# Multi Level Integrated Research and Development for Water Diplomacy in Central Asia

**Contribution to the International Conference on Security and Sustainable Development in Central Asia under the Auspices of the United Nations «Central Asia: Shared Past and Common Future, Cooperation for Sustainable Development and Mutual Prosperity»**

**Joop de Schutter MSc (with references from ICWC and IFAS)**
**(Samarkand, November 10-11, 2017)**

**Introduction**

The countries of the Aral Sea Basin in Central Asia, including not only Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan as is commonly understood, but also including Afghanistan, are all part of the same, very old, overall regional culture and history. They are also very strongly linked by the fact that they have to share their main and basic resource, which is the water that they take from the Amudarya and Syrdarya rivers in the Aral Sea Basin, and that they are close partners in economy, infrastructure and trade. The strongest influence towards the countries of Central Asia however comes from the fact that they represent a region situated on the cross roads between Europe and Asia, which rapidly makes them a key geopolitical center of interest for the development of trade relations between these two spheres.

In the same way that the states of the region are facing the effects of shared development constraints such as a limited capacity export infrastructure, ecological degradation, low level of political cooperation and low direct foreign investments the countries are forced to apply coordinated development strategies. This is definitely the case for issues linked to the water, food, energy and environment nexus, which has become extremely clear since the countries have gained independence after the collapse of the Soviet Union in the beginning of the nineteen nineties. It was during this Soviet period that the extremely large scale irrigated agriculture sector was developed, with its supporting infrastructure that included large dams for water storage and hydropower production, a vast network of irrigation and drainage canals and a high voltage power grid.

It was only after independence that the countries started noticing and feeling the complexity and the unsustainable character of this infrastructure with the disaster of the drying Aral Sea as its best known consequence. Mainly due to a weak governance infrastructure and immediate and partly new financial and economic development challenges, the region was confronted with a development agenda that was unprecedented, but at the same time brought them together, especially where managing both their institutional and physical water infrastructure was concerned. Together with a broadly shared interest in the region by the international donor community the countries took on the challenge and started to work on a common institutional infrastructure for transboundary water management. This led to the creation of common institutions such as the Interstate Commission for water Coordination (ICWC), the International Fund for the Aral Sea Saving (IFAS) and the Interstate Commission for Sustainable Development (ICSD), which all still exist today.

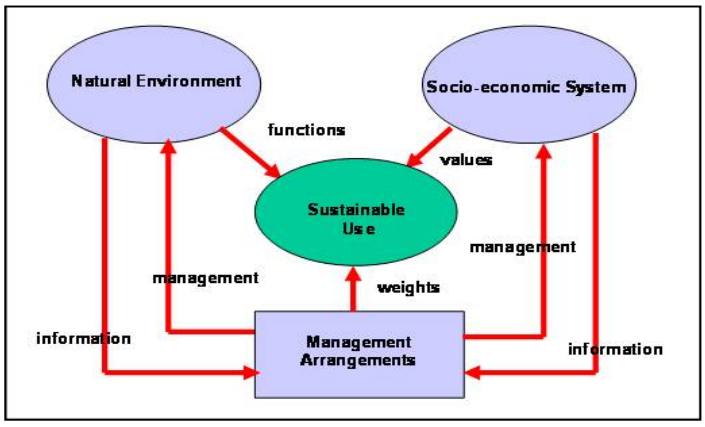
In parallel, investment programs, mainly led by the World Bank, started for restoration and development of the irrigated agriculture infrastructure. An international cooperation program under the title Aral Sea Basin Program (ASBP) funded by an international consortium of donors came also under implementation. Especially the ASBP-1 (later followed by the ASBP-2 and 3), with the Scientific Information Centre of ICWC

as a key counterpart and with the help of local and regional universities and scientific institutions such as Hydromet started to become engaged in the development of a completely new infrastructure for management and monitoring of the water resources of the region. Large scale programs such as WARMAP, WUFMAS and many others, in combination with the opening up of the scattered databases existing with the research and design institutions, became the basis for the management, monitoring and analysis system that is now known as the Central Asia Water Info system (http://www.cawater-info.net/index_e.htm ). This database, analysis, information and communication system, in close cooperation with the river basin management organizations BWO Amudarya and BWO Syrdarya is currently providing the core information required for allocation and management of the waters of the Aral Sea Basin. It is therefore to be considered as one of the most tangible, and valuable, results, within the legacy of 25 years of water cooperation in Central Asia.

