



A TIME BOMB IN CENTRAL ASIA



WATER

**Hydropolitics
Academy**

September 2014



A TIME BOMB IN
CENTRAL ASIA
"WATER"



September -2014

Элбашиболгуча – суубашибол.

Be the head of a headwater rather than being the head of heads.

(Kyrgyz Proverb)

Asia's Next Challenge:

Securing the Region's Water Future

“No place in the World is more imminent to a conflict than Central Asia on the issue of preserving natural resources.”

Smith, 1995.





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" in every drop of water there is a grain of gold."
Uzbek Proverb

Foreword

Water connects us in the most fundamental way. We cannot survive without it. Moreover, water is intrinsically linked to the most immediate challenges we face today, including food security, health, climate change, economic growth, and poverty reduction.

Water problems in Asia today are severe—one out of five people (700 million) does not have access to safe drinking water and half of the region's population (1.8 billion people) lacks access to basic sanitation. As population growth and urbanization rates in the region rise, the stress on Asia's water resources is rapidly intensifying. Climate change is expected to exacerbate the situation. According to the Intergovernmental Panel on Climate Change, by 2050, more than one billion people in Asia alone is projected to sustain negative impacts on water resources as a result of climate change. Experts estimate that reduced access to fresh water will lead to a range of consequences including impaired food production, the loss of livelihood security, large-scale migration within and across borders, and increased geopolitical tensions and instabilities. Over time, these effects will have a profound impact on security throughout the region.



List of abbreviations

CA – Central Asia

ECE – Economic Commission for Europe

ES – executive summaries

GDP – gross domestic product

HPP – hydropower plant

IFAS EC – Executive Committee of the International Fund for Saving the Aral Sea

IFAS – International Fund for Saving the Aral Sea

IPCC – Intergovernmental Panel on Climate Change

IWRM – integrated water resources management

NGO – non-governmental organisation

OECD – Organisation for Economic Cooperation and Development

R&D – research and development

RCG – Regional Hydrology Centre

UNEP – United Nations Environment Programme

UNESCO – United Nations Educational, Scientific and Cultural Organisation

WMO – World Meteorological Organisation

WB -World Bank

Executive Summary

The United Nations projects that by 2025, half of the countries worldwide will face water stress or outright shortages. By 2050, as many as three out of four people around the globe could be affected by water scarcity.

Water-related problems are particularly acute in Central Asia. Although Asia is home to more than half of the world's population, it has less freshwater—3,920 cubic meters per person per year—than any continent other than Antarctica. Almost two-thirds of global population growth is occurring in Asia, where the population is expected to increase by nearly 500 million people within the next 10 years. Asia's rural population will remain almost the same between now and 2025, but the urban population is likely to increase by a staggering 60%.

As population growth and urbanization rates in Asia rise rapidly, stress on the region's water resources is intensifying. Climate change is expected to worsen the situation significantly.

Experts agree that reduced access to freshwater will lead to a cascading set of consequences, including impaired food production, the loss of livelihood security, large-scale migration within and across borders, and increased economic and geopolitical tensions and instabilities.

Over time, these effects will have a profound impact on security throughout the region. Importance of water as a means of security at multiple levels is growing in Central Asia

It is clear that the majority of Asia's water problems are not attributable to an actual shortage, but rather are the result of poor water governance. As such, they are solvable through more effective governance and better management practices.

Our goal is to build on the far-ranging findings presented in the Outlook by considering the security dimensions associated with decreased access to a safe, stable water supply in Asia.

The nexus between an essential resource such as water and security encompasses individual physical safety, livelihoods, health and human welfare, as well as a realization of the cooperative potential between nation-states and subnational jurisdictions. The report highlights the significance of water as a source of conflict and also a mechanism for cooperation among governments and communities.

The report also draws attention to some of the most significant current and future water related challenges facing the region—from water disputes

Linking Water Challenges and Security

Water as a security concern is beginning to gain attention worldwide. Researchers and international organizations are developing specific indicators to consider watersheds that could be vulnerable to ecological stress and resultant conflicts. The first comprehensive study to examine “basins at risk” for conflicts over freshwater resources was published in 2003 by

Yoffee, Wolf, and Giordano, in which they identified the following key criteria to delineate high-risk areas:

- High population density (more than 100 people per square kilometer) •
- Low per capita gross domestic product (less than US\$765 per person) •
- Overall unfriendly relations between constituents sharing the resource •
- Politically active minority groups •
- Proposed large dams or other water development projects •
- Limited or no freshwater treaties •

Even though this early analysis did not consider some of the more contemporary areas of concern such as climate change, 9 out of 12 of the basins at risk were located within Asia.

Much of the popular reporting on water security has been polarized between those who believe that conflicts can arise over water scarcity and those who view such an approach to be sensationalistic and point to the paucity of “water wars.” Indeed, the ambivalence toward water as a potential source of conflict as well as an agent of cooperation has been the subject of considerable research. The historical record demonstrates that water issues have generated more cooperation than conflict. According to Yoffee, Wolf, and Giordano, 28% of all recorded international water-related events between 1948 and 1999 were conflictive, while two-thirds were cooperative.

The absence of major conflicts over water suggests that we should consider the cooperative aspects of hydrogeopolitics more seriously. At the same time, we must recognize that the past may not be an adequate basis from which to draw conclusions about the potential for future conflicts arising from water security issues.

Demographic pressures and resource scarcity dynamics in the coming decades will be unprecedented, and the potential for conflicts sparked by the direct and indirect impacts of an increasingly volatile water supply should not be underestimated, particularly in light of rising concerns about climate change. Because the consequences of climate change may alter the reliability of current water management systems and water-related infrastructure.



Introduction

Central Asia's strategic waters Seyhun (Syr Darya) and the Ceyhan River (Amu Darya) had low potential to cause problems in the USSR era for having been managed by decisions from Moscow and through central planning. However, the situation has changed after the collapse of the USSR. One of the most important issues after the independence of the countries of Turkish World of Central Asia was how to maintain hydropower dams in the upstream and the irrigation system in the downstream which were remainders of the USSR era. Now the interests of the countries were to come forward. How would international water management in Central Asia be made in these changing conditions. The answer to this problem was directly related to the region's future.

Under the new conditions, operation of water structures as well as new dams which upstream countries planned to or even stepped up to construct were starting to cause tensions in the region. Water resources were being seen as national natural resources rather than collective ones. Water in Central Asia began to be politicized.

This has resulted in an approach to water resources in the region in terms of either protection or defense of national interests. Thus, water issues have started to be seen as an element threatening regional security. For instance, in February 2009, President of Uzbekistan, Karimov, stated before the Council of Ministers that the nation's water resources was under threat and they had to protect the rights of future generations of Uzbeks.

The European Union in 2008 announced that water management in Central Asia was the most sensitive environmental issue and may develop as a serious security threat in the medium term in the entire region in the event that it was not treated accordingly.

Given the current situation of strategic waters of the Aral Sea basin, two categories of countries emerge. The first group being upstream countries of Tajikistan and Kyrgyzstan which rather use water for the purpose of producing hydropower, not consuming but releasing it to the riverbed once again. The other group consisting Uzbekistan, Kazakhstan and Turkmenistan consume water mostly for irrigation bringing about less water to reach the Aral Sea.

