The Study on Eco-environmental Issue of Aral Sea from the Perspective of Sustainable Development of Silk Road Economic Belt

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Abstract. The Aral Sea crisis is the most prominent environmental problem in building Silk Road and Economic Belt, which is mainly induced by extensive exploitation of land resources in Aral Sea basin since the middle of last century. The upstream part of Amu Darya River, as the main water source of Aral Sea, is almost entirely located in Tajikistan, thus, the development and utilization of Tajikistan water resources affect the whole Aral Sea basin. The author puts forward oriented-development of green energy under the overall framework of co-building Silk Road and Economic Belt, developing small hydro-power and dam-free hydro-power stations, standardized implementation of agricultural modernization in Central Asia, through high efficiency and water saving agriculture to achieve “returning water to sea”, to reverse drying trend of Aral Sea, to renovate ecological environment, resulting in simultaneous implementation of agricultural production and Aral Sea governance, simultaneous achievement of agricultural harvest and ecological environment improvement of Aral Sea basin. The article makes a scientific proof of reality and feasibility regarding the proposed methods. Green ecological environment and stable social environment will contribute to the sustainable development of Green Silk Road and Economic belt....

1. Introduction

Ecological environment of Silk Road and Economic Belt is the natural carrier of Silk Road and Economic Belt and natural support of resources exploitation of Silk Road and Economic Belt. Sustainable progress of building Silk Road and Economic Belt shall couple with a continuous maintenance of its ecological environment. Central Asia is located at the core part of Silk Road and Economic Belt. Effective exploitation of rich nature resources will provide strong material support for building Silk Road and Economic Belt. However, the most cherished and sustainable utilized arable resources and exploitation of renewable energy such as wind and solar are constrained by increasingly vulnerable ecological environment in Central Asia. The centralization of the vulnerable ecological
environment lies in Aral Sea Crisis, and the fundamental reason resulting in continuous shrinking of Aral Sea is the extensive exploitation and abuse of water resources of Amu Darya from the Pamirs and Syr Darya from West Tien shan. Upstream speaking, construction of large sized hydro-power stations and dams exceed environmental capacity; downstream speaking, plenty of water flowed into farmlands, and the majority of it has been spent in extensive farmland irrigation. The environmental protection of Aral Sea basin shall be implemented from two aspects: a synchronous fit of ecological utilization of water power resources upstream, and arable resources exploitation and Aral Sea governance downstream.

The Aral Sea basin is mainly composed of the river systems of Amu Darya (Амударья) and Syr Darya(Сырдарья). Amu Darya flows into South Aral Sea, while Syr Darya flows into North Aral Sea. Historically speaking, the average flow of the former is 1330 cubic meter/second. The watershed area is 0.465 million square kilometers. The later flow is 446 cubic meter/second, and the watershed area is 0.219 million square kilometers. They are basic water sources of Aral Sea, particularly of Amu Darya. The flow of Amu Darya is three times more than that of Syr Darya. The utilization status of Amu Darya is vital to maintaining the survival of Aral Sea. The irrigation area by Amu Darya is three times bigger than that of Syr Darya, thus, Amu Darya has most impact on agriculture. Since 2005, under financial support by World Bank, Kazakhstan has implemented North Aral Sea governance and achieved remarkable results. The coastline of North Aral Sea has already been retreated by 75 kilometers and by 58 kilometers in 2015. While the governance effect in South Aral Sea is weak, and the drying trend continues. Upstream Amu Darya is mostly located in Tajikistan. The annual average flow into Aral Sea has been reduced to 56 billion cubic meters since 1960s, with 42 billion cubic meters of flow from Amu Darya, which occupies 75 percentage of the total flow. The exploitation of water resources in Tajikistan affects the whole Aral Sea basin. Thus the research on Amu Darya and exploitation history of water resource in Tajikistan is significant to understanding the history of Aral Sea Crisis and to exploring the approaches of Aral Sea governance.

2. Reflection and Exploitation of Hydro-power Resources in Tajikistan in Soviet Era

Tajikistan is a country located in the Pamirs, the mountain area accounts for 93% of the total land area. Mountain glaciers provides unique water resources, with a total number of 9000 glaciers of different scales, covering an area of more than 9000 square kilometers. The reserve of water resources reaches 559 billion cubic meters, and becomes the largest river system in Central Asia— as the sources of large river of Amu Darya river system such as Pyandzh River(р. Пяндж), Vakhsh River(р. Вахш) and Zeravshan River(р. Зеравшан), offers abundant flow for thousands of rivers which have a total length of more than 28.5 thousand kilometers. As a result, Tajikistan becomes a worldwide country rich in per capita water resources and fresh water resources.