Despite this successful cooperation on the issue of regional transboundary water management, many problems related to sustainable water resources planning and use in the region, remain. Important among these are inefficient water use, environmental degradation, contesting interests of water allocation between hydropower and irrigation, reservoir management and dam safety and lack of investment for operation and maintenance of the irrigation infrastructure. In addition the situation of Afghanistan, demanding its share and role in managing the waters of the Amudarya, is one issue that will need to be solved in the near future. Also the situation whereas in some sub-systems the water intake infrastructure and the irrigated area under service are located in different countries, is a complicating factor in its management. In view of the mentioned complexities, both, technical and institutional, as well as political, it is important to keep a very strong position and role for science, education, research and training capacity in the management of the transboundary waters of the region. One way to do this is to create, on the basis of the Central Asia Water Info system, a strong think tank and research institution involved in "*Multi Level Integrated Research and Development for Water Diplomacy in Central Asia*".

**Sustainable Development and Integrated River Basin Management for Water Diplomacy**

One of the central themes and leading policy issues for management of the water resources of Central Asia is its sustainability of use under conditions of increasing scarcity caused by such developments as climate change, population growth and economic development. The common policy to deal with this issue today is to base water allocation, management and monitoring on the principles of integrated water resources management (IWRM) and integrated river basin management (IRBM). In order to understand the principles of balancing interests under this policy the scheme by Slootweg and Koudstaal (OECD 1995) can be applied as shown in the figure below.



According to this concept sustainable development is centered on the conviction that socio-cultural, socio-economic, biophysical and technological processes around natural systems are intrinsically linked. The natural environment is producing goods and services (clean water, fisheries and agriculture products, timber, landscape opportunities, etc.) which are valued for use by the socio-economic system. Management arrangements, both institutional and physical, are required to balance this system of supply and demand and arrive at a situation of sustainability. This function value approach has proven to be very suitable to both qualitative and quantitative analysis of complex natural systems and is, for example, also underlying the structure of the Aral Sea Basin management model (ASBmm) that was developed by SIC-ICWC in cooperation with international scientists and is now part of the Central Asia Water Info system.

In order to make this approach work in the actual environment of integrated river basin management three principles prevail which are:

- **Economic Efficiency**
  - Assessment and evaluation criteria;
  - Information (data, data systems, models, etc.);
  - Implementation Framework (financing, exploitation, monitoring, etc.);
- **Equal Participation**
  - An enabling environment based on agreed policies and legislation;
  - An open and active communication system and structure;
- **Environmental Sustainability**
  - Balanced water use for sustained human life and functions of nature;

Furthermore, balancing the shared (surface and ground) water resources and other products of nature in a basin requires multi level institutions mandated by stakeholders on all (central, local, basin, public, private, etc.) levels. This means that a thorough and complete stakeholder analysis will be part of, and is often a first step, in any water resources planning and decision process. This requirement is leading the following four basic conditions for an integrated river basin management process as formulated by Louks and van Beek (Water Resources Systems Planning and Management, UNESCO 2007).

**1. Create a politically enabling environment on national level**
  - Have the water sector organized and capacitated to play its role;
  - Have national policies and legal structure ready;
  - Agree on a political will to cooperate on international (basin) level;

**2. Create planning, management and governance institutions on basin level with clear and agreed tasks and mandates**
  - Monitoring, research, coordination, regulation;
  - Long and short term (strategic and action) planning;

**3. Arrange (joint) financing and status**
  - Basin management and monitoring systems as well as institutions need assured and sufficient financial means (taxes, tariffs, funds transferred, etc.); and:
  - Public private partnerships;