1. Overview of the Central Asia Waters

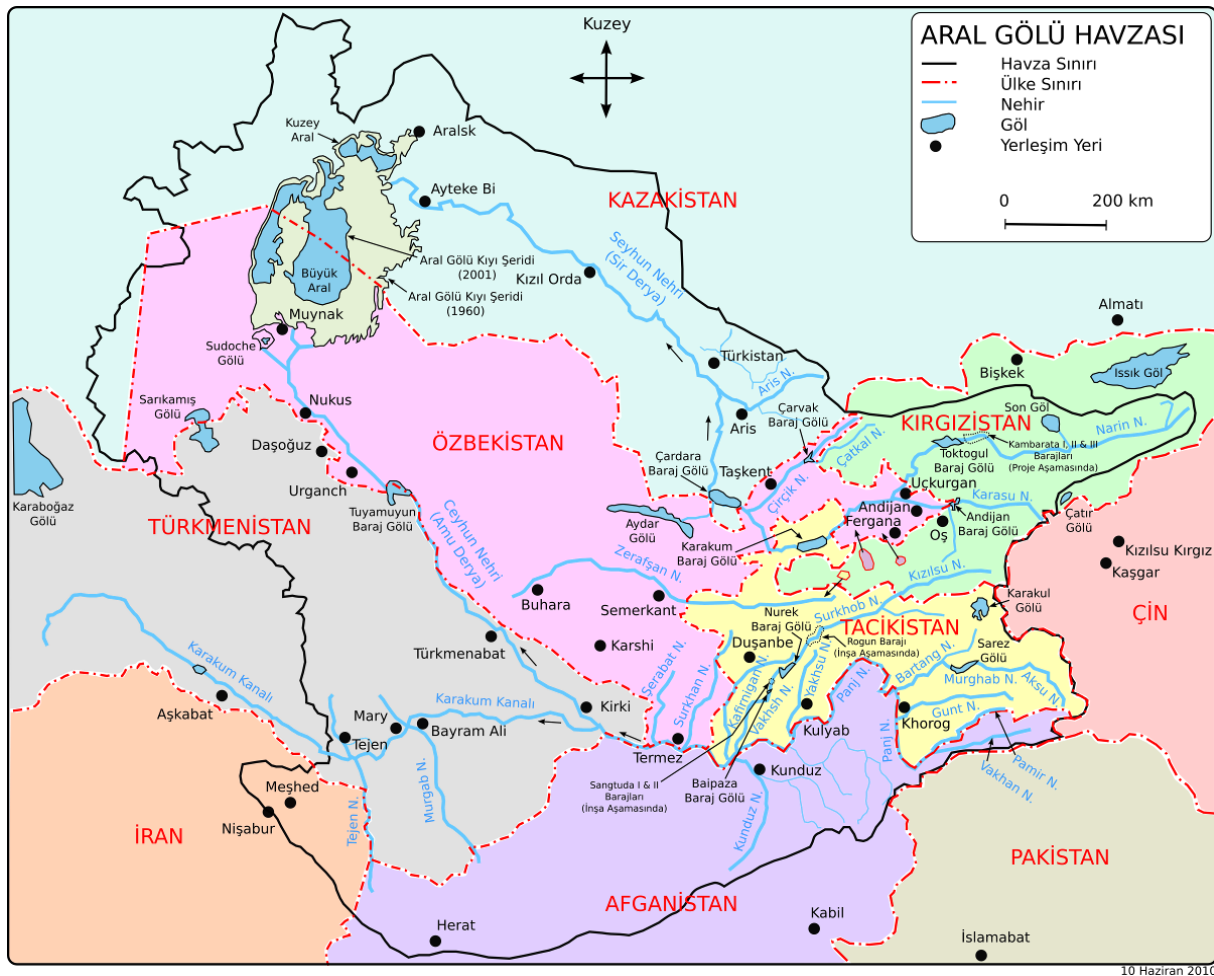
Fed by snow and the glaciers of Tajikistan, Kyrgyzstan and Pamir mountains of Afghanistan, Amu Darya reaches the Aral Sea traversing Karakum Desert making 2,400 km of way. During this journey, Amu Darya passes through five countries and forms the borderline. These countries are Turkmenistan, Uzbekistan, Kyrgyzstan, Tajikistan, and Afghanistan. Of the waters of this river comes 80% from Tajikistan, 8% from Afghanistan, 6% from Uzbekistan, 3% from Kyrgyzstan and 3% from Turkmenistan and Iran.

Seyhun River, Syr Darya, well, fed by snow and glacier of the Tien Shan Mountains north of Pamir Mountains reaches the Aral Sea after traversing four countries gaining ground of about 2,500 km (Kyrgyzstan, Uzbekistan, Tajikistan, Uzbekistan and Kazakhstan). Of the waters of this river comes 74% from Kyrgyzstan, 12% from Kazakhstan, 11% from Uzbekistan, while 3% from Tajikistan.

- There are 7 countries in Central Asia which have transboundary waters, two main rivers and a big lake. Of these, five are main actors in terms of water and the rest two being secondary.
- Contribution to the rivers of this countries has been uneven. Turkmenistan is the only country in the region that uses large amounts of water although it has no contribution to these rivers. Therefore, there is an unequal state in terms of contribution to water resources and use of it.

- Within the boundaries of Central Asian countries are located 22 large and small rivers and water systems. Along with this, traditional water use in the region is changing rapidly and the upstream countries are using more water than in the past.
- Of 39 reservoir in the region remained from USSR era, 22 are located on Seyhun River and 17 on Ceyhun River. Those should be brought into commissioning by getting quickly repaired and made functional.
- In 2000, the region suffered a drought. Waters of the region bring decennially 20 billion m³ of less water than long-term average flow.
- Kyrgyzstan held water in the drought of 2000. Well in winter, it released the water in such a manner to create an inundation leaving 120 000 ha of irrigated land in Uzbekistan and Kazakhstan exposed to flood.
- The region's population reached 63 million in 2012 which was 22 million in 1959.
- Nearly half of the irrigated areas in the Aral Basin is having problems due to high salinity.
- There is water in the region, but no rational, deliberate and efficient water management.

Recent researches have revealed that agricultural water consumption in Central Asia is approximately twice that of industrialized countries. The most important reason for that big water consumption is that irrigation systems is timeworn and damaged. Rehabilitation efforts made in these systems in the last 10 years has remained very inadequate. Therefore, sufficient progress could not be made in the prevention of water loss. In addition to this, some countries' efforts in the region to guarantee that demand for water instead of trying to reduce water consumption in their most water consuming industries has led to the continuation of high consumption.



The Most Critical Region: Aral Sea Basin

Water share-use problems in the Aral Sea Basin is the most important regional water dispute experienced in the Central Asian region. The problems experienced in the basin have focused particularly on the Syr Darya and Amu Darya rivers due to the excess amount of water they carry, their length, and for passing through more than 3 the countries. However, similar problems are also being experienced in all of the major rivers of the region's five countries. Main transboundary rivers in the Central Asia Region are Irtysh and Ishym in the east, Chu, Talas, Syr Darya, Amu Darya in the south, the Urals in the west, Ishim and Tobol in the north.

Transboundary Water Concerns in Asia

Central Asia is rich in water resources. However, more than 90% of the water in this vast region is concentrated in Kyrgyzstan and Tajikistan, where the region's two main rivers—the Syr Darya and the Amu Darya—originate. Uzbekistan and Kazakhstan are the region's main water consumers, with Uzbekistan alone consuming more than half of the region's water resources, largely for agriculture. Kyrgyzstan and Tajikistan control the water needed by the other Central Asian states, which, in turn, view water as a means of strategic influence. Since the dissolution of the Soviet Union brought an end to the decades-old centralized system of water management, competition for water has been increasing at a troubling rate in Central Asia, a region that is already rife with political and ethnic tensions. With ongoing border disputes and

record droughts in the region, conflicts over water will likely grow. Water will also play a key role in the economic reconstruction of Afghanistan, as regional cooperation over the Amu Darya will be necessary to revitalize the country's agricultural sector.

1. Issues related to joint utilization of water resources and the water energy potential of the Aral Sea basin are increasingly arising as the focus of heated debate at summits of the SCO (Shanghai Cooperation Organization) and EurAsEC (Eurasian Economic Community). The reason for this is clear. Water is vital for Central Asian countries, and coordinating the shared utilization of water is becoming more and more problematic.

2. Central Asian countries are closely interdependent in their water utilization. Most of the water in the Aral Sea Basin is from upstream river waters, whereas in Kazakhstan, Turkmenistan and Uzbekistan water is mostly used for irrigation in downstream areas. Competing demands for water in the region have considerably exceeded supply for a long time. In the future, water shortages will only worsen in Central Asia because of the growing population, the development of industrial and agrarian production and the expansion of irrigation.

3. In such circumstances, regulation of the hydrological models of the Syr-Darya and Amu-Darya is becoming critically important. The countries located in downstream areas tend to take most of their water during summer for irrigation. Countries located in upstream areas have to use water for energy generation. Seasonal differences in demand for water have generated conflicting approaches to transboundary water utilization between the two groups of countries. The problem is exacerbated by the shrinking of the Aral Sea, the consequences of which are felt globally, and winter floods caused by excessive reservoir drainage.

4. Tajikistan and Kyrgyzstan have vast hydro energy capacity, but are heavily depend on the supply of hydrocarbons from other countries in the region. During winter 2008, public electricity and heating was completely cut off in Tajikistan; production of aluminum at the Tajik aluminum plant, the country's main source of foreign currency, fell dramatically.

5. The estimated renewable hydro energy potential of Central Asia is 460 billion kWh per year, but at the present time less than 10 per cent of this potential is used. Energy is mainly produced in Tajikistan and Kyrgyzstan.

