provide technical and financial assistance to the apex institutions of the EC and IFAS for managing the initial stages of the Aral Sea Program - Phase 1 when these new institutions need guidance and support on virtually every aspect of their activities.

4. **Project Description.** This project will provide the regional organizations with the capacity to carry out the responsibilities defined in their respective statutes and to coordinate and manage their activities effectively to ensure efficiency and success of the overall Aral Sea Basin Program.

5. **Implementation Period.** The project is expected to take three years. The Europe and Central Asia Department of the Bank has been granted \$2 million from the Special Grants Program of the Bank to provide financing for capacity building of the apex institutions, during FY 1995, beginning July 1994.

6. **Estimated Costs.** An estimate of resources required to finance the project is as follows: \$5.05 million for the EC and \$4.05 million for the IFAS, for a total of \$ 9.10 million, of which \$2 million will be provided from the Special Grants Program as mentioned above.

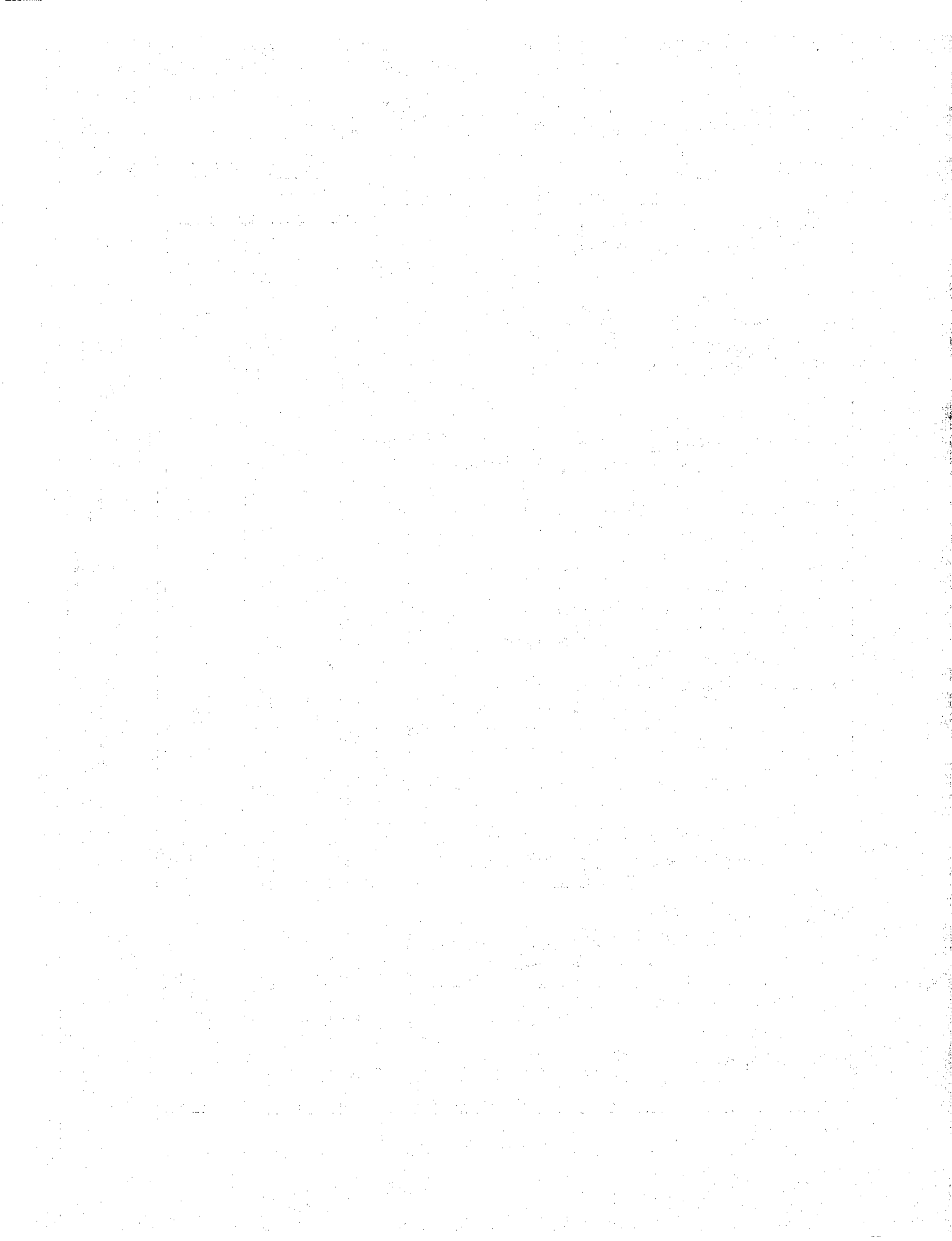
7. Justification and Issues. Both the EC and the IFAS are new institutions. Their top managers and heads of departments have been appointed by the Heads of States only recently and their staff positions have not been fully established yet. Although their functions have been defined in the statutes they have yet to establish working procedures and coordination arrangements to implement their responsibilities. They seem to be looking to the Bank for guidance.

8. The technical solutions of the Aral Sea Program are formidable enough. Addressing the above issues, managing a complex multi-sectoral program involving many implementing agencies, meeting the demands and interests of all the five states and satisfying the conditions of the international financing agencies and donors will impose an extraordinary burden on the infant institutions of the EC and IFAS. They need support and assistance from the international community to succeed. The support and assistance required would be extraordinary given the complexity of the program, the inexperience of the EC and IFAS, and the need to sustain the cooperation of the five states to address the Aral Sea crisis.

## ARAL SEA PROGRAM (PHASE I)

## Summary of Cost Estimates and Time Schedules for Completing Project Preparation and Capacity Building

NAME OF PROGRAM / PROJECT	LOCAL	FOREIGN	TOTAL	PERIOD
	US \$ Million			months -
<b>Program 1</b>				
1. Regional Water Resources Management Study	0.08	0.30	0.38	6
2. Improving Efficiency and Operation of Dams	0.04	0.16	0.20	6
3. Sustainability of Dams and Reservoirs	<u>0.04</u>	<u>0.16</u>	<u>0.20</u>	6
PROGRAM 1 SUBTOTAL	0.16	0.62	0.78	
<b>Program 2</b>				
1. Hydrometeorological Services	0.22	1.29	1.51	6
2. Data Base and MIS for Water Quality and Environment	<u>0.13</u>	<u>0.88</u>	<u>1.01</u>	6
PROGRAM 2 SUBTOTAL	0.35	2.17	2.52	
<b>Program 3</b>				
1. Water Quality Management				
a) Water Quality Assessment and Management	0.03	0.10	0.13	6
b) Agricultural Water Quality	0.09	0.20	0.29	6
2. Remodelling of Syr Darya river bed and Shardarinsk Control Units	<u>0.10</u>	<u>0.42</u>	<u>0.52</u>	6
PROGRAM 3 SUBTOTAL	0.22	0.72	0.94	
<b>Program 4</b>				
1. Wetland Restoration	0.10	0.85	0.95	8
2. Restoration of Northern Part of the Aral Sea	0.10	0.62	0.72	7
3. Environmental Studies in the Aral Sea Basin	<u>0.14</u>	<u>0.96</u>	<u>1.10</u>	12
PROGRAM 4 SUBTOTAL	0.34	2.43	2.77	
<b>Program 5</b>				
1. Clean Water, Sanitation and Health - Uzbekistan (short-term)	0.10	0.73	0.83	9
2. Clean Water, Sanitation and Health - Turkmenistan (short-term)	0.10	0.73	0.83	9
3. Clean Water, Sanitation and Health - Kazakhstan (short-term)	0.16	1.10	1.26	9
4. Medium-term Provision of Water Supply	2.00	6.25	8.25	24
5. Long-term Water Supply and Wastewater Management	<u>0.70</u>	<u>6.30</u>	<u>7.00</u>	30
PROGRAM 5 SUBTOTAL	3.06	15.11	18.17	
<b>Program 6</b>				
1. Integrated Land and Water Management in the Upper Watersheds	<u>0.04</u>	<u>0.16</u>	<u>0.20</u>	6
PROGRAM 6 SUBTOTAL	0.04	0.16	0.20	
<b>Program 7</b>				
1. Automatic Control Systems and Civil Works for the Amu Darya Basin, including Capacity Building for BVO Amu Darya	0.35	2.65	3.00	18
2. Automatic Control Systems and Civil Works for the Syr Darya Basin, including Capacity Building for BVO Syr Darya	<u>0.35</u>	<u>2.65</u>	<u>3.00</u>	18
PROGRAM 7 SUBTOTAL	0.70	5.30	6.00	
<b>Supplementary Program</b>				
Capacity Building for EC and IFAS	2.1	7.00	9.10	36
<b>TOTAL COST PROGRAMS 1-7, PLUS SUPPLEMENTARY PROGRAM</b>	<b>6.97</b>	<b>33.51</b>	<b>40.48</b>	