**4. Stakeholder involvement and participation on all levels**
  - Stakeholders are many in variation from water users, investors and managers to government institutions, politicians, researchers, NGOs and local people. All need to be investigated and known on their role, interests and requirements. Communication and information system in place;

On the basis of the mentioned principles and conditions it is possible to arrive at an interpretation of what is to be understood as a **"water diplomacy process"**, where both the analytical capacity (systems analysis

and scenario development, etc.) and political cooperation (negotiations and legal agreements, etc.) between stakeholders need to be brought together. Both these elements are to be considered pillars of one process structure for integrated river basin management (IRBM). On the one hand we consider the use of "Concepts and Tools for Integrated Planning and Analysis of Water and Environment Systems" which consists of elements such as:

- Scientific research, education and training capacity available;
- Joint policy analysis frameworks on the basis of agreed indicators in place;
- Joint and shared data gathering, storage and analysis in place;
- Joint monitoring and reporting;
- Scenario Development;

Etc.
Which may be summarized as **"knowing and quantifying the resources"**

On the other hand, but part of the same process, we consider the element of "Political Cooperation through Mutually Recognized and Mandated Persons and Institutions" which concerns issues such as:

- Sufficiently educated and trained political leadership and governance capacity available on all (central to local) levels;
- Exchange with and between informed stakeholders on all levels and representing different interest groups;
- Legally verified agreements and procedures;
- Basin-wide functioning information and communication system;

Etc.
Which may be summarized as: **"verify and activate the political will for cooperation"**

**Case Study Central Asia**

The Central Asia case of cooperation between the countries of the Aral Sea Basin, as it has been developed over the past 25 years, is an example of a water diplomacy process where important lessons can be drawn for both its theory and practice. This is to be underscored by the fact that during these 25 years never a situation emerged where violence took over from diplomacy, which is to be considered a key achievement by the institutional infrastructure (IFAS, ICWC, etc.) that was responsible for this process. When looking at Central Asia we see a region that is on the cross roads of Asia and Europe and that is facing important new opportunities and threats related to new geo-political interests nourished by initiatives such as the OBOR (new silk road) policy, the Shanghai Corporation Organization, the Casa 1000 project and the Asian Infrastructure Investment Bank under the leadership of China. In addition the region is confronted with internal (water related) issues under the nexus as shown in the figure below.


These issues combined have to bring the countries of the region together on a concerted action for interstate cooperation, even more than this has been the case over the past 25 years. The principle condition for the countries, in order to face current challenges, is to work towards a shared vision and joint (investments based) action as the cornerstones for a future water policy for the region. This means that, as much as this is possible from a shared policy perspective, the countries should work towards:

- One, shared, (hydro)energy policy
- One, shared, (irrigated) agriculture policy
- One, shared, vision towards environment protection and climate change
- One, strong and shared, platform for economic cooperation, trade and science based research.

In order to be ready for this challenge the countries should join forces and create a regional science base that will allow them to gain and keep a strong position in the future debate about their geopolitical position and development perspectives. For this, as much as possible, use should be made of the capacity and experience that was built up in and around the regional scientific institutions including SIC-ICWC (with the Central Asia Water Info System) and associated scientific institutions and universities of the region. This action should be coordinated on a high level, with adjusted roles and mandates for the regional institutions such as IFAS, ICWC and the scientific and management institutions that operate within their institutional structure. A first step is to re-appreciate SIC-ICWC in its role as the custodian of the regional data, information and communication infrastructure for water management and planning. Current challenges there are to (i) increase transparency and trust to data, monitoring and information exchange and water management administration; to (ii) increase development and use of regional (CA) agreements for information sharing and monitoring and (iii) expand activities for capacity development.