6. The low level of power independence and the potential of water resources explain the willingness of Tajikistan and Kyrgyzstan to develop hydro energy in their countries. However, these countries do not have the resources to finance the construction of HPPs and are forced to seek external financing. The region's countries have different attitudes to the construction of HPPs and this acts as a barrier to external investment in such projects. There are many examples across the world of successful cooperation in regulating water resources to the benefit of all participants.

7. Resolving the issues of shared utilization of water and power resources in Central Asia has huge economic, ecological, political and international importance, since it is a major factor in

preserving stability, economic prosperity and ecological security in this region. The most important issues in this regard are the management of water and energy resources and leverage of significant long term investment in hydro energy projects.

8. The Eurasian Development Bank recognizes the problems of the water and energy sectors and is studying the possibility of participating in hydro energy projects in Central Asia that address the conflicting needs of the river states and advance integration in the region.

2. Reasons Behind Water (Management) Problem

Reasons behind water problem must first be identified.

Many people and organizations see water problems in Central Asia as a direct consequence of the decision of USSR's economy to increase cotton production excessively in the region. However, this view is not entirely true. First and foremost, this problem is not a water problem but a water management problem, and an environmental crisis emerged as a result of this decision not a water crisis. This crisis was attributable to the reduction of water in the river. However, the effects of environmental degradation in the region have been more dominant than from that of the reduction of water.

Secondary prevalent factor is that regional planning of water and energy resources was not completed during the USSR period. At that time, the USSR had made centrally a water and energy plan for the region. Therefore, this decision was not for a single country, rather a regional planning decision to centrally plan region's natural resources during the USSR period. For that reason, water use quotas in the region were determined based on this planning approach. As a result, the construction of the Nurek Dam and Rogun Dam in Tajikistan as well as Toktogul dam in Kyrgyzstan were decided on. Of these dams' constructions, Nurek Dam in Tajikistan began in 1961 and was completed in 1972. This dam which is for energy production and irrigation currently holds the distinction of the world's highest dam. In the upstream from Nurek Dam in Tajikistan, the construction of Rogun Dam which is higher (335 m) than this one was started in 1976 during the USSR period as well. In other words, starting another dam, Rogun Dam, in 1976 which is 335 m in height, after world's highest dam, Nurek dam, was commissioned in 1972, energy infrastructure planned for the region was attempted to be completed in a centrally planning direction. Whilst this dam was planned to be operational in the 1993, internal turmoil began in 1990, the USSR disintegrated in 1991, and a great inundation came to the project area in 1993. The dam could not be completed for very important reasons like these.

Completion of Rogun Dam would today greatly relieve Tajikistan. By the same token, Tajikistan would take advantage of cheap energy production over downstream countries which had received huge amount of water allocation as a result of de facto policies implemented during the USSR era. However, in the USSR period, irrigation chapter of regional development plans of Central Asia was implemented, whilst hydroelectric power generation chapter came short of due to the collapse of the USSR.

Gone missing a leg of the planning for the region in application has led to impairment of planned balance between agricultural water use and meeting the energy needs among countries.

In other words, had all the dams in this planning process been completed entirely, hydropolitics of Amu Darya Basin would have totally been different from that of today. Countries in the region would have implemented policies on water resources aimed at protecting their national interests after declaring independence. But the stress it created would have been less and could have been reduced by regulating jointly the operation of the program of the dam.

Conditions aforementioned apply to the Syr Darya Basin as well. On the Syr Darya River in Kyrgyzstan, a huge dam like Nurek on the Amu Darya River was completed at almost the same date in 1975. This dam which is a key dam on the Syr Darya River is of vital importance for Kyrgyzstan. However, in this basin occurred almost the same incidents, and likewise, although Kambarata1 and Kambarata 2 dams were kicked off in 1986 in the upstream of Toktogul dam, they could not be completed due to the collapse of the USSR. Thereafter, Kambarata 2 dam with a height of 60 m was completed and construction of Kambarata 1 dam with a height of 245 m. is still ongoing.

In summary; during USSR period, in the upper basin of the Aral Sea, of huge dams, Nurek (Tajikistan) and Toktogul (Kyrgyzstan) Dams were completed which had been planned in the Integrated Central Asia Energy System. However, the USSR collapsed before other dams within the scope of this integrated plan (Rogun Dam-Kambarata Dam etc.) could be completed. Under these circumstances, integrated energy chapter of integrated water resources planning in the form of energy and agricultural production went missing.

At that time, irrigation channels and water allocations were materialized for Uzbekistan, Kazakhstan, Turkmenistan, but for the reason power plants, part of this planning, were not fully completed, Kyrgyzstan and Tajikistan, the upstream countries, became deprived of power generation.

On the other hand, in the USSR period approximately 60% of irrigation in Uzbekistan and Tajikistan were planned to be irrigation that require low or high level pumping. For example, in Uzbekistan, pumped irrigation system was developed for a 2.2 million ha of area. Irrigating an area of that acreage by pumping inflicts very high energy costs. In the planning process during USSR period, for it had been contemplated that energy would have been provided in a cheaper way from big dams that would have been constructed in the upper basins of Syr Darya and Amu Darya, pumping energy costs were not taken into consideration too much. However, before completion of the planned dams, the USSR collapsed. After this period, vast hydrocarbon reserves in Uzbekistan and Turkmenistan gave the opportunity to be able to meet irrigation energy costs of these countries more easily. However, Tajikistan has remained a country suffering from disadvantages of incompleteness of implementation of central planning on the irrigation energy.

Having been put recognition of irrigation and water rights systems in place in the USSR period had constituted a huge advantage to downstream countries in terms of employment, tax and export. It should be noted that despite Kyrgyzstan and Tajikistan's opposition in the agreement in 1992, the order of allocation of water rates was defended by the downstream countries and continued. Because, albeit it has importantly missing parts, irrigation has taken up a vital role in the economies of these countries. Upper Basin countries were victimized by the planning of the USSR period which collapsed without being able to consummate dams and substantiate central power distribution system.

The more Kyrgyzstan and Tajikistan are unlucky in this field, the more the downstream countries can be said to be lucky evenly. This advantageous situation continued after the USSR collapsed and huge oil and gas reserves in these countries discovered.

These countries' obtaining advantages on water due to de facto water quota system during USSR period and in addition to this, gaining upper hand with new fossil energy resources increased economic and political instability across the region entirely.

In light of all these considerations following findings can be put forward;

- The root cause of water problems emergent in Central Asian Turkish World is neither increased cotton production nor irrigation areas scaled up threefold. This situation had given rise to very important environmental impacts in the region. However, it did not create a regional water crisis.
- Excessive production of cotton led to the establishment of an economic production order in which intensive water was used. This settled order has continued till now. However, considering the benefits and vital importance that has been providing for the countries' economies, it is seen that benefits of production outweighs.
- Water problem in Central Asian Turkish World is a water management problem which many parameters such as technical, economic, administrative, political, climatic collectively spawned is still not at the stage of a water crisis.
- For today, the Central Asian Turkish World is suffering not from the amount of water, but rather from the management of transboundary waters.
- Completion of dams which had been planned and signing of an agreement in the electricity system similar to that of water quota during the USSR period would greatly change the present hydropolitics of Central Asia. Incompletion of this plan has squeezed even more the water sharing in the region.
- Natural resources and product transfers in the countries of Central Asian Turkish World governed in a structure of centrally planning economy during USSR period has led to and continues to spawn problems in water management issue after the collapse the USSR.
- For the reasons mentioned above, water management problem in the Central Asian Turkish World is basically a historical infrastructure inheritance of central planning approach of the

USSR period and then dissolution of bi-polar world to Central Asian Turkish World along with their independence.

- The current water management problems in the region have emerged over this historical infrastructure heritage as a strategic issue susceptible to national reflexes and international influence.

ÜLKE	TOPLAM NÜFUS	ETNİK GRUPLAR											
		Kazak	Kırgız	Tacik	Türkmen	Özbek	Uygur	Tatar	Karakalpak	Rus	Ukraynalı	Alman	Diğer
KAZAKİSTAN	16 milyon	%63.0				%2.9	%1.4	%1.3		%23.7	%2.1	%1.1	%4.5
KIRGIZİSTAN	5.5 milyon		%68.9			%14.4				%9.1			%7.6
TACİKİSTAN	8 milyon		%1.1	%79.9		%15.3				%1.1			%2.6
TÜRKMENİSTAN	5.1 milyon				%85.0	%5.0				%4.0			%6.0
ÖZBEKİSTAN	27.6 milyon	%3.0				%80.0		%1.5	%2.5	%5.5			%2.5

3. Scope of Water Problems

Unique Character of Water Problems in the Region

In fact, geography of the Central Asia bears some similarities with that of the Middle East, one of the oldest dossiers of the global strategy desks. For instance, the regions are similar to each other in terms of energy sources, international relations and countries where water resources exist and developments in their use.