Although the land area of Tajikistan only accounts for 0.64% of the whole territory area of Soviet Union, the population accounts for 2% of the population of Soviet Union. The hydro-power resources potential accounts for 17%, regardless of average water resources of Tajikistan or per capita of water resources in Tajikistan, which enjoys an absolutely dominant position in Soviet Union. As a result, the exploitation of water resources in Tajikistan is highly concerned. Since 1950s, the large scale exploitation of water resources in Tajikistan has started, with successive construction of a series of large sized hydro-power stations including Nurek hydro-power station, whose installed capacity is 3 million kilowatts and height of earth-rock dam is of 300 meters. Then in the late 1980s, Soviet Union made national plan for hydro-power development in 1990-2005. It proposed eight large sized hydro-power stations, three of them were located in the Pamirs; it also proposed 77 large and medium sized hydro-power station in 11 rivers of three main river systems of Pyandzh River(р. Пяндж), Vakhsh River(р. Вахш) and Zeravshan River(р. Зеравшан) from upstream Amu Darya. The total installed capacity was 33.6506 million kilowatts, whose whole reservoir had a total capacity of 50 billion cubic meters. In 1991, Soviet Union collapsed, and half-constructed of Rogun hydro-power station was left, becoming the focus of disputes regarding water resources allocation between countries located upstream and downstream Amu Darya.

Hydro-power industry has become the lifeblood industry in Tajikistan. High-speed development of hydro-power industry has led to a rapid rise of economy as a whole. From 1950 to 1985, the total...
productivity increased by 12.5 times, and the industrial production increased by 27 times. National irrigation area increased from 0.299 million hectares to 0.6487 million hectares. However, this “success” laid a potential hazard for allocation disputes of water resources in Central Asia. Since 1990s, countries in Central Asia tended to become independent and developed their own economies. The unified regulation mechanism in Soviet Union of allocation of water resources and energy resources get collapsed, and large sized hydro-power stations gradually become incubators of disputes of water resources allocation between upstream countries and downstream countries. In summer, upstream countries reserve water for electricity in winner, and constrain water discharge. As a result, downstream country can not fully obtain seasonal water needed for agricultural production, and agriculture growth will be affected. Meanwhile, when winter comes, downstream countries enter into agriculture period of dormancy, without need for agricultural water, yet Tajikistan continues to generate electricity in order to solve heating problem in winter, related water discharge makes downstream countries facing flooding disaster. This is the origin of the disputes of water resources allocation in Central Asia, focusing on the disputes of seasonal water allocation between Tajikistan as upstream country of Amu Darya and Uzbekistan and Turkmenistan as downstream countries of Amu Darya. The crux of the problem lies in the storage and drainage of hydro-power station reservoir. Originally, it is a coordination issue regarding water resources and energy, however, with the rise of national egoism and penetration of three forces, this issue has evolved into an intensified dispute between upstream people and downstream people and even disputes between states. The mediation is invalid over many years, resulting fierce conflicts and diplomatic disputes.

In Soviet era, planning of hydro-power lacks a clear concept of environmental protection, as well as consciousness that large sized hydro-power stations will induce geological and ecological disaster. Extensive planning leaves security and environmental hazards in the near future. These large and medium sized hydro-power stations are centrally constructed in the earthquake-prone mountain areas. The super large sized hydro-power station—Rogun hydro-power station is located on the Vakhsh fault zone, which is an integrated part of high earthquake area of South Tienshan and Ghisallo - Library Xhosa Ali large fault zone part, where many earthquakes with 9 magnitude has happened, including Calatage earthquake in 1907. The earthquake happened in the Pamirs in 1911 and resulting in Ozero Sarezskoye, Khait earthquake in 1949, killed more than 0.1 million people, and changed the ecological environment of the whole earthquake area. The volume of dam of Rogun hydro-power station is 75.5 million cubic meters, weighting 0.2 billion ton, plus 14 billion cubic meters of water reservoir which brings extra load to the site. All become potential factors for causing the earthquakes. Once an earthquake happened, the destructive power of a collapsed dam of 335 meter high is like hitting by 100-meter-high waver of “tsunami” from top to bottom. The ecological environment will be completely destroyed. The life and property will disappear. Secondary hydro-power stations such as Nurek (Нурек) will be destroyed. Cities such as Nurek (Нурек) and Sarband (Сарбанд) will be flooded, and the downstream countries such as Uzbekistan, Turkmenistan and Afghanistan will be affected as well. It is inferred that, the direct economic losses will be over $ 20 billion. If all the large sized hydro-power stations have been constructed, the hidden environmental and social hazards could not be imagined. It is this reason that the downstream countries such as Turkmenistan strongly opposed constructing Rogun hydro-power station, and the disapproval voice is such high.