## ARAL SEA PROGRAM (PHASE 1)

Probable Total Cost of Implementing the Projects After Completion of the Preparation

NAME OF PROGRAM / PROJECT	PROBABLE COST	PERIOD
	US \$ Million	years
<u>Program 1</u>		
1. Regional Water Resources Management Study	5.00	3
2. Improving Efficiency and Operation of Dams	1.00	3
3. Sustainability of Dams and Reservoirs	<u>1.00</u>	3
PROGRAM 1 SUBTOTAL	7.00	
<u>Program 2</u>		
1. Hydromet Services	19.50	3
2. Data Base and MIS for Water Quality and Environment	<u>8.00</u>	3
PROGRAM 2 SUBTOTAL	27.50	
<u>Program 3</u>		
1. Water Quality Management		
a) Water Quality Assessment and Management	4.00	3
b) Agricultural Water Quality	11.00	3
2. Remodelling of Syr Darya river bed and Shardarinsk Control Units (1)	—	
PROGRAM 3 SUBTOTAL	15.00	
<u>Program 4</u>		
1. Wetland Restoration	25.00	3
2. Restoration of Northern Part of the Aral Sea	50.00	3
3. Environmental Studies in the Aral Sea Basin	—	
PROGRAM 4 SUBTOTAL	75.00	
<u>Program 5</u>		
1. Clean Water, Sanitation and Health - Uzbekistan (short-term)	18.00	3
2. Clean Water, Sanitation and Health - Turkmenistan (short-term)	18.00	3
3. Clean Water, Sanitation and Health - Kazakhstan (short-term)	25.00	3
4. Clean Water, Sanitation and Health (medium-term) (2)	—	
5. Long-term Water Supply and Wastewater Management (3)	—	
PROGRAM 5 SUBTOTAL	61.00	
<u>Program 6</u>		
1. Integrated Land and Water Management in the Upper Watersheds	<u>2.00</u>	1.5
PROGRAM 6 SUBTOTAL	2.00	
<u>Program 7</u>		
1. Automatic Control Systems and Civil Works for the Amu Darya Basin, including Capacity Building for BVO Amu Darya	6.00	3
2. Automatic Control Systems and Civil Works for the Syr Darya Basin, including Capacity Building for BVO Syr Darya	<u>6.00</u>	3
PROGRAM 7 SUBTOTAL	12.00	
<u>Supplementary Program</u>		
Capacity Building for EC and IFAS	—	
<b>TOTAL COST PROGRAMS 1-7, PLUS SUPPLEMENTARY PROGRAM</b>	199.50	

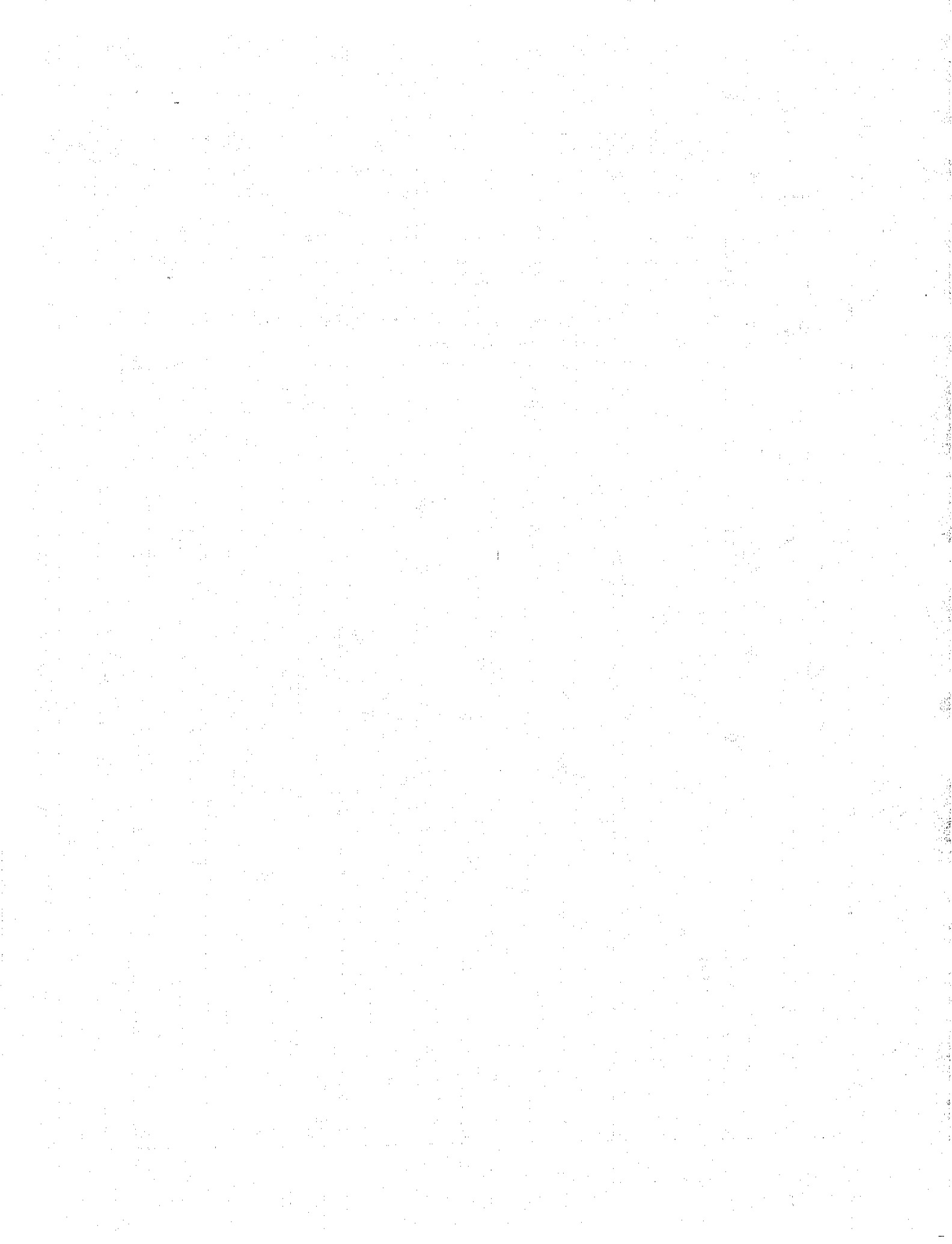


**Notes:**

(1) After the feasibility studies for completing the study of remodelling of Syr Darya river bed and Shardarinsk control units and other alternative proposals have been completed and after a technically and economically viable alternative have been selected, the project cost would be included in Phase 1 or Phase 2 of the Aral Sea Program.

(2) After the feasibility studies for completing the domestic supply scheme from Kaparas dam and other alternative proposals have been completed and after a technically and economically viable alternative has been selected, the project cost would be included in Phase 1 or Phase 2 of the Aral Sea Program