Both in the Central Asia and the Middle East, countries which are hydrocarbon-rich and water-poor and vice versa, countries which are water-rich and oil and gas-poor are co-located. In both regions, annual amount of water countries wish to use exceeds the total annual amount of water rivers carry.

Water resources in both regions are fed from snow and glacier melt rather than from rain.

Iran, albeit partially, is the country contributing waters in both regions.

In both the Central Asia and the Middle East, inter-basin water transfer projects were brought to agenda, but could not be implemented.

It is seen that some settings peculiar to the region have taken effect for the water to be a problem in the Central Asia. Those basic water problem areas can be listed as follows;

- Countries' contribution to water is unequal while demand to the use is disproportionate.
- There are efforts among the countries to have access and seize control of water.
- There is a conflict emerging from different needs of countries on water demand and water supply.

- Although Turkmenistan has no contribution to the water, its excessive pull and inefficient water use is creating tension.
- There are ethnic (Tajik, Uzbek, Kyrgyz) and water use related problems in Ferghana Valley.
- Iran and Afghanistan's involvement to the Central Asian water issues in the future will aggravate the water problem. Not involved so far, while Iran contributes 3% and Afghanistan 5% to the water, both countries are now only pulling 1% of it.

Water Issue is Comprehensive

It will not be surprising to occur various tensions on water in the Aral Sea Basin in the near future. However, for the medium term it is seen that bringing off those problems is possible and that there exist many conditions for cooperation. Namely, potential to create problem on water can be said to surge in Central Asia. However, it can also be said that opportunities and efforts have also been increased compared to the past to solve lame excuses.

When assessing the water problem in Central Asia, specific issues emerge in that;

- use of water in Central Asia has a very important correlation with countries' economic development and growth,
- there is a need for a wider angle to the solution of problems and a use a softer political rhetoric in the region,
- different policies that countries follow for economic development will increase the difference among the countries in water resources development programs,
- regional water problems and still existing problems related to the use of land among ethnic groups will create a very negative effects in relations between the countries.

4. New Hydropolitics in Central Asia

Central Asian countries in the region after 1991 began to face continual disputes over the amount and the quality of water in the main rivers. The root cause of this dispute which as well stems from the new geopolitical situation in the region, is the emergence of water as an international resource hence forth after the independence of the countries. In this new period, countries in the region have become in various degrees dependent on water which comes from other independent riparian countries. During this period, not common interests of the socialist republics as were in the past but national interests of the independent countries began to be brought to the table. In this sense, some of the countries in the region which held vital and strategic resources such as water began to value the issue in terms of their own interests. It is difficult in a short time to reach an agreement with countries which primarily start to consider

the water as a national resource that must be protected with national consciousness. However, unequal distribution of water resources in the region, need for water of the downstream riparian countries to be released from the upstream for agricultural irrigation and requisite of the release of this water they need during the months in spring and summer squeezed even more the region's hydropolitical relations.

Although countries in the region, during 20 years after winning independence, signed some agreements to solve problems of water use, they failed to follow through these agreements decently. The most basic fact spawned by not complying with the provisions of those agreement are the lack of trust and formation of universal standards in international relations. As well as, a need for further steps to understanding relations of upstream and downstream river basins among countries.

As mentioned above, this lack of mutual trust strained relations among the countries using the waters of Seyhun (Syr Darya) River and began to create hostilities. In general, these differences of opinion between riparian countries, independent of respective geographical location of the countries within the basin, can create several problems. For example, whilst a downstream country is suffering from major economic problems due to lack of irrigation water in the summer, and inundations in the winter, an upstream country may fall into frequent power shortages. Therefore, water and energy resources are required to be dealt with together for cooperation in the region. In this context, Kazakhstan made an agreement with Kyrgyzstan to safeguard water at a time during the year when it needs in return supplying energy sources like oil and coal. Although having not been fully implemented, this approach is of importance showing countries in the region are not entirely far from the solution.

Aiming regional leadership, Uzbekistan maintains its relations with its neighbors rather over power relationship. Especially at the beginning of the 1990s, Uzbekistan claimed that river system in Central Asia was a common property belonging to all countries of the region and suggested it could not be seized control by any single country. This statement basically has been a call to release water free of charge to cotton fields of Uzbekistan by Kyrgyzstan on the upper reaches renouncing its rights on water and calculations it does over market price of water. One of the main factors affecting the hydropolitics of the region has been energy politics of the region. Rising energy prices as a result of the policies implemented by Uzbekistan and Kazakhstan have deeply affected the economy of Kyrgyzstan which is dependent on energy resources of these countries. Kyrgyzstan has practically mired in debt. This situation forced Kyrgyzstan to take urgent measures to terminate its energy dependence on Uzbekistan and Kazakhstan. Determined to observe national interests, Kyrgyzstan run its hydroelectric power plants in full capacity to make up for deficit in energy supply it would produce from natural gas and coal in the winter of 2001. This brought about inundations, reduction of water in dams in Kyrgyzstan and falling short of water for the countries on the lower reaches in irrigation season.

Implementation of Agreements on Water Takes Time

In other parts of the world, a lasting agreement on transboundary waters takes a long time. Therefore, it is not surprising that this process proceeds more slowly in a region with a very high geo-strategic importance like Central Asia. On the other hand, it is observed that the process has been progressing in terms of the region's integration with the international system, and its economic, cultural, and political development. It is clear that these developments will have positive impacts on the hydro-political relations in the region. Therefore, no matter what the difficulties could be in bilateral or multilateral talks on transboundary and boundary water basins, the process of negotiations to continue without interruption is of great importance.

Are Regional Countries Eager for a Solution?

In fact, when examining resolution of water problems in the region, firstly an answer to the question as to whether "Regional countries are really willing the resolution to the water problem and to cooperate in this field?" must be found. When the region is scrutinized, it is observed that no agreement in many cases are fully implemented, and cross-countries organizations remain ineffective in resolving disputes between the water-rich and water-poor regional countries. However, it is evident that Central Asia is due to bound to make regional cooperation once the region is taken up either from the historical, economic and political or from a strategic point of view. Even if some of the countries in the region are growing even faster with their oil and natural gas economy, driving economic development will be directly related to the political and economic stability. Agricultural sector plays a key role in the downstream countries in eliminating social unrest providing social justice. Water is the most fundamental and strategic input in this. Upper basin countries, well, substantially need energy of water for their socio-economic development.

It is indicative that all countries in the region are keen on resolving water problems for they have sit around negotiating table several times and have signed many agreements. However, it is seen that they have been reluctant in the implementation of these agreements. This shows that a consensus can be reached when there is a problem, but there is a lack of qualified and essential socio-political, socio-cultural and corporate infrastructure in the implementation of resolution.

Water resources in the region, due to usage problems, currently nurtures not co-operation among countries but the tensions. Top priority of hydro-politics of the region should be to prevent the increase of this tension. Difficulties ahead can be overcome. Because, there are many reasons for the water resources in the region to be used as a tool in cooperation among countries. Reaching a final and sustainable resolution in this regard may take time. Nonetheless, attempts to avoid to heighten tensions should continue at any moment. Road to be taken by these initiatives will shorten the length of the process to reach an ultimate solution in the region.

The Aral Sea, the most striking consequence of the misuse of water, will be an important reference point for the future. Therefore, putting forward solid consequences from economic and environmental point of view by well studying of not using water rationally and in a planned way will bridge over the steps to be taken for a solution.

5. Is Regional Cooperation Possible?

Cooperation in the Region is a Must, But!

However, persistence of water problems in the region offers the powers who desire instability of the region where several ethnic groups live intertwined a suitable environment. Tensions to be created on lame excuses will make control easier by perpetually unstabilizing the region. In fact, there exists an important feature that differentiates this region which suffers from water problems from other regions with the same problem. Central Asia is an isolated region and is located in a unique geography where interdependence and cooperation can be developed in a very effective way.

In addition, there is no other opportunity in this isolated region to create alternative sources of water like seawater treatment, fossil water etc. except for water reuse. And this bounds countries to a common fate in the use of water.

