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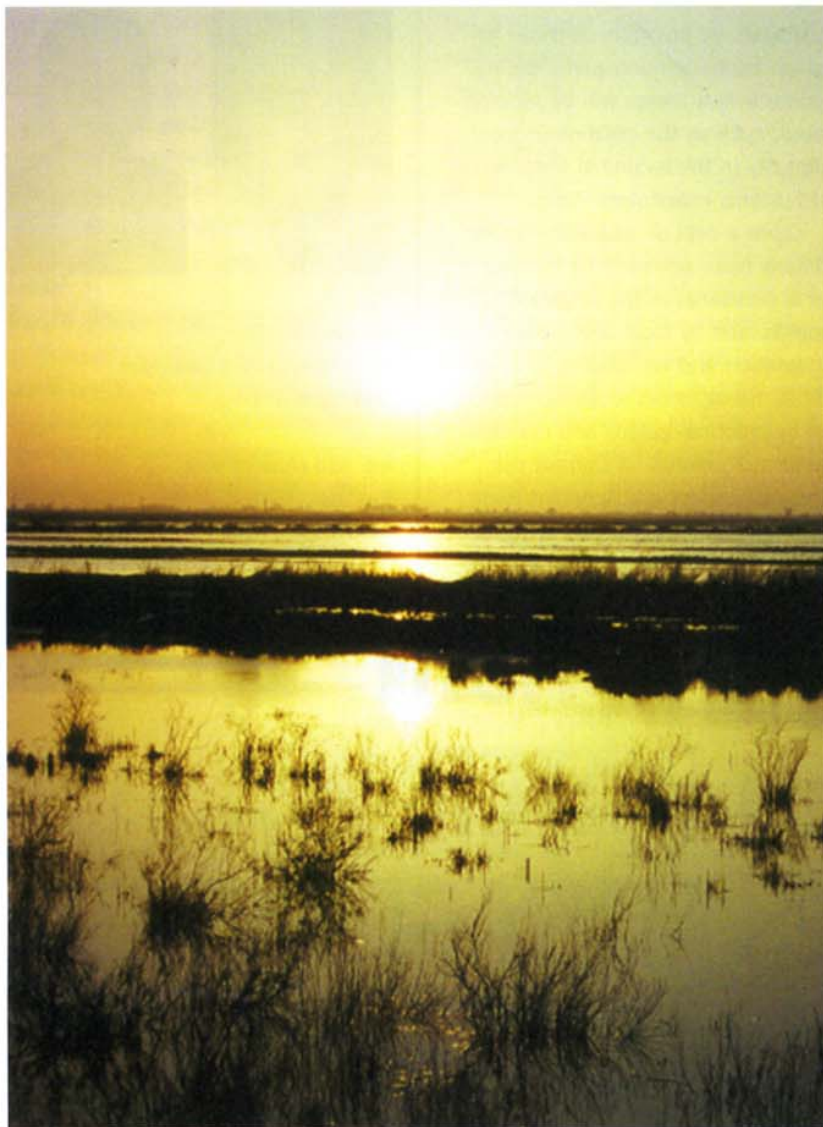
**Building on Your Own Strengths
The Politics of Water
Focus on International Cooperation**

A Netherlands Review on Hydraulic Engineering, Environmental Control and Rural Development

THE ARAL SEA BASIN INTEGRATED WATER RESOURCES MANAGEMENT



The partnership between NEDECO Group company Resource Analysis (RA) and the Scientific Information Centre of the Interstate Commission for Water Coordination (SIC-ICWC) in the Aral Sea Basin goes back some five years. Common denominator in the cooperation is integrated water resources and wetlands management under conditions of extreme water scarcity in the Aral Sea Basin. Present projects include restoring wetlands, integrated hydrological and socio-economic modelling and developing decision support systems for integrated water resources management.



After the collapse of the Soviet Union the newly independent states of Central Asia took the initiative to find new ways to organise and institutionalise their cooperation in water and environmental management in the Aral Sea Basin. Environmental and water management problems in the basin served as a basis to jointly attract international donors. The result was the Aral Sea Programme, launched in 1994 and coordinated by the World Bank. Many key international donor organisations (UNDP, EU-TACIS) and several countries (including the Netherlands, Sweden, Canada, the United States and Switzerland) participated in the programme.

Responsibility for coordination on the part of the recipient countries rested with the Interstate Council on the Aral Sea (ICAS), the International

Fund for the Aral Sea (IFAS) and SIC-ICWC, with the participation of the Water Management Organisations (BVO) of the Amudarya and Syrdarya river basins.