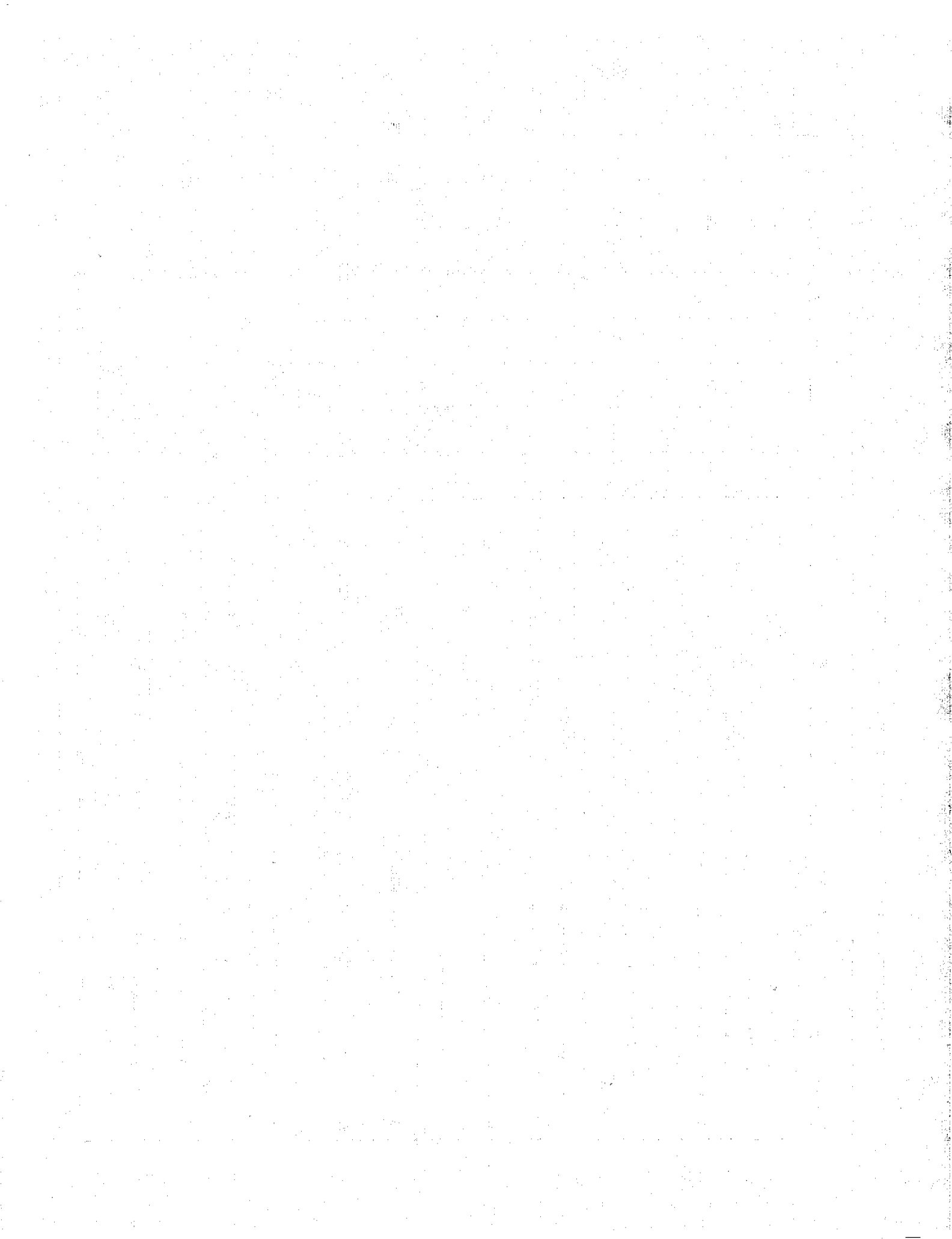
(3) After the feasibility studies for completing the Long-term water supply project and other alternative proposals have been completed and after a technically and economically viable alternative has been selected, the project cost would be included in Phase 1 or Phase 2 of the Aral Sea Program



**ARAL SEA PROGRAM - PHASE 1: TENTATIVE IMPLEMENTATION SCHEDULE**

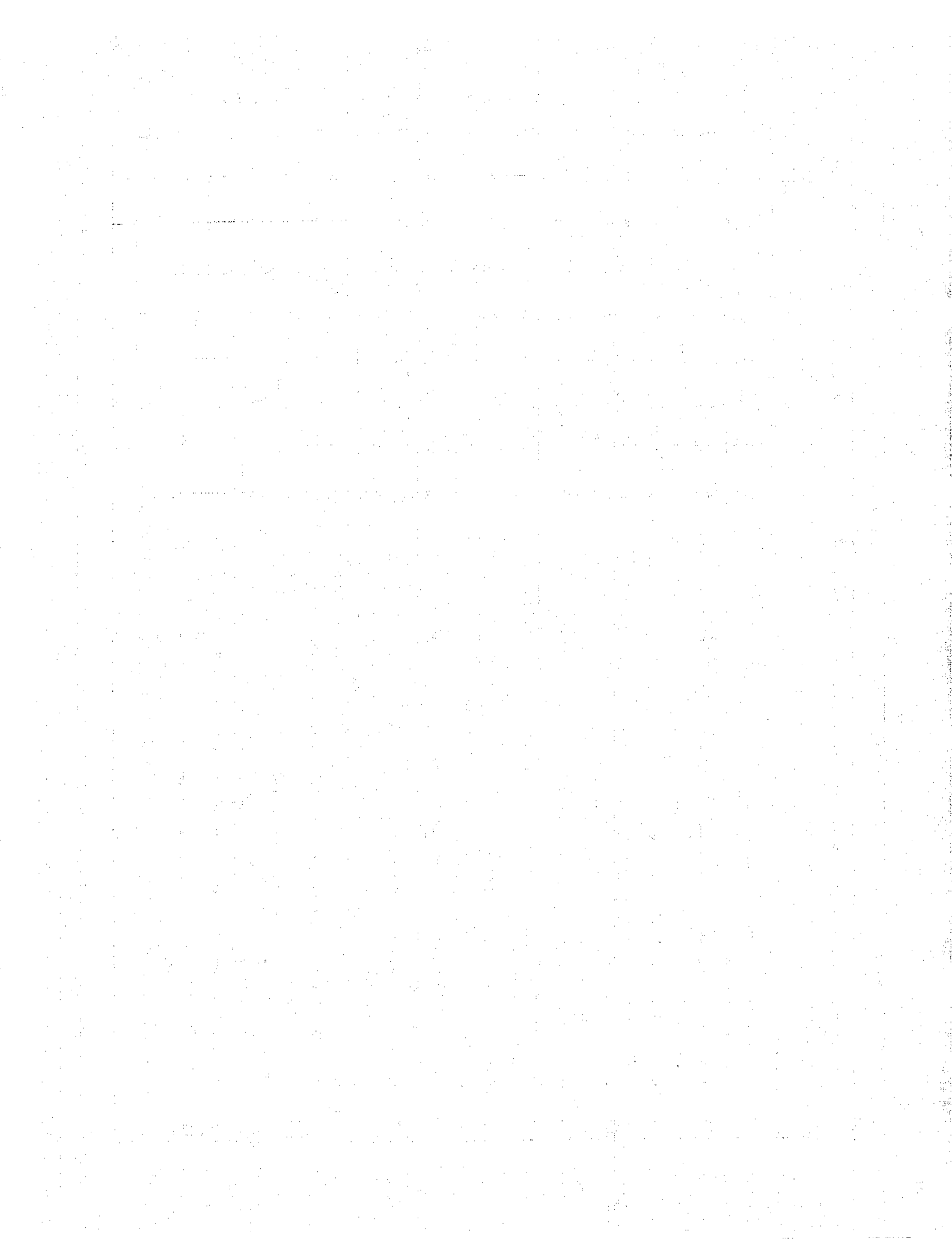
NAME OF PROGRAM / PROJECT	Y E A R S							
	1994	1995	1996	1997	1998	1999	2000	2001
<b>Program 1</b>								
1. Regional Water Resources Management Study								
- Project Preparation								
- Appraisal and Financing								
- Project Implementation								
2. Improving Efficiency and Operation of Dams								
- Project Preparation								
- Appraisal and Financing								
- Project Implementation								
3. Sustainability of Dams and Reservoirs								
- Project Preparation								
- Appraisal and Financing								
- Project Implementation								
<b>Program 2</b>								
1. Hydromet Services								
- Project Preparation								
- Appraisal and Financing								
- Project Implementation								
2. Data Base and MIS for Water Quality and Environment								
- Project Preparation								
- Appraisal and Financing								
- Project Implementation								
<b>Program 3</b>								
1. Water Quality Management								
a) Water Quality Assessment and Management								
- Project Preparation								
- Appraisal and Financing								
- Project Implementation								