Characteristics of the water use in the region is not only the sharing of water of transboundary rivers but the use of a strategic resource which directly and significantly impacts socio-economic development of all countries in the region. This characteristics can be encountered in many transboundary river basins. However, importance and weight of this effect is often different for any given country. In Central Asia there is no big difference in importance or weight of the effect it assumes for the countries either on the upper reaches or lower reaches. So in other words, the region is dependent on water on a scale with almost equal weight in all countries. In this case, the problem, becoming no longer an issue between two countries, turns into a problem to be solved on the regional scale.

Because, topographical and meteorological characteristics of the region, in a sense, obliged the countries to each other. For example, some parts of Kyrgyzstan and Tajikistan can be reached from the border of Uzbekistan. In large part of the year, connection from the north of Kyrgyzstan and Tajikistan to the south is cut. On the other hand, within the borders of Kyrgyzstan, there exist Uzbek autonomous regions of small cities. Their access to Uzbekistan can be ensured through Kyrgyzstan. All these conditions reveal the obligation of interdependence in the region, and inevitability of cooperation in water.

Resolution is Remote for Now!

Designation of Central Asian countries of Kazakhstan and Turkmenistan of being substantially rich in hydrocarbon reserves has served the resolution of the water problem in the region as well as its deadlock.

The reason why is that their need for hydropower has been reduced due to rich fossil resources of downstream countries. Relationships of interdependence among countries of Central Asia located in a landlocked geography at least could grow kicking off in the field of hydropower. Countries like Kyrgyzstan and Kazakhstan, whose topography, climatic conditions and water resources are favorable to produce hydropower could be hydropower production countries of the region, and a plan could be achieved in a way to deliver this production across the whole region.

However, the water-poor countries in the region are hydrocarbon-rich. These countries are able to produce the energy they need quite cheaper from oil and natural gas than from water. Therefore, these countries are not obliged to purchase hydropower from water-rich upper-riparian Kyrgyzstan and Tajikistan. This hinders upper-riparian countries to develop interdependence and cooperation by providing hydropower to the lower-riparian ones.

On the other hand, while this countries' being hydrocarbon-rich would be able to make a contribution in a way supportive to cooperation and interdependence in the fields of energy and water, this contribution never occurred sufficiently and in a continuous manner.

In other words, the primary energy resources (oil, natural gas, coal) and water have not been able to play an essential role in developing relations of cooperation and interdependence of the countries of Central Asia so far.

Is a Joint Strategy for Water in the Region Possible?

There is a need for a joint water strategy which possesses institutional and legal structure in a manner ensuring the equal participation of all countries in the region and regional balance. Key countries in the region on water and water-related agreements are Kyrgyzstan and Tajikistan. Therefore, while determining this strategy the policies of these two countries will be very decisive.

Either closed geographical structure of the region, or necessity of balanced reciprocal interdependence of the countries, or negative impact of climatic change on water resources reveal that countries of the region are duty bound to a joint water strategy.

A joint water strategy to be created among countries in the region is of extreme importance in terms of sustainability of economic and social development of these countries.

On the other hand, there is a need that the Central Asian countries make use of their own water resources on their own in a cooperation with other countries in the region.

However, this strategy should include not only water-related subjects of dispute in the region, but primarily development, use, and management of water resources of each country in an efficient manner, and validating technical and scientific approaches in all water-related projects as well.

First step in the context of creating a joint water strategy must be creation of Joint-Technical Committee which will bring together the water experts of the countries of the region, executives of water-related main institutions, respective academicians and strategists. Efforts of this technical committee should never be interrupted for any reason whatsoever.

Despite such a big necessity, there are many challenges in the creation a Joint Water Strategy and being able to transform water and energy resources into an opportunity for the development of Central Asian countries. Countries in the region are in need of time to overcome these economic and political challenges. However during this time, each country should be open to implementation of policies which prevent problems from becoming perpetual arising from water resource management. Joint projects realized in the region will both prevent these problems from taking root and get regional countries closer to creating a Joint Water Strategy.

6. Why does Cooperation for Water not occur?

Central Asia, at which given a general look, is seen a closed area and interlocked countries. While this condition is expected to be effective in the direction of an increased cooperation between countries, it is observed that that did not occur. There are many internal, external and regional specific reasons for this situation such as the region's historical past and the present geopolitical situation.

For these reasons, confidence among the countries in the region as well as among the groups in these countries have not been established adequately. This situation also restricts progress in the field of mutual cooperation in the region. For example, although there are organizations for cooperation in the field of water management, many problems prevail in dialogue and cooperation in terms of transboundary waters. Key reasons peculiar to the region are listed below.

- Having been planned by a centralized approach during USSR period, regional water system is being strived to be managed by five separate states today.
- Consequences of being directly relied on irrigated farming practices of economies of the countries of Central Asia directly affects the governance of countries.
- Downstream countries in the region are stronger in terms of military and economy than upstream countries. This situation clearly creates an asymmetrical power relationship in water issues among the countries.

Some Observations on Water Management in Central Asia

1. Agricultural water use in Central Asian countries is of vital importance especially for Kazakhstan, Turkmenistan and Uzbekistan. These countries employ inefficient irrigation methods. This is highly unlikely to change soon.
2. Lack of confidence between Kyrgyzstan and Tajikistan in the upper basin and Uzbekistan, Kazakhstan and Turkmenistan in the downstream of Syr Darya and Amu Darya River persists. It is seen that the most standoffish country is Uzbekistan, and the most isolated country is Turkmenistan in the relations of cooperation in the region.
3. Not reaching an agreement on water, but failure to comply with the agreements among the countries is obvious as a problem. The agreement which is most adhered to in this regard is the one for the projects of International Fund for Saving the Aral Sea (IFAS) which was signed by five countries in 1993 to save the Aral Sea. Kazakhstan plays a leading role in the execution of this project.
4. International Fund for Saving the Aral Sea (IFAS) is of importance as the most appropriate institutional structure that could bring together the regional countries in the Aral Basin.
5. Situational assessment, and the most comprehensive viable projects and recommendations for solutions in the field of water management are carried out by the OSCE Headquarters and Regional Offices. In this regard, project reports follow-up is of importance in the situational assessment and monitoring in terms of relationships in the region.
6. Works conducted by UNDP in the region have rather the characteristics of secondary and subsidiary projects.
7. EU countries have come a long way being active and influential particularly in the field of engineering and consultancy in the region.
8. Kyrgyzstan is working to create a model for itself by following Turkey's transboundary water policy.
9. Water resources in the Aral basin is under threat of meteorological climate change as much as that in the political one. The most obvious reason for this perception of threat is the swift melting detected in the glaciers which is the source of water in Central Asia.
10. Lake level rose in the north through engineering structures that would hold the waters of Syr Darya in the North Aral. However, efficient water management of the countries in the region will be more instrumental more than the engineering structures in filling South Aral. Therefore, filling South Aral will take a lot more difficult.

The Necessity of Cooperation will be Understood

Made a very general assessment, it is seen that upstream countries, Tajikistan and Kyrgyzstan which are relatively poor, fall into the Russia's sphere of influence and involvement while the countries in the downstream except for Uzbekistan hold themselves at a rather more distance in their relations with Russia and keep away from Russia's sphere of influence.

Even so upstream countries overstep the mark on claims about water time to time relying on Russia, they are well aware that they are obliged to manage this resource collectively after all.

As mentioned above, even though Kyrgyzstan and Tajikistan get an upper hand in terms of hydrostrategy storing water by the dams they will construct, they seem to be unable to perpetuate these policies. Because, upper reach countries are reaching out to the world market over other countries on the lower reach. Therefore, advantages that upper reach countries obtain by holding water in the dams is seen to be not permanent.

So to speak, these countries' deriving periodical benefit from accumulating water in the dams breaching an agreement that was struck is not rational, as well as will result in many negative consequences from energy imports to removal of transportation amenities. Therefore, it is difficult for the upper basin countries to pursue such a hydro-politics. On the other hand, given such a policy could raise a prospect of a conflict in the region, military power of Uzbekistan and Kazakhstan outweighs that of Tajikistan and Kyrgyzstan. This also reveals another reason why this policy cannot be implemented easily.

On the other hand, it should not be expected that such a conflict could easily break out in the region. Because, particularly the global powers more often than not opt for a continuity of the current stability apart from prospects of losing a very important position in a region with intensive energy resources. Rationally contemplating, water resources must be the most important tool of ensuring the stability not that of conflict. Use of water in a manner to create a continuous instability in the region does not suit books of countries in the region as well as outside powers. Nonetheless, water control will render a very important leverage in that region. Therefore, those powers primarily put policies creating sphere of influence which will ensure control in water management into practice. However, in the event that the geopolitical balance in the region changes uncontrollably or the prospect of entering the region under the sphere of influence of any power, water problems and ethnic groups will be used as a ticking time bomb.

