



Challenges of trans-boundary water resources management in Central Asia

Pradeep Kumar Suthar

PhD Research Scholar, Centre for Inner Asian Studies, School of International Studies, Jawaharlal Nehru University, Delhi, India

Abstract

Following the decline of the USSR regime, the newly five independent states of Central Asia found themselves in a new era of globalisation with new world order of liberalized economic system. The major influence of these changes occurred with the increasing emotions of nationalism in the states that growing stress over shared water resources. Since the independence, the issue of trans-boundary water management has developed into one of the most complicated security problems among all states. The inequitable water allocation and existing policies and principles of that address the severity of the water issues and conflict in the region. Taking the region of Central Asia as a unit of study, the proposed study offers a model of relationship between water resources and its social, political, economic and environmental patterns in Central Asia. This article analyses the efforts of CIS States to shape a regional water system in the region. It explores the role of internal and external dynamics on regional cooperation over water resources within the context of a regional security complex. This article explores the major initiatives taken by all CIS states after their independence on trans-boundary Rivers. The paper shows that, even though the Central Asian states agreed in 1992 to continue with the basic water-sharing principles but there is still need for new inclusive agreements had to be made.

Keywords: Central Asia, water management, regional cooperation, trans-boundary rivers, water allocations, agreements, international water laws

Introduction

Globally water is becoming a source of conflicts among the various states day by day. Water Resources are the key forces that govern both the geo-economy and geo-politics of a region. The issues of water sharing between more than two nations with consequences of their sovereignty became more complex. "The problem becomes more complicated when the internationalisation of a basin through political change happened overnight" (Valery, 2003) ^[8]. Severity of the problem increased in the backdrop of a weak international water management institution. Conversely, water has a very long history for historic evidence of co-operation on this resource among various riparian countries. It is also said that the only war over water was fought 4500 years ago.

Emergence of newly CIS states in 1991, were more vulnerable for such water issues. Situation became worse in December 1991 as a result of the Alma-Ata Declaration that brought the USSR to an end and legally established the post-communist states. Water competition is increasing in Central Asia which is not already a stable region and this is adding more enigmas for conflict. The economy of the region is mainly based on the agriculture. Crops like wheat, cotton and rice need intensive water for irrigation in the conflict prone thirsty region. The major cause behind the problem is the matter of growing demand for water sources and reduce supplies that adding more pressure due to lack of cooperation among the nations in the region's nation to work together (ICG Report No. 34, 2002) ^[5].

"The geographical positioning of Central Asian countries is adding more difficulties to forging a common but accepted solution to trans-boundary water dispute" (Avilash, 2013) ^[1].

Old policies designed by soviet on water allocation do not convince all the Central Asian state with their respective interests in particular irrigation versus hydropower generation. Upper riparian states Kyrgyzstan and Tajikistan always looking for energy security in their country. For this purpose they require to hydropower to meet their demands for all seasons. On the opposite side the lower countries Kazakhstan, Uzbekistan and Turkmenistan mainly depend on irrigation system. Thus they require more water to meet their demand for more agricultural production to boost up their economy.

Importance of regional water management

Sharing water is a real problem for the five states in the Central Asian region, and, in fact, a potential for more sustained conflict unless the state leaders come to the table to address the issues and find solutions for cooperation. Water can be a catalyst for a conflict but effective water cooperation can also be a catalyst for peace. It is imperative for the Central Asian countries to address the water issues for the security and sustainable development in the region. There is enough water to go around in Central Asia, and with good management of systems, the tensions over distribution would diminish. "But massive and rising overuse and inter- and intra-state tensions over distribution will ensure that water remains a cause of competition rather than cooperation". Repairing or replacing outdated irrigation systems could do much to reduce water use and improve crop yields but such solutions are expensive. "About half of all water used for irrigation is lost en route or through filtration and evaporation due to improper management of water" (Samli, 2017) ^[2].