In Soviet era, the reason that the outbreak of allocation disputes of water resources between two rivers upstream and downstream in Central Asia didn’t happen lies in the implementation of unified regulation mechanism of water resources exploitation and energy distribution, controlling a balance of hydro-power and oil and gas exchange between upstream and downstream countries. When the Soviet Union collapsed, the mechanism was gone as well. Newly-independent countries in Central Asia have developed their own economies, and the allocation of water resources becomes a controversial issue. Upstream countries proposed commercialization of water resources and market transaction; while downstream countries proposed that water resources are available for free and without labor cost, resulting in value free of water resources and failing to constitute if as a commodity. Following market is impossible, and water is floating natural wealth, without boundary, and without national exclusiveness like material resources such as oil and gas. The self-interested-targeted contention will not reach any consensus, following disputes will continue and contradictions will be exacerbated.
The construction of “community of destiny” advocated by “co-building Silk Road and Economic Belt” will play a mediation role, it proposed mutual-tolerance, changing confrontation into cooperation, sharing and mutual benefits which will facilitate each part involved to find a convergence of interests, and gradually resolve disputes. For instance, powerful supportive economic instruments of Asian Infrastructure Investment Bank and Silk Road Fund etc. can be utilized, to provide guiding loans for small hydro-power stations, to guide local development towards small hydro-power stations, and to develop dam-free hydro-power stations under appropriate conditions.

Human beings rely on natural resources to survive, rely on mountains when they are adjacent to mountains, and rely on water when they are adjacent to water. However, Tajikistan is adjacent to mountains yet relies on water, that is, Tajikistan is a mountainous country, water resources are its most cherished wealth, its roots to survival, its origin to wealth, are significant to overall development of people and country. Hydro-power development in Tajikistan should not be objected roughly. Boosting Tajikistan to transform development model is needed, promoting development of renewable energy such as small hydro-power station, gradually changing the old model of developing large and medium hydro-power, advancing the development of small hydro-power. As Tajikistan is a mountainous country, its territory with ravines abounding. Small rivers are prevalent, the electricity potential of small hydro-power reaches to 28.89 million kilowatts, with a very impressive technology accessibility of 50%. During the cold war, in order to increase national capability rapidly, the Soviet Union pursued construction of large projects. As a result, the electricity potential of small hydro-power stations in Tajikistan was hidden. The neglected potential needs special attention and exploitation right now. Dam of small hydro-power station is low, intercepted water will be reduced, and following water disputes with downstream water users will be largely decreased. Among them, dam-free hydro-power station can utilize momentum of floating water to generate electricity, without the need to build dam and reservoir, no interception issue will be caused, and no need for consideration of competition for water resources. Obviously, great promotion of developing small hydro-power stations is beneficial to quell water fight between upstream water users and downstream water users along Amu Darya. In addition, the weight of small hydro-power station is light, and the storage capacity of water reservoir is small; it is easier to survive in the fault zone of earthquake-prone mountain area. The safety is high, and dam-free hydro-power station is much safer. Thus, it can also eliminate the security concerns of people and countries from downstream countries, and alleviate disputes of water resources in Central Asia. If co-building Silk Road and Economic Belt will involve construction of hydro-power in Central Asia, it is a necessity to advocate and support development of small hydro-power stations and dam-free stations. For built or under-constructed large sized hydro-power stations (such as Rogun hydro-power station), remedial measures should be taken, such as constructing buffer reservoir at appropriate place in downstream area in order to reserve leakage water produced by generating electricity in winner and discharge water for agricultural use in the next Spring and Summer. For medium hydro-power stations under planning, such as small sized cascade transformation should be carried out, these measures can alleviate disputes of water resources in Central Asia to some extent. For instance, half of the 28.889 million kilowatts can be used for generating electricity, except for the time periods of defrost and equipment maintenance. The days of generating electricity are calculated as 200 days, the capacity of generated electricity is 69 billion kilowatts hour. It exceeds 30 times more than electricity shortage in Tajikistan of 2 billion kilowatts hour, 95% of it can be used to support downstream countries through a mutually beneficial approach, as a return, Tajikistan can obtain oil and natural gas resources which is in a urgent need. Biomass fuel which are compressed and manufactured by wheat straw and corn stalks for heating need in Winter.