Therefore, impact of strategies regarding the region of non-regional powers should not be underestimated while making analysis of serious tensions which takes form in a manner to threaten the stability in terms of water in the region. It should be noted that a water conflict in the region is not impossible, but it is hard to come about without propensity and the control of outside powers.

Continued stability in the region needs primarily removal of water use from being an element of instability and conflict.

Considering stability in the region being important with regards to regional and non-regional countries, it is seen that Hydropolitics of the region will be shaped as much by extra-regional politics as that of intra-regional intertwinedly.

7. Time Bomb of Central Asia: Water

The Region's Time Bomb: Water Problem

Experts often mentions thoughts of regional and global powers which is called "Big Game" on this closed geography tucked into Asia.

The weakest chain in Central Asia that these power will work on in order to achieve their objectives is identified as the composition of mixed-up ethnicity that USSR had realized in 70 years of time. All being Turks, groups of Uzbek, Kazakh, Kyrgyz, Turkmen, Tatar which are called by the region they inhabit show a distribution in different numbers in each state there.

A forgotten region in the heart of Asia, known as Central Asia, came to the agenda of the world and drew attention for reasons such as the collapse of the Soviet Union, establishment of new states, its oil, natural gas and other rich resources, and surpassing nature of these resources compared to its population.

Presence of rich underground and surface resources, Caspian Sea, known to be oil and natural gas depository for longer than a hundred years, and launching operationalizing of these resources by the states located in the region will make the region a center of attraction as well as an economic power. Young Central Asian Republics with a total of about 62 million population in the region have drawn attention in recent years both by having a characteristics of being a market and by being located in the center of a semi-circle of China - Russia - India which is referred to by Russian former Prime Minister Primakov as "the Strategic Triangle".

Mackinder, in his Heartland Theory, recognizing north of Central Asia as Heartland and its south inner Crescent, "Rimland", argued that the inner crescent should first be seized to reach out to Heartland. Powers who desire to dominate any region of the world or have problems with the existing administrations enter an action in favor of themselves and to the detriment of the countries in that region such as attenuation, attrition, time-consuming, resource reduction, arms dealing, manipulating oil price by setting countries at odds and annoying them with domestic problems.

Foreign policy analysts emphasize that major incidents have a large impact on creation of foreign policy decisions. Indeed, this situation was experienced clearly during Iraq - Iran war. Powerful states both continuously fueled the war and took sides, and even states like the U.S. government who were openly against Iran, sold arms. With the oil prices hitting bottom by exclusion of OPEC which regulated oil prices during the Iran -Iraq war, Iran, whose major source of income was oil sales took a major blow in terms of its economy. In retrospect, it is possible to clearly see all that imperialist strategies and tactics.

Explosive Material of Time Bomb: Ethnic Composition

Assessments made by expert in 2006 that "similar games would be restaged in the case of any war or civil unrest for the Central Asian states whose oil and natural gas would be the biggest revenue in the coming years proved true and so far many small and large scale bloody conflicts have broken out between Kyrgyz and Uzbeks in Kyrgyzstan. Turkish tribes coming from the same lineage in the world of Turks and with no certain distinctive differences among themselves except for Tajiks, were turned into a balls-up that was exploited today under the name of ethnic identity conflict having been mixed up systematically in the USSR period. For instance; whilst Uzbeks accounts for 72% of the population in Uzbekistan, they constitute 24% in Tajikistan, 14% in Kyrgyzstan and 9% in Turkmenistan. Turkmenistan is the only country in the region that harbors the least proportion of the population from other communities. However, Central Asia, being rendered such mixed-up in terms of ethnicity, is not a structure so much fragile and ready for an immediate disintegration by virtue of having been molded, on the other hand, with Turkish identity for centuries.

This structure can only be disintegrated by provoking increased tensions as a consequence of economic depression in the region and further fall in life standards. Therefore, implementing socio-economic policies in order to eliminate factors that will nurture this tension in the region is very important. For this to happen, it is imperative that particularly the upper basin countries be developed and flourished. Therefore, the water is of a vital resource for all the countries in the region especially for the upper basin countries.

Time Bomb Pin: Water Problem

The importance of stability for the region was described in the above sections. But, occurrence of a very robust security and stability environment is not possible in such regions having very high geopolitical importance as seen in other parts of the world. Therefore, prospects of stirring up internal turmoil at various intensities in accordance with the regional plans of global powers in the Central Asian countries who possess very important oil and gas reserves and have just started to offer their resources to the world markets is high. In this region, among the most valid reasons for a turmoil that may break out or be instigated are ethnical diversities, border disputes, sharing of Caspian Sea and transboundary waters problem.

The easiest way to rule the countries in the region is to exploit the diversity of the ethnic structure in these states and take advantage of disputes which are of vital importance peculiar to the region. In this context, that the ethnic structure in Central Asia mixed-up intertwinedly with each other is hard to be explained by chances. Because, ethnic mix-up can turn into a time bomb when required in any geography all over the world. Ethnic bomb can be detonated pulling the pin at any time once other auxiliary conditions are set up well.

Among the reasons for internal strife mentioned above, ethnic diversity and transboundary water issues stand out. Taken together, these two issues are becoming a very effective mechanism for a chaos. Among these, ethnic diversity appears to be the most decisive and transboundary water issues to be the most effective element to instigate chaos.

These conditions suggest that the water can be a source of tension and conflict in Central Asia. Drought in the region brings this problem forward increasing the tension. Tension has now increased.

In summary; when needs be, it will not be hard to create pervasive and persistent problems abusing water issues among whom the ethnic groups are having problems on its use. It is because both elements await ready to be used as a mechanism of a ticking time bomb. Demolition charge of this bomb is allegedly diverse ethnic groups which in fact the ones who are cognate. The bomb's detonation mechanism, that is, the pin is the water problem. That removal of the water problem which is one of the prime mover elements of the conflict will amount to elimination of the most effective mechanisms of the ticking time bomb counts very important for the stability of the region.

However, resolving Central Asia's water equation with multiple variables will take time. Countries in the region during this time should stay away from being bit player of global power in the region and the world. One of the areas to be aware of is the area of water resources. Primarily, they should not allow water related problems to ensue in the region so as to scale up the influence and intervention of foreign powers.

Should Kazakhstan, Uzbekistan and Kyrgyzstan not want to live bad experiences once again they suffered in the past, they have to consubstantiate their geo-political, geo-strategic, geo-economic and geo-cultural powers. To achieve this, they must develop a more positive relationship primarily in strategic water resources.

Therefore, the hydro-politics takes up a very important place among the political dynamics of the region. Natural resource policies to be implemented in Central Asian countries will be a driving force for development of the countries in the region. These policies will also be effective in the arena of these countries' international relations while developing them.

There exist local and foreign global powers in the international arena with plans for Central Asia. Whilst Russia and China, local powers, have geopolitical advantages in the region, the United States possesses partly a chance to settle within the region taking advantage of Russia's drawbacks associated with its past.

Carefully looked into Central Asia, all countries seem to have started to use all the leverages for this region. For this reason, the region's strategic waters will be within the area of interest of these powers for a long time to expand their space of maneuvering and control. As long as this interest persists, time bomb whose pin is water will continue to ticktock. The most basic element to stop the ticking time bomb would be using water in the region as a tool for collaboration through rational policies. In other words, the rational behavior of countries in the region to peace and stability in the region under the constant threat of holding a ticking time bomb set up would be to remove the firing mechanism.

Defusing this ticking time bomb placed in the Fergana Valley in Central Asia will play a key role in ensuring regional peace. Failure to do this could ignite bloody clashes beginning from

this valley extending likely to South Asia. Central Asian countries are obliged to dispossess global powers who set up that time bomb of this element of threat and jeopardy.

8. Water and Strategy in Central Asia

Necessity of an Understanding of Zero-Sum and Win-Win on Water

That the establishment of mutual trust among riparian countries in Central Asia hindered by current understanding they retain has resulted in zero sum in regional water management.

This result amounts to a zero sum result obtained from what a country earns from what the other country loses. Countries in Central Asia have a chance to use natural resources at hand rationally with a win-win understanding.