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ARAL SEA PROGRAM - PHASE 1: TENTATIVE IMPLEMENTATION SCHEDULE

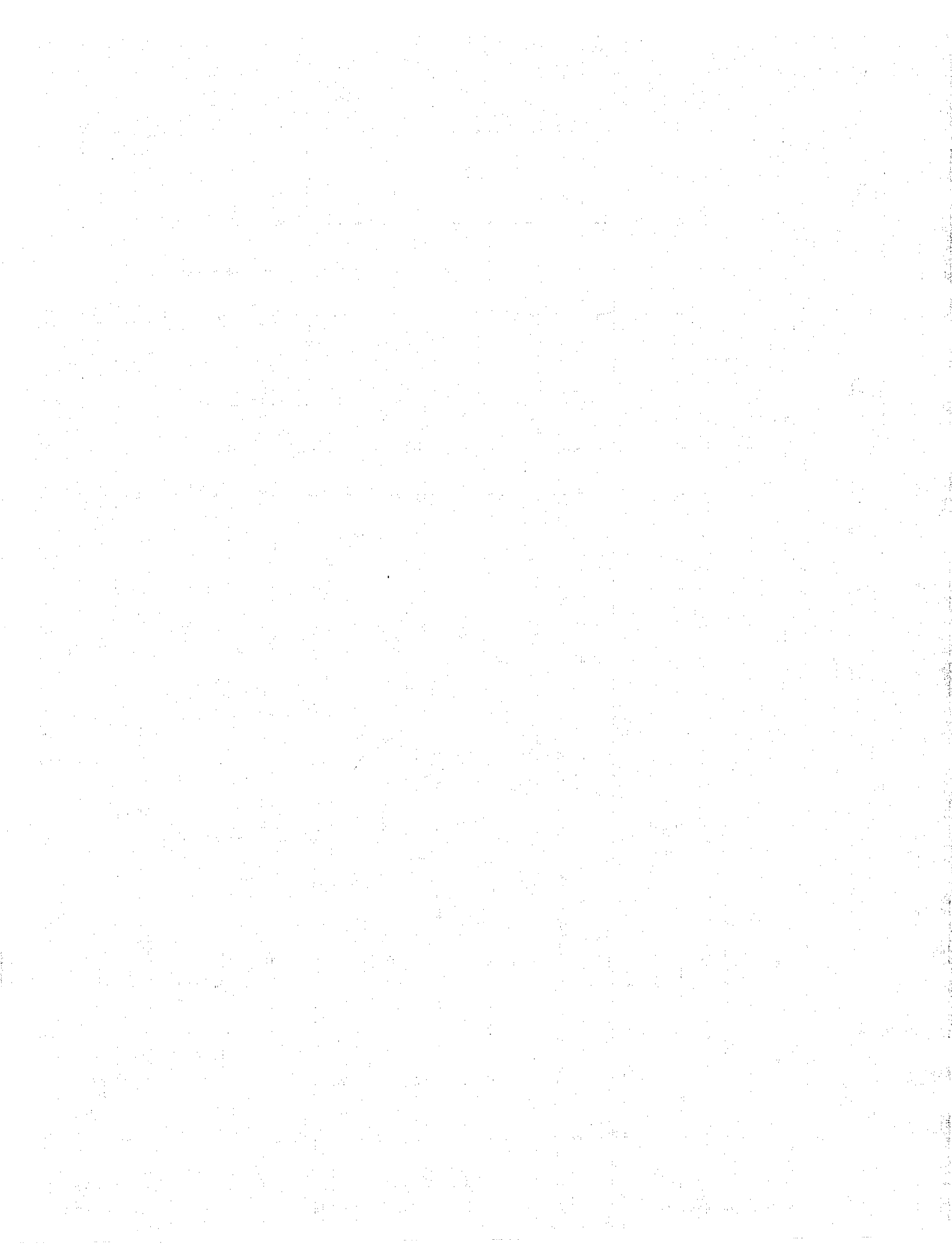
NAME OF PROGRAM / PROJECT	Y E A R S							
	1994	1995	1996	1997	1998	1999	2000	2001
b) Agricultural Water Quality								
- Project Preparation	—							
- Appraisal and Financing		—						
- Project Implementation			—	—	—			
2. Remodelling of Syr Darya river bed and Shardarinsk Control Units								
- Project Preparation	—							
- Appraisal and Financing			—	—	—			
- Project Implementation				—	—	—		
<b>Program 4</b>								
1. Wetland Restoration								
- Project Preparation	—							
- Appraisal and Financing		—						
- Project Implementation			—	—	—			
2. Restoration of Northern Part of the Aral Sea								
- Project Preparation	—							
- Appraisal and Financing		—						
- Project Implementation			—	—	—			
3. Environmental Studies in the Aral Sea Basin								
- Project Preparation	—							
- Appraisal and Financing		—						
- Project Implementation			—	—	—			
<b>Program 5</b>								
1. Clean Water, Sanitation and Health - Uzbekistan (short-term)								
- Project Preparation	—							
- Appraisal and Financing		—						
- Project Implementation			—	—	—			
2. Clean Water, Sanitation and Health - Turkmenistan (short-term)								
- Project Preparation	—							
- Appraisal and Financing		—						
- Project Implementation			—	—	—			





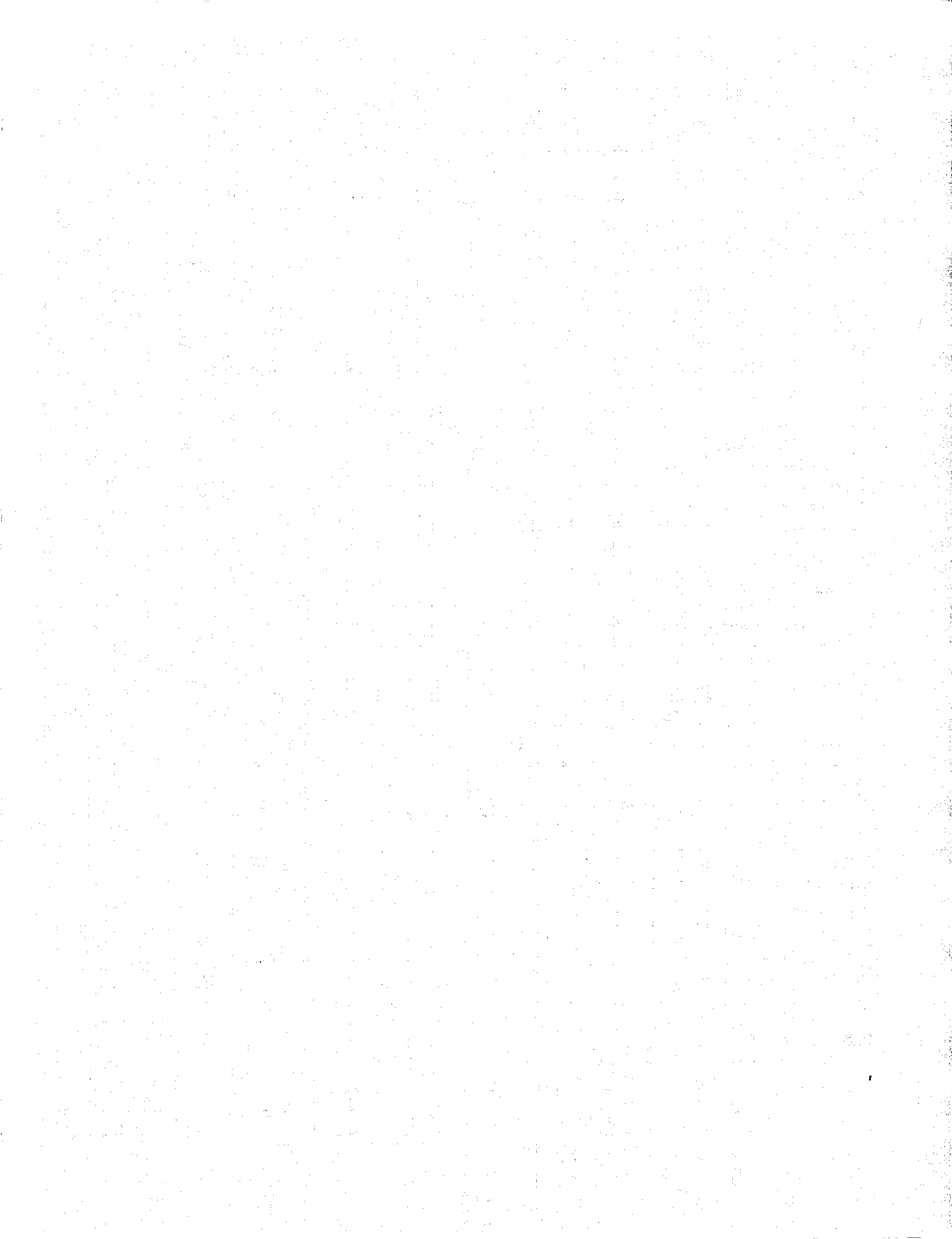
**ARAL SEA PROGRAM - PHASE 1: TENTATIVE IMPLEMENTATION SCHEDULE**

NAME OF PROGRAM / PROJECT	Y E A R S							
	1994	1995	1996	1997	1998	1999	2000	2001
<b>3. Clean Water, Sanitation and Health - Kazakhstan (short-term)</b>								
- Project Preparation	—							
- Appraisal and Financing		—						
- Project Implementation			—	—	—			
<b>4. Clean Water, Sanitation and Health (medium-term)</b>								
- Project Preparation	—							
- Appraisal and Financing		—						
- Project Implementation			—	—	—			
<b>5. Long-term Water Supply and Wastewater Management</b>								
- Project Preparation	—							
- Appraisal and Financing		—						
- Project Implementation			—	—	—			
<b>Program 6</b>								
<b>1. Integrated Land and Water Management in the Upper Watersheds</b>								
- Project Preparation	—							
- Appraisal and Financing		—						
- Project Implementation			—	—	—			
<b>Program 7</b>								
<b>1. Automatic Control Systems, Civil Works and Capacity Building for the Amu Darya Basin (BVO)</b>								
- Project Preparation	—							
- Appraisal and Financing		—						
- Project Implementation			—	—	—			
<b>2. Automatic Control Systems, Civil Works and Capacity Building for the Syr Darya Basin (BVO)</b>								
- Project Preparation	—							
- Appraisal and Financing		—						
- Project Implementation			—	—	—			