Consequently the capacity for policy analysis and water diplomacy needs to be further developed and applied in practice. As explained above, this should be done on the basis of two clusters that are to be considered the pillars of a single water diplomacy process structure and which consist of a policy analysis for integrated water management framework on the one hand and the organization of political cooperation through mutually recognized and mandated persons and institutions on the other. Preferably both these clusters should be based within one institution because they need to mutually feed (results) into each other, which is only possible if the scientists, researchers and process managers are facilitated in their regular exchange of results and ideas. Current key challenges in this respect are for example to (i) increase accuracy, actuality and accessibility of integrated models such as the ASBmm model (better data, data links,

internet, etc.); to (ii) produce interfaces that allow use of the models and decision support systems by many different user groups (common people, journalists, scientists, politicians, students, etc.); to (iii) increase and improve the set of performance indicators that are used for evaluation of planning and operation of the water resources of the basin and to (iv) agree on a common framework for, long term, policy analysis for the Aral Sea Basin for which the ASBmm could offer a good basis.

**Conclusions and Recommendations**

This paper has described the current challenges, related to both the interstate relations of the countries within the Aral Sea as well the geo-political future of Central Asia and has indicated first steps for the countries of Central Asia to ready themselves for these challenges. Sustainable management of water resources plays a central role for which the countries should try and find common perspectives, common policies and a science based capacity to keep their stand in the high level debate that will undoubtedly precede and follow future initiatives and actions. The preferred way to structure the required capacity for the (near) future is to organize a revised and strengthened role for the key basin institutions IFAS and ICWC. This action should be based on an improved set of complementary mandates, tasks and responsibilities for these organizations. It should also include their strengthened status as international organizations and include upgraded financing by the member states. Within this re-assessment of the status and mandate of IFAS and ICWC the role and capacity of SIC ICWC as the main, basin wide, scientific and applied research organization in service of the member states and as a custodian of the Central Asia Info database, monitoring and communication system should be acknowledged.

Science based water diplomacy must play a role to restore trust and enable better cooperation between the countries of Central Asia. The region requires effective partnerships between academicians, planners, policymakers and diplomats. Near future regional and international developments require adjusted capacity and strengthened cooperation based on complementarities. One approach towards this is the creation of a consortium between SIC ICWC and other IFAS related institutions and academic institutions, of which at least one from each country, with full authorization to implement a research and development agenda on behalf of the states. Such an "**Integrated Research and Development Program for Water Diplomacy in Central Asia"** should seek to promote the regional water dialogue through providing a multi stakeholder platform to meet, learn and understand each other's interests and priorities and search for mutually acceptable scenarios and development options using all available information and learning capacity (data, monitoring and modeling tools, scientific research and analysis, legal principles, etc.) that is available within the region.

As identified in this paper, the current geopolitical future of Central Asia does require a new leadership capable to deal with the water, food, energy and environment nexus on an international level. This multidisciplinary character (Foreign Policy, Water, Agriculture, Energy, Environment, Economy, International Law, etc.) should be visible within the committees and panels that oversee the institutions as well. A new vision and strategy for integrated (water) resources management for the region in that perspective is required. The overall aim of this new vision and strategy for the region, to be developed by the strengthened and advanced research and development institutions, should be to identify shared interests and common investment opportunities among the countries of the region and fitting these into the new geopolitical realities. The development and application of a new baseline for a transboundary water, food, energy and environment dialogue in Central Asia should start with a cooperative (among all stakeholders) program that will use research, training, demonstration and joint learning as its main elements.

The leadership and coordination for this program, on the basis of 25 years of proven capacity and experience, should be with all members of the future consortium coordinated from a strengthened Scientific Information Centre, fully incorporated in the regional institutional infrastructure (IFAS, ICWC, ICSD) and operating in close cooperation with leading scientific institutions and universities of the region. This way SIC should become a new **"Central Asia Institute for Policy Analyis, Strategic Planning and Water Diplomacy"**, provided with both the financial means as well as the scientific infrastructure and staff to take up this challenge. As a result the countries of the region can take full stock of the existing science base for IWRM, IRBM and Water Diplomacy in order to be able to lead and service the water, food, energy and environment nexus debate that will dominate the decades to come. Only under these conditions the objective no 4 "strengthening regional and international cooperation for mitigating the consequences of the Aral Sea ecological catastrophe, and modernizing the international legal basis of the use of Amudarya and Syrdarya water resources" of the Samarkand conference could be expected to be successfully approached.

Aerdenhout , Samarkand,
November 22, 2017