With regard to current water-sharing mismanagement and

partisanship, more innovative approaches should be explored in light of research findings. For example, instead of the current compensation of direct water releases with hydrocarbon energy equivalents, upstream countries could be compensated for winter-water savings and summer releases in a mixed incentive scheme. This is highly relevant for Central Asia, as it highlights the importance of dealing with water issues before they escalate to open conflict.

Only Regional cooperation is an innovative method of resolution for water trouble in region because “Water is a strategic resource across borders and its utilisation in past was an issue that compels the countries to negotiate effectively with one another in present time” (Water politics Report, 2012) [9]. So there is still the need and option for all CIS countries to enter into an agreement on common platform that properly defines water allocation in the region. Literature shows that there is still scope for optimism. Thus “the policy makers of the riparian countries can set up effective international water management system before the most severe climate change problems like changes in the seasonality of the runoff and geo-hazards hit the region” (UNEP, UNDP, ENVSEC, UNECE, OSCE, PEC and NATO Report 2011).

Water management during the soviet period

The states of Central Asia were initially shaped by the policy of Stalin that gives largely illogical marking of the borders “such territories to titular nationalities, which is why state boundaries and ethnic composition in Central Asia lack correspondence” (Valery, 2003) [8]. All states are late developers and have the traditional preference for their all policies. “Clans, religious, ethnic and regional affinities here have not been displaced by centralizing, high-capacity states; and thus these states lack any experience with democratic multi-party systems” (Valery, 2003) [8].

Under the period of USSR, “there were only administrative borders for the all countries who were free bartered their resources and were provided the funds for the management and maintain infrastructure” (Azarkan, 2010) [3]. Under the USSR scheme of water allocation, downstream countries were favoured by Moscow and water quotas were imposed by at the cost of the upstream riparian. In this plan water-rich States Kyrgyzstan and Tajikistan were believed to give water for irrigated agriculture economies of Uzbekistan and Turkmenistan in spring.

However in autumn and winter, Kyrgyzstan and Tajikistan experienced peaks in electricity demand, but “they were not supplied properly with Turkmen and Uzbek gas and Kazakh coal for their energy consumption”. Maintenance and operating costs of dams and reservoirs were covered by Moscow. “They received electricity from downstream countries during winter to be compensated for the hydropower produced in summer”. (Valery, 2003) [8].

Water management post-independence in Central Asia

In 1991 with the internationalisation of intra Rivers of the Central Asia distorted the interests among all countries. “These new states were compelled with geographical limitations and uncertainties of unhindered energy production and flow of water for irrigation as well as vivid example of a drying Aral

Sea” (Avilash, 2013) [1]. After independence in 1991, Central Asian countries are yet to reach a decisive agreement on the consumption of collective water resources, which is make stressed and worse political relations with one another.

During the post soviet period all five independent countries were negotiated immediately to avoid upcoming conflicts over water and its serious complications in water allocation. Year 1991 in Tashkent the conference took place to discuss the problem of water and many negotiations, meetings and discussions were held subsequently. “The joint Statement was released based on historical community of Central Asian peoples, their equal rights and responsibility for ensuring rational water resources use in the region, and taking natural and economic conditions into account” (Gleason, 2001) [4]. Later they got realise that joint effort for coordination and management will help to resolve the problem of water successfully particularly in the context of increasing ecological and social tension.