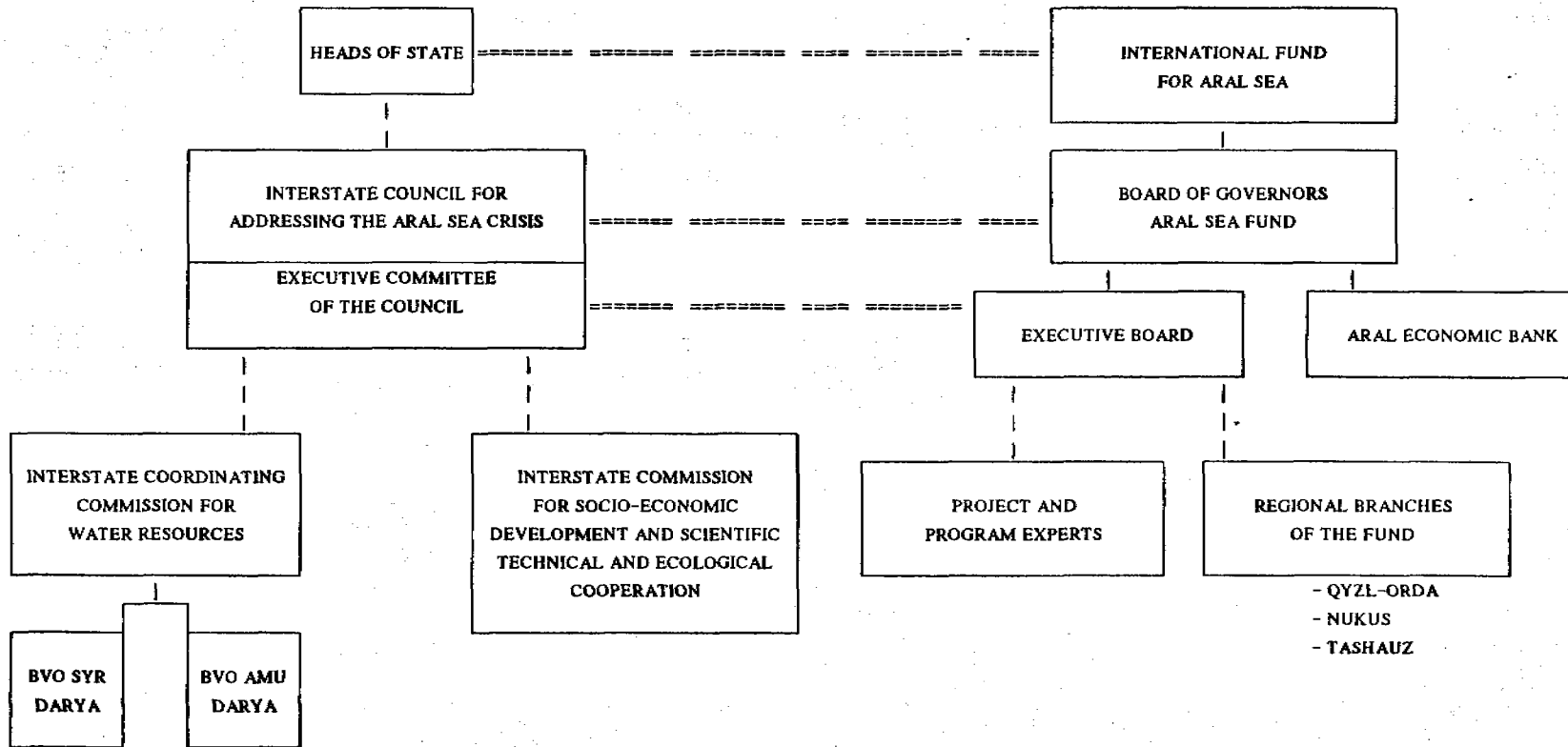


**ARAL SEA PROGRAM (PHASE 1)**  
Capacity Building Assistance during Project Preparation

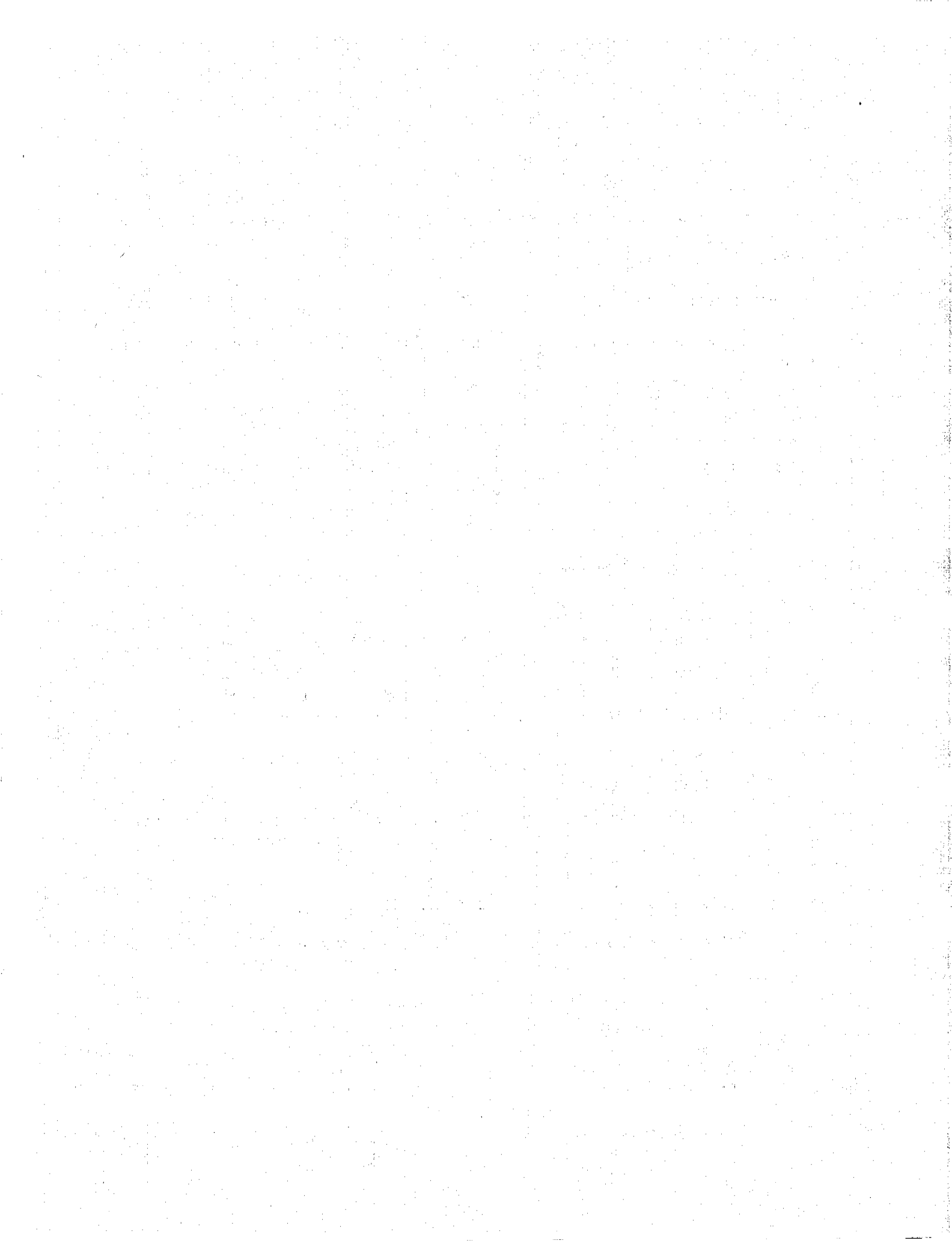
NAME OF PROGRAM / PROJECT	TRAINING	OFFICE TECHNOLOGY	TECHNICAL ASSISTANCE	TOTAL
<b>Program 1</b>				
1. Regional Water Resources Management Study	0.07	0.02	0.21	0.30
2. Improving Efficiency and Operation of Dams	0.02	0.03	0.11	0.16
3. Sustainability of Dams and Reservoirs	—	—	<u>0.16</u>	<u>0.16</u>
<b>PROGRAM 1 SUBTOTAL</b>	<b>0.09</b>	<b>0.05</b>	<b>0.48</b>	<b>0.62</b>
<b>Program 2</b>				
1. Hydrometeorological Services	0.05	0.04	1.20	1.29
2. Data Base and MIS for Water Quality and Environment	<u>0.03</u>	<u>0.03</u>	<u>0.82</u>	<u>0.88</u>
<b>PROGRAM 2 SUBTOTAL</b>	<b>0.08</b>	<b>0.07</b>	<b>2.02</b>	<b>2.17</b>
<b>Program 3</b>				
1. Water Quality Management				
a) Water Quality Assessment and Management	0.01	0.01	0.08	0.10
b) Agricultural Water Quality	—	—	0.20	0.20
2. Remodelling of Syr Darya river bed and Shardarinsk Control Units	—	<u>0.03</u>	<u>0.39</u>	<u>0.42</u>
<b>PROGRAM 3 SUBTOTAL</b>	<b>0.01</b>	<b>0.04</b>	<b>0.67</b>	<b>0.72</b>
<b>Program 4</b>				
1. Wetland Restoration	0.04	0.09	0.72	0.85
2. Restoration of Northern Part of the Aral Sea	0.04	0.09	0.49	0.62
3. Environmental Studies in the Aral Sea Basin	<u>0.03</u>	<u>0.09</u>	<u>0.84</u>	<u>0.96</u>
<b>PROGRAM 4 SUBTOTAL</b>	<b>0.11</b>	<b>0.27</b>	<b>2.05</b>	<b>2.43</b>
<b>Program 5</b>				
1. Clean Water, Sanitation and Health - Uzbekistan (short-term)	0.07	0.03	0.63	0.73
2. Clean Water, Sanitation and Health - Turkmenistan (short-term)	0.07	0.03	0.63	0.73
3. Clean Water, Sanitation and Health - Kazakhstan (short-term)	0.03	0.04	1.03	1.10
4. Clean Water, Sanitation and Health (medium-term)	1.20	0.50	4.55	6.25
5. Long-term Water Supply and Wastewater Management	<u>1.26</u>	<u>1.26</u>	<u>3.78</u>	<u>6.30</u>
<b>PROGRAM 5 SUBTOTAL</b>	<b>2.63</b>	<b>1.86</b>	<b>10.62</b>	<b>15.11</b>
<b>Program 6</b>				
1. Integrated Land and Water Management in the Upper Watersheds	<u>0.02</u>	<u>0.01</u>	<u>0.13</u>	<u>0.16</u>
<b>PROGRAM 6 SUBTOTAL</b>	<b>0.02</b>	<b>0.01</b>	<b>0.13</b>	<b>0.16</b>
<b>Program 7</b>				
1. Automatic Control Systems and Civil Works for the Amu Darya Basin	0.20	0.80	1.65	2.65
2. Automatic Control Systems and Civil Works for the Syr Darya Basin	<u>0.20</u>	<u>0.80</u>	<u>1.65</u>	<u>2.65</u>
<b>PROGRAM 7 SUBTOTAL</b>	<b>0.40</b>	<b>1.60</b>	<b>3.30</b>	<b>5.30</b>
<b>Supplementary Program</b>				
Capacity Building for EC and IFAS	1.40	2.10	3.50	7.00
<b>TOTAL COST PROGRAMS 1-7, PLUS SUPPLEMENTARY PROGRAM</b>	<b>4.74</b>	<b>6.00</b>	<b>22.77</b>	<b>33.51</b>