It is very important to overcome this barrier before the agreements to be made in the future to resolve problem of water management in Central Asia. There is no magic formula for this. This is a question of time dependent on the boost of cooperation and a fair interdependence among the countries and governance of Central Asian countries by a more rational manner.

Water and Strategy

Several agreements were struck and joint committees were established on transboundary waters of the basin which constituted an important subject of dispute among countries in the region. However, any lasting settlement has yet to be achieved on the water shortages in the region. This situation, considering also the rapidly growing geo-strategic importance of the region, appears to bring about new tensions in the future.

Water resources hold a very crucial place in the future oriented "security perception" policies of many states in the 21st Century, and regarded as a strategic tool in international politics.

States who seize control of water resources whose value will further augment owing to prospective drought depending on the climate change in the near future, will have the ability to control population movements, the phenomenon of migration, agricultural production, health conditions, potential water crises among countries, and conflicts and wars due to their gained position.

Therefore, to the strategy of the 20th century of seizing control of the lines of oil was added in the 21st century the strategy of seizing control of water resources.

Since the last decade of the 20th century, international organizations, multinational corporations, non-governmental organizations, national governments and regional entities have been trying to have more voice in water policy. Impact of these actors in determining the global water policy has now become quite obvious. The dominant actors in the water politics of world are in the efforts to expand the shape of intertwined collaboration and relationships they have performed worldwide down to national and local scales. Aral Basin in Central Asia is one of these regions.

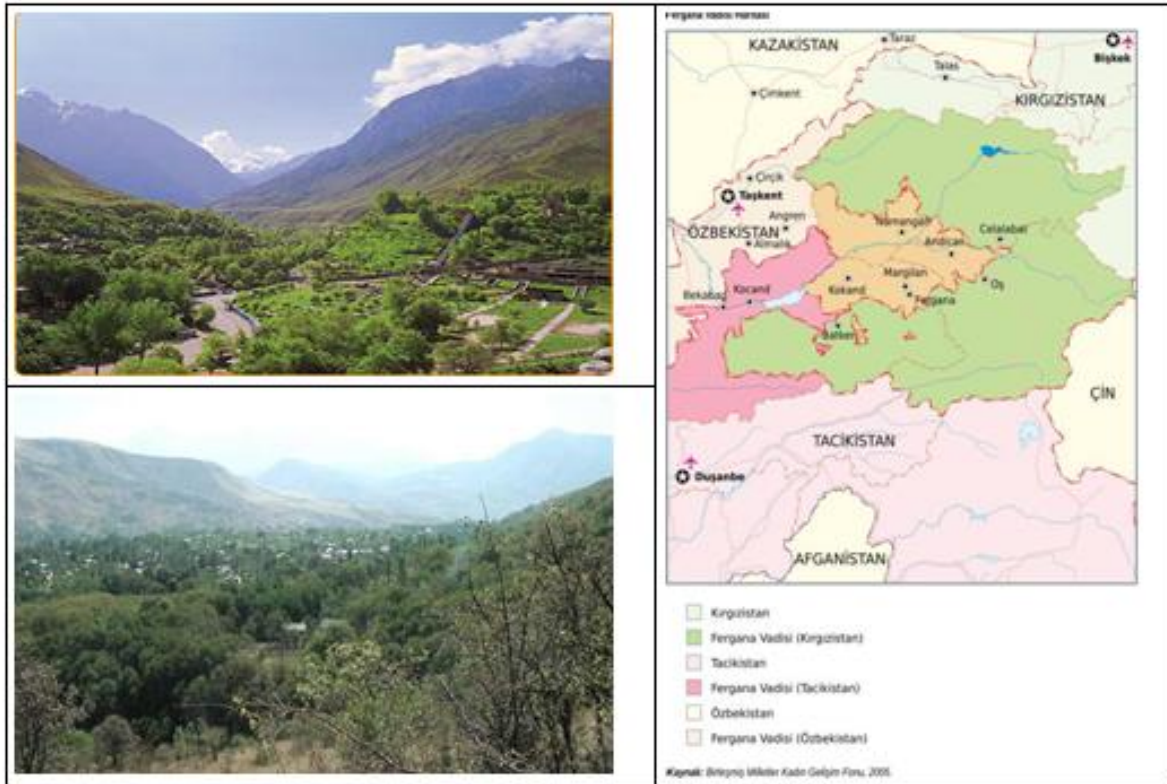
"Water Issues in Central Asia" is one of the most important dossiers kept open on strategy tables. A fierce struggle carries on between global powers trying to get into this region which has been closed to the outside world for a long period of time and. In this struggle a big part of which still has not emerged from obscurity, neighboring global powers having long political and cultural relations for years with countries in Central Asia have some advantages. Challenges these advantages would pose to the guest global powers striving to come to the region reveal prospects that the game of gaining geopolitical position in Central Asia could become stiff.

Strategies to gain geopolitical position in the region embrace policies to dominate water resources of the region. In Central Asia are co-located hydrocarbon-rich and water-poor countries and vice versa, water-rich and oil and natural gas-poor countries. Along with uneven distribution of water resources, there exist fundamental political economic asymmetries among countries in the region. This case, well, leading to competition and conflict complicates the resolution of the problem.

Turkish World and Cooperation

Water problems, as in the Middle East is regarded as the biggest threat to the security and stability of Central Asia. Today, some plans are made to make rapid use of the waters of Central Asia, as well as countries fail to achieve a cooperation on the basis of mutual interest. Therefore, the water problem threatens regional security as a wound up ticking time bomb in Central Asia. However, a quest for sustainable cooperative relationship on the basis of bilateral and multilateral agreements, and examples of type of basin cooperation continue in the region.

There are some historical reasons which are effective in the continuation of the quest for cooperation in Central Asia. For example, some common ideas and concepts remaining from the period under the USSR central administration have not completely disappeared in Central Asian countries. Therefore, distrust of Central Asian communities to each other is different from confidence crises in the Middle East, for instance. Despite conflicts for hegemony in the region, Central Asian people do not have much reason to feel historical hatred and enmity to each other. Since the geography of Central Asia has been mingled with the Turkish culture for centuries, the ethnic structure of the region does not resemble simple tribal structures as in the Middle East. Therefore, social unrest is the most important area from which the security problems in the region are nurtured. Socio-economic policies to eliminate social problems in Central Asian communities will be the most important factor to ensure stability in the region. Economic-based social unrest in the region is the key driver which increases the likelihood of disturbance. Challenges based on oppressions and inequality in the water supply and land distribution in very specific areas such as the Ferghana Valley are obvious.



Ferghana Valley

This situation, well, allows for an essential environment and opportunity to those who make calculations to turn already fragile relations into a conflict easily.

Therefore, rational and efficient use of water resources in the region will undertake crucial functions with regards to both being a key element in socio-economic development and playing a dominant role in reducing social tensions, and allowing water to be used as a tool for cooperation rather than as a problem by relieving the climate. It is not easy to take steps to ensure regional cooperation in hydro-politics of Central Asian rivers in a period when things have not yet fallen into place. However, it is evident that this is essential and determinant for the region. It should be comprehended that eruption of a conflict out of water in here retains a potential to bring about a consequence so as to invite instability and outside powers to the region with a domino effect. How petro-politics or natural gas-politics can be said to have been effective on a global scale, then it is already seen that hydro-politics will have a huge impact in the regional relations in the future in Central Asia.

It should be understood that water cooperation in Central Asia may take time just like other examples in the world. In fact, the main obstacle in front of the realization of effective use of water in Central Asia is that the regional countries do (can) not possess enough political will in this regard. Time is needed for this in the region. However, this time window should be used properly. Because, the region has taken its place on the chess table of the international system

for the last 23 years. This situation suggests that the moves in the region has international dimensions or even the moves in the future will be made under this impessure.

In this context, that some Central Asian countries have been striving to develop their water resources individually relying on their international relations will increase tension and disrupt stability in the region which has artificial ethnic problems and is semi-arid, and suffers from water shortages.

Within this scope, it is not possible that water problem can be resolved in Central Asia only by thinking strategically within the boundaries of the water box water. The region's water problem should be addressed outside the framework of this in a more comprehensive social, economic and political context. Because, water problems in the region have a direct relationship with energy demand and agricultural production, and employment policies of the countries in the region.

9. What should be done, what should not be done?

There exist 18 transboundary rivers in Central Asia shared by regional and neighboring countries. Therefore, countries in the region must be in cooperation in the use of water as well as on issues such as transportation and security. Many projects have been implemented for the region to open up to the world via various corridors. Nevertheless, the region is in need of a union in terms of at least similarity in security and threat perception. Interdependency should be developed by a rational planning which will take place in the medium and long term taking into account these conditions. That the regional countries have similar production characteristics can be considered as a negative factor in the development of these relations. Yet, possibilities of cooperation can be improved by developing diverse products and production areas with the help of technological advances. But for this to happen a regional leadership is needed.