3. Causes and Inspirations of the Aral Sea Crisis
In the middle of last century, the Soviet Union carried out the “Platinum Plan”. Large amounts of immigrants came to Karakum Canal, reclaimed 6.6 million hectares of waste land, and grew water consumption plants like cotton and crops. A canal alone cut out the one third of the amount of water of the Amu Darya, which flows into the Aral Sea. The overall irrigating system took out more than 80 percentage of the runoff volume of Amu Darya, causing the dramatic drop in water volume of the sea. Although the cotton and crops were harvested in high production at a time, the huge success was
obtained at the cost of sacrificing the environment. And the rampant sandstorms hit after decades claimed the failure of the predatory agricultural development. Drastic decline of water area and vegetation coverage in this period caused serious pollution of soil and deterioration of water quality, which largely influenced the agricultural production and health of residents in the Aral Sea and also badly damaged the local ecological environment.

The Aral Sea has a long history of irritated agriculture, which benefits from the local favorable climate condition, abundant land resource, as well as the ecological environment in favor of developing irritated agriculture in the middle and downstream area of Amu Darya River and Syr Darya. Since 1950s, there has started large scale of agricultural reclamation activity to plant cotton, grain and vegetables in the Aral Sea. The emergence of large quantity of irrigation areas in succession brought about temporary agricultural harvest in Central Asia, but also inestimable destruction in terms of ecological environment. The sharp reduction of acreage of Aral Sea from 1973 to 2013 is displayed by the remote sensing image.

In recent 1600 years, the Aral Sea has experienced three times of obvious water level declining. As for the reasons for the declining, natural factors account for the first two times, while human activities for this time. And of all thing, it is the large scale of water consumption for agricultural irrigation and sharp increase of domestic water consumption in Soviet Union since the 1960s that resulted in the rapid shrink of Aral Season.

During October 28th to 29th, 2014, the “International Conference on Alleviating the Ecological Crisis of Aral Sea” was held in Urgench city, the capital of Huacizaimo, Uzbekistan. Karimov, the president of Uzbekistan, described the catastrophic consequences of the Aral Sea Crisis in his speech, “During the last five decades, the overall runoff volume of Amu Darya and Syr Darya almost decreased to one fifth of its original volume. The water volume of Aral Sea is lesser than one fourteenth of the original. While the salinity increases by 24 times, causing almost the disappearance of the marine biological communities”. The number of animals and plants in the Aral Sea area dropped sharply, and the species diversity no longer existed. 12 kinds of mammals, 26 kinds of birds and 11 kinds of plants were facing the edge of distinction. More severely, the Aral Sea starts to shrink, leaving 5.5 million hectares of desserts. The desserts become the source of the saline sandstorm, which roll and bring billion tons of sands and toxics to areas far from Aral Sea. The sands and toxics cover the valley, farms and grasslands between Amu Darya and Syr Darya, causing the desertification and salinization of the lands. The amount of saline that fell to ground along with dust and rain reached 450 to 600 kg/hectare, resulting the salinization of large number of farmlands. However, the statistical number alone cannot reflect the complete picture of the humane disaster exploded in the Aral Sea area, nor can it reveal the feelings and pains that millions of local people suffered. A series of complex
social economy and population issues emerge, such as the lack of water resources, the deterioration of water quality, the degradation of lands, the change of climate, and especially the increase of the child morbidity rate. The citizens in the adjacent areas of Uzbekistan, Kazakhstan and Turkmenistan are facing these cruel realities every day.

Karimov, the president of Uzbekistan, said with emotion after enumerating the disastrous consequences of Aral Sea crisis, “Sadly, it is clear that, to fully restore the Aral Sea is impossible today. What is the most important is to reduce the destructive impact of the Aral Sea crisis on the environment and the living conditions of the millions of citizens as much as possible”. “I believe, we will all agree that, we do not have the rights to put the people who live in this area to despair. It is our responsibility to provide them with all the possibilities that could help them maintain a decent living, engage in their business, as well as with jobs and sources of income”. These were the words that came from the supreme leader of the most suffering country, who was motivated by his sense of responsibility. Since the situation of the Aral Sea crisis is beyond salvation, he could only urge the world to focus on the Aral Sea crisis and provide humanitarian supports. The only advice that he could raise is to maintain the current vulnerable ecological balance of the Aral Sea area, to contain the desertification, to improve the mechanism of rational water usage, to develop the social infrastructure and public services facilities, to establish a broad network of medical and educational institutions, to protect the health of the residents, to improve the quality of life for the residents, to protect and replicate the biological gene bank of the Aral Sea area and to protect the unique animal and plant diversity.