**The Structure of Interstate Organization  
for Addressing the Aral Sea Crisis**



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**Resolution**

of the member-states to the Agreement on Concerted actions for solving the problems of the Aral Sea and Coastal Area, ecologic improvement and promotion of socio-economic development of the Aral Sea region on the membership of the Interstate Council on the problems of the Aral Sea Basin

Member-states to the present Agreement DECIDED:

1. To compose the Interstate Council on the problems of the Aral Sea Basin out of the following members:

From the Republic of Kazakstan

Galym A. Abilsitov	Vice Prime-Minister
Baltash M. Tursumbayev	Minister of Agriculture
Stanislav A. Medvedev	Minister of Ecology and Bioresources
Nariman K. Kipshakbayev	Chairman of State Committee for Water Resources
Seilbek Sh. Shaukhamanov	Head of administration of Kzyl-Orda

From the Republic of Kyrgyzstan

Mayradjeen Z. Zulpuyev	Vice Prime-Minister Chairman of the State Committee for Nature Protection
Abdudjamil P. Polotov	Minister of Water Management and Melioration
Ian Y. Fisher	Chairman of the Commission for Emergency situations
Dushen M. Mamatkanov	Director of the Institute of water problems and hydroenergy of the Academy of Sciences

From the Republic of Tajikistan

Munavarsho Nazriyen	Deputy Chairman of the Council of Ministers of the Republic of Tajikistan
Ismail Davlyatov	Minister of Economy
Vakhov Shaphoyev	Minister of Melioration and Water Management
Neimatullo M. Safarov	Deputy Minister of Ecology
Mansur R. Djalilov	Vice-President of the National Academy of Sciences

From the Republic of Uzbekistan

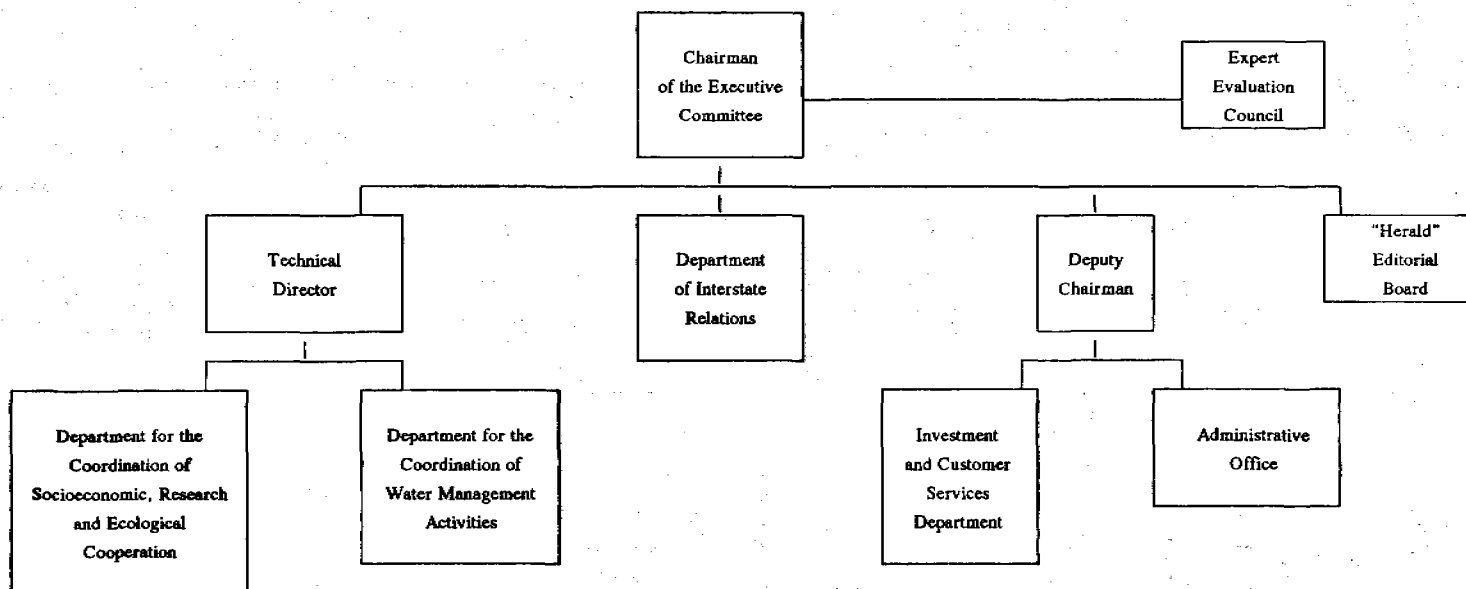
Ismail Kh. Djurabekov	First Deputy Chairman of the Cabinet of Ministers
Radjabbai Yu. Yuldashev	Chairman of the Council of Ministers of the Republic of Karakalpakstan
Makhmud S. Salakhitdinov	President of the Academy of Sciences
Rim A. Giniyatullin	Minister of Melioration and Water Management
Yusuf Sh. Shadymetov	Head of the Department of the Cabinet of Ministers