Table 1: Water Allocations under the Almaty Agreement

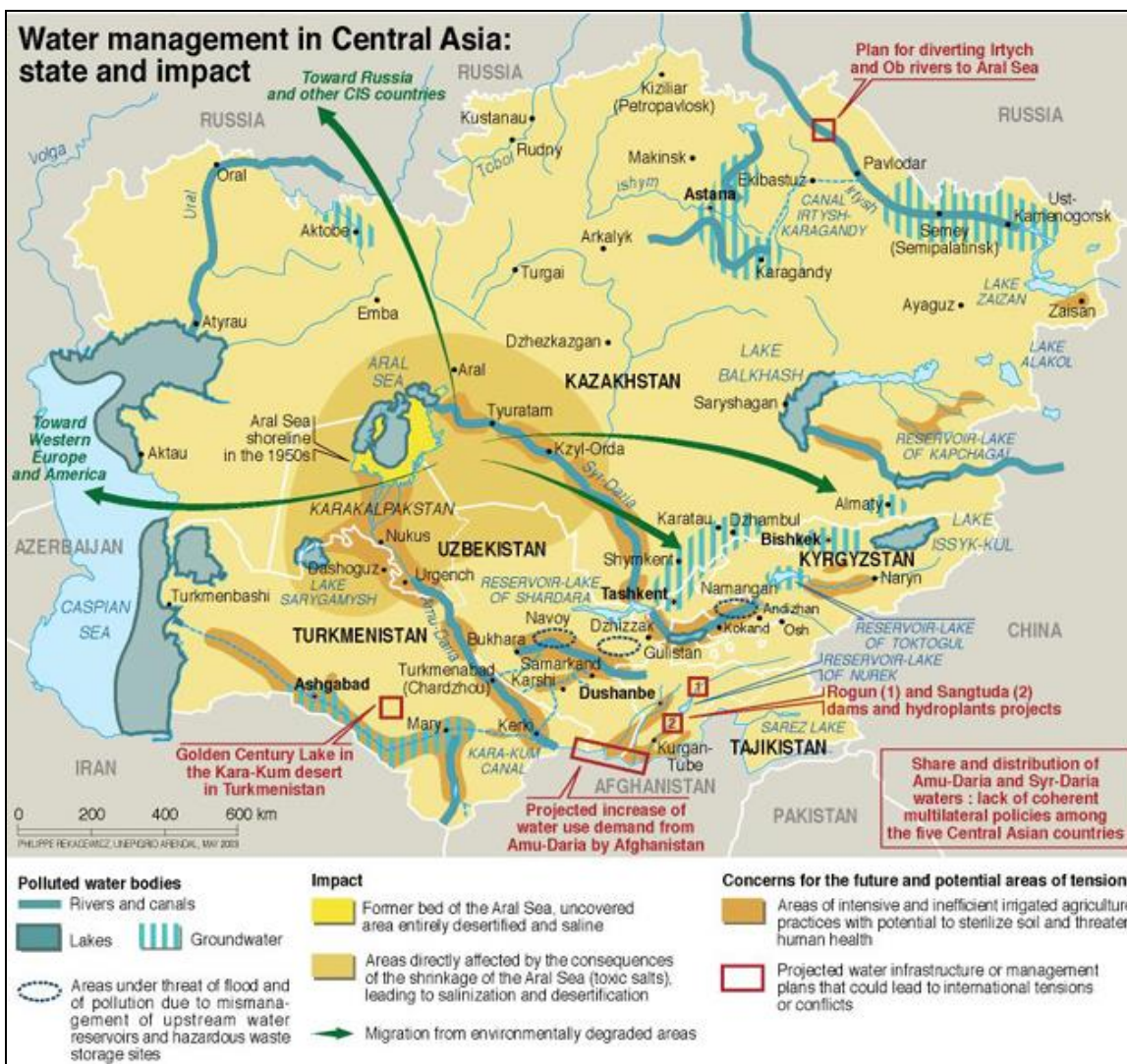
Country	Syr Darya allocation, %	Amu Darya allocation, %
Kazakhstan	38.1	0
Kyrgyzstan	1.0	0.4
Tajikistan	9.2	13.6
Turkmenistan	0	43.0
Uzbekistan	51.7	43.0
Total	100.0	100.0

Source: Valery, 2003 [8].