In fact, democratization of the regional countries is of great importance for a healthy and solution-oriented hydro-political relations in the region. Central Asian states are still holding onto a large part of habits in the political sphere from past administration. Central Asian countries are still in a transition period. In spite of significant differences among these new states who are in the process of political transformation, the most important similarity is the absence of a democratic tradition and a competitive understanding of the past. These drivers constitute the most significant obstacle before establishing a state structure based on democratic principles compatible with a ruling tendency in the international environment. Democratic development in these countries will have positive repercussions in hydro-politics of the region. Central Asia which is compulsory for cooperation on water badly needs those repercussions.

Central Asia needs for time for the resolution of water problems. It seems hard to shorten that time. However, the problem should be prevented from growing and becoming chronic during this period of time. Therefore, that not what regional countries in the near future should do in region-wide projects in the field of water but what those countries should not do to not increase problems in their own country will be more important. In other words, these

countries should take concrete steps primarily in their own countries to use water more efficiently for their own interests.

Under present conditions, it is tough to find a resolution possibility for the problem of water management in Central Asia by central projects which all countries will support on basin bases. That's why projects to be produced to implement projects for more efficient use of their waters of these countries should be encouraged. These steps can be coordinated by an umbrella organization. Once these developments in the country come to a certain stage, Central Asian countries will be able to give full support to a joint project for the region.

Thus, real contribution of Central Asian countries today to the resolution of water problem will be materialized by small yet concrete steps toward using water in their own country more efficiently, rationally and in a planned way rather than an expected support to give Basin Scale joint projects.

As noted above, a co-operation in water in Central Asia is mandatory. Prospect of subsidence of political ground where water is used as a threat is not unlikely whilst efforts should be made to not upsurge the water problem, and that water does not cause political tensions at least at local and national scale in the region. Because powers who want to check out the rapid changes in the region may retain the desire to implement their plans over water. This will amount to making water directly or indirectly an instrument to regional politics.

Water, in the 21st century, has become a natural resource on which important strategies are developed. In other words, this century will be century where water will be on the agenda far more as a geo-politic resource. And this means that water issues will be discussed on the political ground more often and become a current issue, and that Central Asia will be one of these regions.

That water become a political threat in the region is not an inevitable issue. Nevertheless, it is essential that countries in the region be very watchful.

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PHOTOGRAPHS AND TABLES



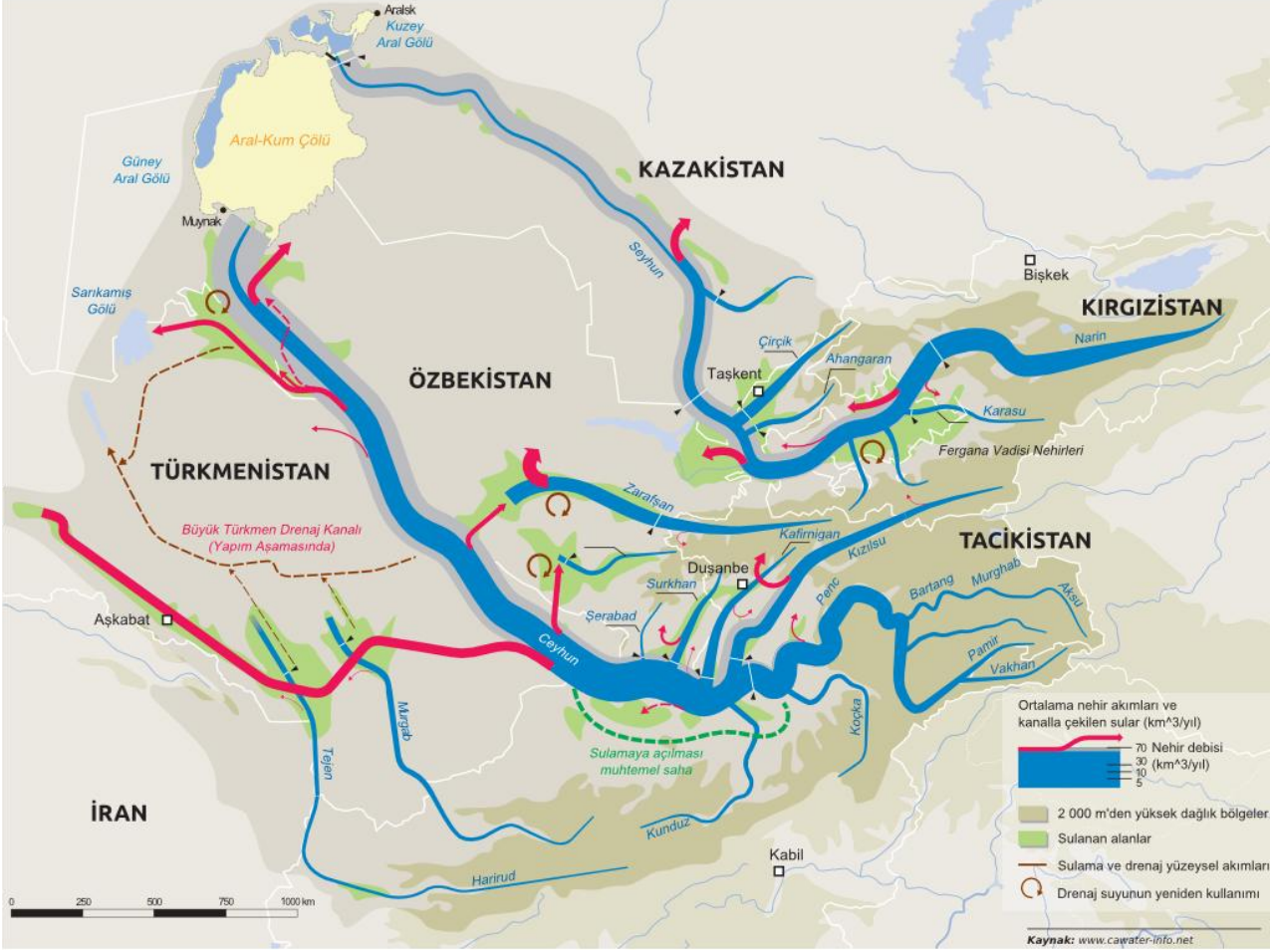
Panj River Upper Basin -Afghanistan-Tajikistan Border



Dursun Yıldız - Syr Darya River

Kızılorda/ Kazakhstan 24 May 2011

Aral Havzası'nın Su Kaynakları





Aral Gölü 1960



Aral Gölü 2010

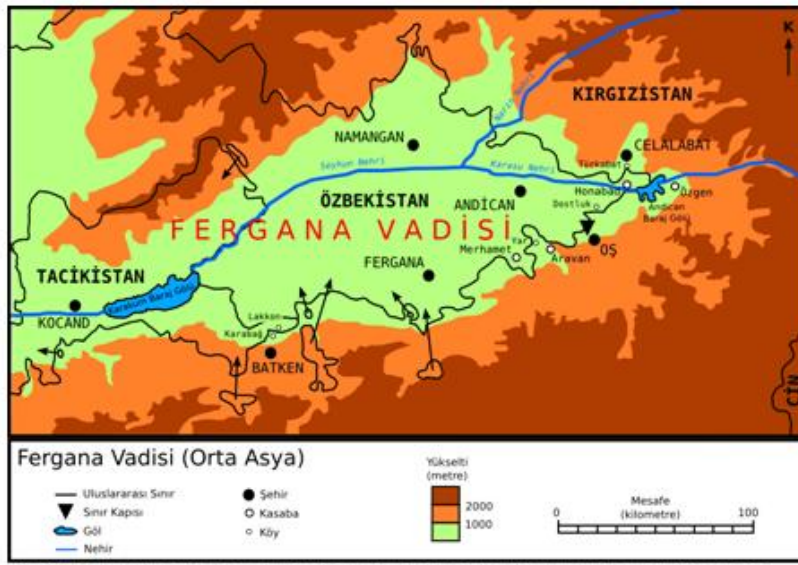


Aral Gölü 2010



Fergana Vadisi'nin Verimli Kara Toprağı –
Kırgızistan-Kurşab Özgön Bölgesi

Foto: Dursun YILDIZ –20 Mayıs 2011





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