The Aral Sea Programme addresses 7 issues identified by heads of state of the five Aral Sea Basin States (Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan). The cooperative projects between SIC-ICWC and RA are chiefly based on a decision "to undertake research work and to decide upon the existing engineering options, to prepare projects and create artificially flooded landscape ecosystems in the deltas of the Amudarya and Syrdarya rivers and on the exposed seabed of the Aral Sea". The partnership's first project was the Aral Sea Wetlands Restoration Project (ASWRP) in the Amudarya

delta, which started in 1995.

In 1998 RA secured a three-year contract to assist implementation of the UNDP-funded Aral Sea Basin Capacity Development Project. Main aim of this project was to develop concepts and tools for sustainable development to support the Interstate Commission for Sustainable Development of the Aral Sea Basin.

ASWRP was a very steep learning curve. Water and environmental management experts from diverse backgrounds had first to understand each other's ideas and methods. The project addressed two basic questions:

- can the detrimental ecological impacts of a shrunken Aral Sea be mitigated by (ecological) counter-measures? and
- can the original ecological functions of the Aral Sea be restored in selected parts of the Aral Sea basin?

RA submitted an innovative concept involving function value analysis, to inventory wetland functions, and a participatory approach to decision-making, on the basis of multi-criteria analysis and consultative workshops. The project foresaw sub-reports (and surveys) in 7 fields of expertise. Meantime, the Central Asian partners mined their long-term experience in the delta to advance rather straightforward proposals for new infrastructure works developed in the preceding period.

In June 1996 ASWRP issued its final report. It showed that although valuable progress had been made, there was still much work to be done. The various experts were unable to reach full agreement on the extent to which the original terms of reference had been implemented and a legitimate water management strategy for the delta had been developed. The report concluded that economic cost benefit figures and assumed water scarcity (very low discharge estimates for the Amudarya) justified only very limited investments in new civil infrastructure. The Central Asian experts reiterated their support for more extensive infrastructure development and

investment. Importantly, however, the two parties gained a better understanding of each other's position and the development phase of a pilot project for wetlands restoration in the Amudarya delta (the Sudoche project) was initiated in due course. Other research initiatives followed.

The decision to follow-up the Aral Sea Basin Programme with the World Bank GEF Project was a shot in the arm to the SIC-ICWC/RA hook-up. On the agenda was the Sudoche Wetlands Restoration Project in the western part of the Amudarya delta. RA became international project consultant. SIC-ICWC and RA were by now committed to mobilising additional funding for more extensive research, which led to the NATO Science for Peace Project Integrated Water Resources Management for Wetlands Restoration in the Aral Sea Basin, deploying remote sensing, GIS, hydrological modelling and decision-support software for integrated water resources management and wetlands management in the Amudarya delta.

Wetlands restoration research demands reliable data on water and environmental management policies and advancements on a basin-wide scale. The SIC-ICWC/RA partnership gained the knowledge and expertise it needed in the UNDP Capacity Development Project, which entailed development of an Aral Sea Basin Management Model. The prototype, which combines hydrological and demographic data, was delivered in July 2001. Work on the model will continue into 2002.

A first synthesis of the joint research is available in the recent combined INTAS-RFBR 1733 and NATO SfP 974357 project report, Assessment of the Social-Economic Damage under Influence of Lowering of the Aral Sea. The report estimates total socio-economic damage in the region at approximately US\$ 145 million. The main losers are fisheries, agriculture, employment and health. The report also suggests ways to tackle the problems, including compensation for every cubic metre of water lost, based on proposed

interstate agreements on water allocation in the basin. An estimated 15 km³ a year is needed to restore production functions in the delta.

The RA/SIC-ICWC joint venture shows how growing mutual understanding and thorough evaluation of one another's strengths and weaknesses can generate practical results. SIC-ICWC's input is based on extensive experience in high-grade scientific research and, in recent years, participation in international projects in the region, which exposed it to western concepts and methodologies. Most of its staff has gained experience at various regional design and scientific research institutes, including SANIIRI, Uzgipromeliiovodghoz and the Academy of Sciences. RA contributes its experience in international project organisation and management, as well as knowledge and skills in integrated water resources management, integrated river basin management and sustainable development, backed by a strong software development group to translate con-

cepts into practical systems and models.

Both SIC-ICWC and RA acclaim the achievements of the cooperation, which has prompted a continuous gush of research projects. In that sense, it would appear to successfully address the common priorities for integrated water resources management and integrated river basin management of the Aral Sea Basin States. The need for such research and subsequent measures to improve socio-economic conditions for their populations remains critical however.



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