All five CIS States had signed Almaty agreement on February 18, 1992, on cooperation in joint management, use and protection of interstate water sources. The main purpose was the joint actions on resolving the problems related to the Aral Sea. According to this Agreement water allocation of Amu Darya Kazakhstan’s proportion was 0%, Kyrgyzstan’s 0.4%, Tajikistan’s 13.6%, Turkmenistan’s 43%, and Uzbekistan’s 43% (Valery, 2003) [8]. Later on this agreement has founded one more joint body called Interstate Coordination Water Commission (ICWC). The Agreement was deal with environmental protection and development of social-economic condition in the basin. “The river basin organization also had the authority to increase or reduce allocations to each soviet republic by up to 10% depending on anticipated climatic conditions, reservoir, levels and other factors” (McKinney, 2003) [8].

The Almaty Agreement that includes the IWMC with consent to manage logical use of the trans-boundary water resources. “IWMC’s decisions regarding intake limits and rational utilisation of water are obligatory for all users” (Valery, 2003) [8]. The commission was leading the executive two inter-states Bodies for Basin Water Management: BVO Amu Darya and BVO Syr Darya. The all five CIS States still favoured to persist with the management system of BVO that was come in existence during the USSR time in 1981 (ICG Report No.34, 2002) [5]. “These bodies were responsible for implementation of decisions on water allocation and distribution” (amudaryabasin.net). These bodies are also accountable for procedure and protection of all main water structures. Scientific Information Centre (SIC) also gives innovative and scientific information to support to the ICWC.

Water management in Central Asia



Source: Water management in Central Asia: state and impact. (2005). UNEP/GRID Arendal Maps and Graphics

Fig 1

Between 1993 and 1995 there were establishment of other intergovernmental institutions like the International Fund for the Aral Sea and Interstate Council on the Aral Sea Basin. However they have same functions as of the IWMC so they became somewhat duplicated and these intergovernmental bodies remained unclear about its relationship with other. IFAS is also one of the important regional level institutions which provide a stage for cooperation among all states on water related issues. The institution also guides its member countries to dialogue each other on well-organized use and management of water resources. It provide fund for improving socio-economic and environmental condition of all needy states in the Aral Sea basin (amudaryabasin.net).

There were a series of bilateral agreement among CIS countries were signed for example the agreement between the Turkmen SSR and the Uzbek SSR on water quotas of Amu Darya River. The Central Asian water initiatives (in Berlin process) were launched in 2008 for their joint intention to continue and develop their cooperation. In 2009, the joint

declaration of Almaty, all Central Asian states reaffirmed their desire to develop water supervision mechanisms which might be suitable to every state with their interest in the region (Water politics Report, 2012) [9]. “Tajikistan was first country who placed the issue of trans-boundary water allocation into UN’s precedence agenda at the UN, as a result year 2013 was the Water Cooperation year” (Avilash, 2013) [1].

Afghanistan Factor

Afghanistan contributes about 10% of the inflow to the Aral Sea Basin, but it has not been a party to the recent Aral Sea Basin management because of its political instability (Gleason, 2001) [4]. It is also a very significant issue that Afghanistan is a contributor to Amu Darya rivers flow but interestingly country is excluded from the legal and institutional framework. So Afghanistan plans to increase its infrastructure and storage capacity to manage its water resources and offset climate shocks. New dams will also be necessary to improve its energy security. “Afghanistan has

identified at least 31 major infrastructure projects, including the construction of 15 storage dams at an estimated total of almost \$10 billion" (Afghanistan HDR Report, 2011). These projects would serve multiple purposes, leading to the use of water for domestic needs, irrigation, power, flood control, industry, recreation, groundwater recharge and environmental rehabilitation.

In future it may be Afghanistan's plan for the reconstruction of irrigation system. "It will raise worries across Central Asia as it is allowed to draw much more water from the Amu Darya and Panj rivers than it now does" (Valery, 2003) [8]. However, in most cases, new infrastructure will require agreements with neighbouring countries and the donor community to determine the best ways to manage shared water resources.