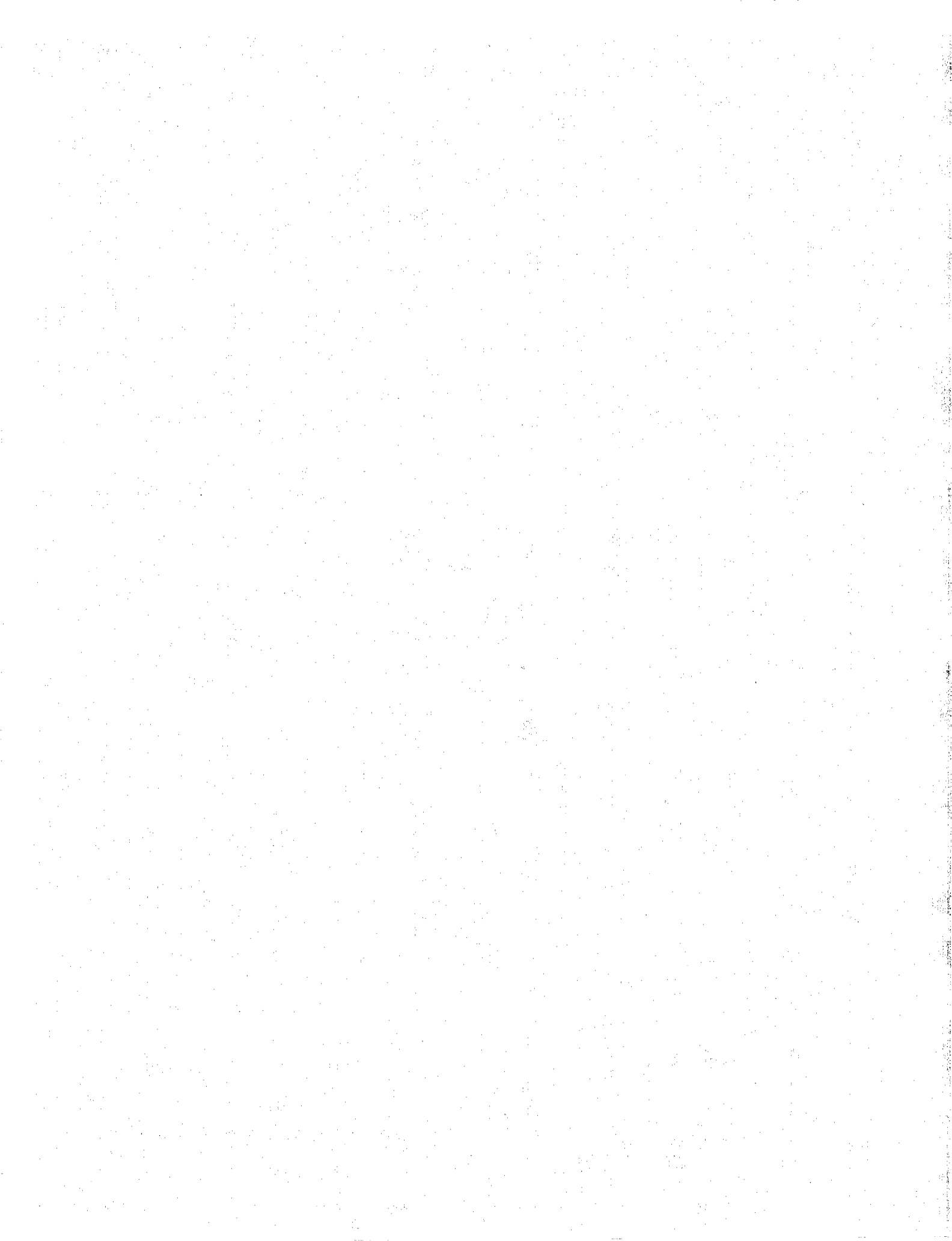
From the Republic of Turkmenistan

Yagmur Ovezov	Deputy Chairman of the Cabinet of Ministers of Turkmenistan
Mukhamed Kh. Abalakov	First Deputy Minister of Economy and Finances of Turkmenistan
Ammanazar Ilamanov	Minister of Melioration and Water Management of Turkmenistan
Nurmukhamed Ashirov	Minister of Environment and Nature Resources Use of Turkmenistan
Toyly Chopanov	Deputy Hyakim of Tashhovuz Velayat



**Structure of the Executive Committee  
of the Interstate Council on the Problems of the Aral Sea Basin**





**Aral Sea Program - Phase 1  
Coordination of IFAS and EC Activities in  
Planning and Implementing the Aral Sea Program**

Introduction

1. The statutes of the International Fund for the Aral Sea (IFAS), the Interstate Council for addressing the Aral Sea crisis (ICAS) and the Executive Committee (EC) of ICAS approved by the Heads of States on March 26, 1993 and January 11, 1994 define the respective roles of these organizations. ICAS meets twice a year and EC is its operational organ which is responsible for recommending policies, preparing projects and implementing them. In brief, ICAS makes the decision, EC implements the approved programs and the IFAS provides the funds for implementing the programs. The objectives of EC and IFAS are the same. Their roles and functions are different, but they are complementary and essential for the success of the Aral Sea Program.
2. The international community and the Bank must be assured that the activities of EC and IFAS are closely coordinated. It is important, therefore, that the EC and IFAS fully understand their respective roles and avoid jurisdictional conflicts which cause delays and adversely affect the success of the Program.
3. This memorandum presents the Mission's understanding of the respective roles of EC and IFAS based on the statutes approved by the Heads of States. It is intended to seek clarification in view of the draft proposal by IFAS dated February 25, 1994 (attached) which has caused some confusion with respect to the extent of IFAS' involvement in project implementation and procurement. Given its importance, this subject will be further reviewed by the Bank to ensure close cooperation between the IFAS and EC and effective coordination of their activities.

Areas for Coordination and Joint Actions

4. The statutes of the EC clearly define EC's responsibilities to formulate policies, and prepare projects and programs and implement, supervise, and evaluate the performance of the Aral Sea Program as approved by ICAS. However, the statutes of the EC also define two additional responsibilities:
  - (a) to prepare and select the projects and programs jointly with the Executive Directorate of the IFAS;
  - (b) to coordinate international relations and participation of international organizations, foreign countries and donors on matters concerning solutions to the Aral Sea crisis and the execution of tasks as defined in the ICAS' decisions;
5. In the two areas outlined above, where IFAS also plays a role, the need for coordination is essential. In addition, IFAS has the important role of mobilizing financial contributions from member states in accordance with the Agreements approved by the Heads of States, securing financial support of international organizations and donors for funding the programs prepared by the EC, ensuring that the scope and size of the approved programs are consistent with the resources of the IFAS, and disbursing the expenditures of the approved programs efficiently without causing undue delays. All these activities require close and effective coordination between the EC and the IFAS.

6. The EC has identified 19 projects, including capacity building, to be included in the Phase 1 Program in consultation with the Bank Mission. Project briefs are being prepared for these projects by the EC teams with the assistance of the Bank Mission. The project brief of each project, defines cost for preparation/feasibility studies, proposes the methods for procurement and implementation, and proposes time schedule for completing the preparation work. It also indicates a rough estimate of the probable cost of completing the project when the funds for its implementation are secured.

7. The activities in the project cycles of each of the 19 projects involve several hundred decisions and actions concerning procurement of advisors and consultants; inviting bids and awarding contracts; addressing contractual disputes and claims; dealing with donors, international agencies and the Bank on issues concerning legal and project agreements; addressing interstate interests; reviewing and certifying expenditure statements and bills; and making payments on time. Obviously, both EC and the IFAS cannot be involved in all of these activities. There should be a clear delineation of their responsibilities and definition of those actions where their respective decisions are final and those where they need to act jointly. The following procedures would achieve the above objectives.

A. General Coordination and Respective Roles of EC and IFAS

(i) Activities Requiring Joint Actions:

According to the Regulations of EC and IFAS, the joint actin of these two institutions is necessary in all stages of project processing and especially during the project selection and approval process. Based on the Regulations of the two institutions and the meetings, it is the missions' understanding that the coordination between EC and IFAS during the selection and approval of the projects will be as follows:

- o EC would seek the agreement of IFAS on the list of projects to be prepared for seeking financial support before it submits this list to ICAS for approval.
- o When the project preparation work is completed, EC should again seek the agreement of the IFAS before it invites the Bank to appraise the project.
- o After the project is appraised, both IFAS and EC should participate in the negotiations in addition to the respective government authorities.
- o When a project involves sharing of cost between the States, EC and the IFAS should provide the analytical basis to assist ICAS in resolving the cost allocation issue and seeking the agreement of the concerned States on their respective liabilities. It is the Bank mission's understanding that the local cost of the Projects will be financed by IFAS from 1% GDP contribution of the States.