Major Challenges

However such agreements are not much different from water quotas set up under the Soviet Union (Valery, 2003) [8]. As in the past, the water allotment schemes were biased towards the lower riparian countries as they received larger quotas and on the other hand upstream nations were allotted much lesser quotas. However the regulation of water allocation with these plans and agreements are still working as the base for present water management structure. "The Almaty Agreement was established on old norms maximum consumption while the global notion of equitable use and best possible use of water resources was kept at distant" (Mckinney, 2003) [8]. Thus in lack of any inter-state disagreement resolution body, it cannot work flawlessly. In addition, "the problem is also about the actual functioning of water management bodies, BVOs, which lack funding and legal powers. The five member states are supposed to contribute a proportion of their budget based on the percentage of river water allocated. Mostly these managements are tackling by national water management bodies not by BVOs.

"These international treaties, frameworks and declarations on trans-boundary water have had only negligible impact on Central Asian countries due to its unique regional, geographical and economic complexities" (Avilash, 2013) [1]. In lack of powerful regional mechanism for disagreement resolution and to defend their interests, CIS states enter into bilateral agreements respectively. Lower riparian countries like Uzbekistan and Kazakhstan signed a strategic agreement in June 2013 in Tashkent which highlights the progress of a fair system of water management (Avilash, 2013) [1]. Despite of all the joint dialogue, speeches and reports on papers there is no real water co-operation, and most of water regulation also has been failed and thus the countries facing sharp water shortage.

The main problem is implementation of existing agreements that appears to be another big flaw. Many of accords are merely signed than implemented because the national interests always are more important than joint action. "None of water treaties specifies a goal of reducing water use or making agriculture less water-intensive due to the sceptical attitude of downstream Central Asian countries to multilateral co-operation deters them from any environmental and financial commitments" (Valery, 2003) [8]. Thus the states have a lack of enthusiasm to co-operate on many water issues that "has buried great many initiatives of joint cooperation for example

an attempt was made by the Organisation of Security and Co-operation in Europe (OSCE) to persuade the five to discuss the region's water problems at the water conference held in London" (Valery, 2003) [8]. Turkmenistan's president reacted in a global conference held in London that it was not the correct location to talk about the water issues of Central Asia. The region has a long history of mismanagement of water and its issues of funding and inappropriate allocations schemes, unequal political power by special interest, no protection concerns for environment, and lack of well managed water resources and decision-making stand out prominently. The main cause of poor relations is because of low levels of trust and confidence among the CARs. Normally it leads to more bitter distribution bargain that worsen time inconsistency problems in implementations of agreements. The problem hindered because there is no such precise legislative framework for water ownership. However the installation of sufficient compensation mechanism that can solve the upstream-downstream conflicts in principle. Besides there is a lack of understanding of the fact that water is going to be a more strategic resource in the future. So the international community need to recognise and take into account this principle. But the problem lies in the slow mechanism of recognition as it will decrease the interests of the water consuming states.

Conclusion

International and regional organizations like International Fund for saving Aral Sea (IFAS) and interstate commission for water coordination (ICWC) are the two main institutions accountable for trans-boundary water resources management in the Amu Darya basin. But dealing with water related problems has been moving forward with a positive approach and they need for a practical solution to these controversies. The development of the monitoring system in hilly areas of the region with the formation of an integrated body to water resources management in river basin and to supplement existing institutional frameworks with information-sharing which will help trust building towards cooperation. It is need of relevant institution building for the space in political consultation in the region. Technique of compensation can be relevant in all cases where the question of internationally shared water is arising.

There is no ratified global framework on trans-boundary water issues for settlement of complex water issues; however, there are water agreements from other regions which can provide models for cooperation in Central Asia. Active engagement by the international community clearly makes a difference in advancing cooperation among countries. In a number of cases the World Bank and the Global Environment Facility have helped to develop regional water sharing agreements, agencies like the United Nations Development Programme (UNDP) and the United Nations Environment Programme (UNEP). This is a warning sign in the age of climate change when water conflicts are likely to grow more combative, which in turn may increase the need for international mediation in water disputes worldwide.

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