It is the Bank mission's understanding the any conflict between IFAS and EC would be resolved by ICAS and the Board of Governors of IFAS.

(ii) Activities of EC

According to the Action Plan agreed by the ICAS on January 11, 1994, EC has the sole responsibility to plan and coordinate the activities and supervise the implementation of the projects. For this purpose, EC has been given the right to use the services of scientific, design and other kinds of organizations of the member States. Based on this decision and the Regulations that govern the functions of the EC, the activities for which EC is solely responsible can be summarized as follows:

- o to prepare projects, feasibility studies, and research work of the quality and standards acceptable for international financing
- o to implement and supervise projects efficiently
- o to prepare and submit progress reports to IFAS and ICAS
- o to procure works, goods and services in accordance with the agreed procedures
- o to analyze bids for works and goods and award contracts
- o to select and appoint advisors and consultants
- o to keep proper accounts, have them audited, and supply reports as required
- o to send copies of contracts for works, goods and services to IFAS

(iii) Activities of IFAS

IFAS is not a bank that lends money to EC. It is an institution for channelling the financial resources provided by the States and the international agencies to the EC for implementing the projects approved by the ICAS. IFAS' involvement in EC's activities mentioned in paragraph 7(ii), therefore, appears not only unnecessary but may dilute the responsibility of the EC and cause delays. Its agreement on the activities mentioned in paragraph 7(i) is intended to keep it informed of the proposed scope and financial implications of the projects and programs and to examine whether their financial requirements could be met from the resources of the IFAS. It is not intended to seek IFAS' approval of the need of the proposed projects because the approving authority is the ICAS. If the above understanding of the intent of joint actions outlined in paragraph 7(a) is correct, then IFAS' involvement in procurement of works, goods and services appears unnecessary.

B. Respective Roles of EC and IFAS Under Bank Projects

(i) Grant Funds

Granting a Project Preparation Advance from the Global Environmental Trust Fund for the preparation of the Water Resources Basin and Environmental Management Project is under consideration. If approved, these grant funds will be channelled through IFAS. Therefore, a Letter of Agreement would be signed between the Bank as the Trustee of the Global Environmental Trust Fund and IFAS. As the project preparation activities financed under the Grant would be implemented by EC, a separate project execution agreement would be signed between the Bank and EC. This agreement would specify the obligations of EC to implement the project preparation activities and to undertake the procurement of works, goods and services necessary for the execution of the grant. A Subsidiary Grant Agreement between EC and IFAS would specify the channeling of the grant funds from IFAS to EC for the implementation of the activities.

(ii) Bank Loans/Credits

The Bank's financing of the projects under the Aral Sea Program would be finalized after the donors' meeting and after the decision of ICAS. Bank's lending would be in accordance with the Bank's standard policies, practices and procedures and the needs presented by the specific projects. Although it is the intention of the Bank to enter into separate loan/credit agreements with individual States, the operations of the regional institutions created by the States would be taken into consideration.

**Solution of Problems of Projects Fulfillment on the Aral,  
Including Interaction of Executive Committee of ICAS with  
Executive Directorate of IFAS.**

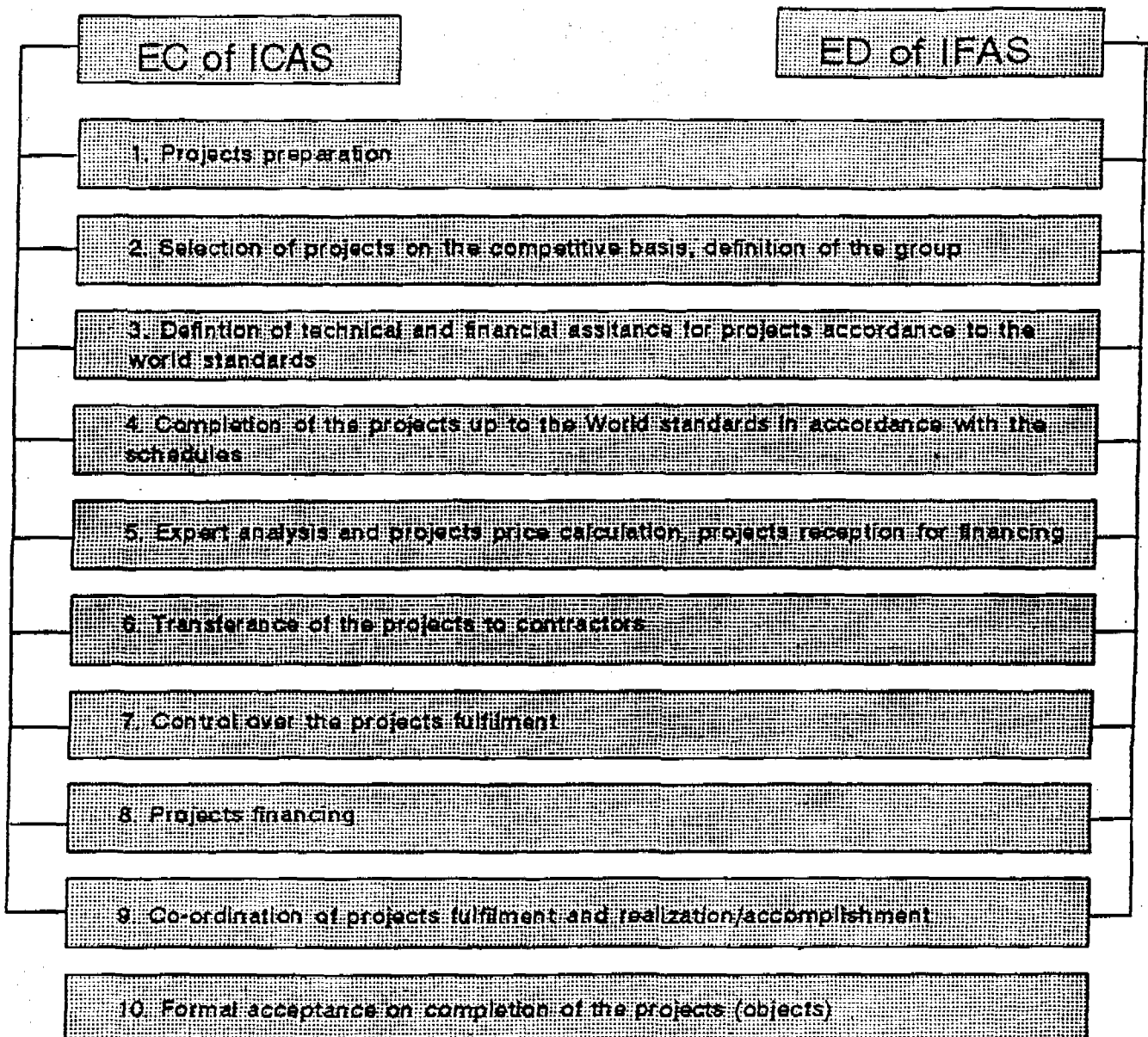
Interstate Council for the Aral Salvation is working out the general conception and programs on the solution of the Aral problems, including the specific actions. Interstate Council for the Aral salvation through its agencies and governments of Central Asia States is carrying out the definition of order of priority of fulfillment and projects ascription to regional or national group.

The Executive Committee of Interstate Council for the Aral Salvation is responsible for the projects preparation, their accordance to the world standards and schedule, control over the fulfillment, jointly with Executive Directorate of International Fund for the Aral salvation conducts the selection on the competitive basis and defines their groups, determines technical and financial assistance for the correspondence of the projects of the world standard, coordination of the fulfillment and realization of projects.

The Executive Directorate of International Fund of Aral Salvation besides joint actions with Executive Committee of Interstate Council for Aral salvation makes calculation and expert analysis of the projects, takes projects for financing, passes projects on the contractors, carries out financing and controls their fulfillment, formal acceptance on completion of projects (objects).

**Proposed by Executive Directorate of IFAS  
February 25, 1994**

## The Model of interaction of EC of ICAS and ED of IFAS on the Aral projects implementation



Proposed by Executive Directorate of International Fund of Aral Salvation 25th of February, 1994