The Aral Sea crisis has spread beyond the central Asia. Because the saline of the Aral Sea is spreading worldwide, with some already reaching the United States of America, the Aral Sea crisis has drawn the attention of the whole world. Since the foundation of the “International Fund for Saving the Aral Sea” (the fund) by the five central Asian countries in 1993, the fund develops special programs of controlling the Aral Sea under the help of United Nations, World Bank and Asian Development Bank. It also co-developed the third special program during 2011-2015 with United Nations, World Bank, Asian Development Bank and European Union in 2011, which raised a total amount of 8.5 billion dollars and completed more than 300 projects. The overall effect of the recovery of Aral Sea is little. Apart from the significant effect of recovery in the north Aral Sea in Kazakhstan, the ecology of the south Aral Sea in Uzbekistan is still deteriorating. During the conference, nearly 30 documents were signed, including the economic aids, loans and grants, which amounts to 3 billion dollars, from some international financial organizations and governments. It is resulted from the best efforts, however, it is merely a drop in the ocean. Although the UN Secretary-General Ban Ki-moon indicated towards the “International Conference on Alleviating the Ecological Crisis of Aral Sea” in a TV speech in 2014, that “currently no country alone is capable of resolving the problem of the Aral Sea”. He called for the “efforts from the international societies, and to actively carry out the international and regional cooperation, especially to strengthen the water resources management against the central Asia areas”. However, under the circumstance of the more and more severe water disputation of central Asia, the situation of joint efforts cannot be formed and the cooperation between countries becomes formalistic. Therefore, the recovery of the Aral Sea should seek new solutions and approaches.

4. The New Thinking: Concurrent Development of Land Resources and Water Resources in Central Asia

Given its significance in the building of Silk Road Economic Belt, the Aral Sea crisis has become the issue that has to be handled. The development of Central Asia's two kinds of preponderant resources, land and renewable energy resources, has long been hindered by the saline-sandstorms originating from the Aral Sea. All kinds of transport lines, grid tower lines, communication facilities and ground equipment maintenance facilities of oil and gas pipelines are under its attack. Take Double Wests Road as an example. Jambyl province, south Kazakhstan and Kyzylorda along the way are areas badly impacted by the Aral Sea Crisis. The building of Silk Road Economic Belt should not only create green ecological environment but also resolve the issue of social stability.

“To fully restore the Aral Sea is impossible today”. The president’s phrase reflects the views of scholars in Central Asia, the Commonwealth of the Independent States, and other countries. It is also a
direction of public opinion. However, what is more important is to continue to resolve the Aral Sea Crisis, rather than give up the effort. The shrink of Aral Sea is just of trend. It's still unclear how it will develop. But at least three factors now question the claim that “the Aral Sea is dying out”. Firstly, there is about 50-60 hundred million of water to gush out of Aral Sea each year, which is approximately twice as much as that of Tai Lake. The fact directly denies the above mentioned claim. Secondly, Russian Academy of Sciences has announced that the Aral Sea tends to stop drying up. Thirdly, in history, the evolution of the Aral Sea followed the process of “plentiful-dry up-plentiful”. We can't draw a conclusion that the Aral Sea will dry up completely. Neither can we give up recovering the Aral Sea.

There is no need to launch special projects like the Caspian Sea Diversion, the North to South Water Transfer, and the South to North Water Transfer projects. These projects require large amounts of capital. Ecological protection cannot be guaranteed either. Moreover, it lacks of feasibility and necessity to carry out such huge projects regarding to its difficulty in transnational coordination. The essence of Aral Sea Crisis is the worthless water loss of Amu Darya and Syr Darya resulted from extensive agricultural development and outdated irrigation model, rather than water shortage in this area. Therefore, the premise of recovering Aral Sea is to explore the fundamental reason for the crisis. Only by completely changing the outdated irrigation model can we solve the problem. Water saving irrigation technology with high efficiency can save water that had wasted in terms of flooding irrigation, canal leakage and evaporation. The “aggregated” water flows back to Aral Sea, which is the pragmatic way to contain the shrinking process. In order to make it come true, promoting the agricultural mass modernization in Central Asia is the inevitable course.

From 1911 to 1960, the average water runoff of Amu Darya and Syr Darya that flows into Aral Sea was 56 billion cubic meters. Because of this, the Aral Sea was once a green scenery half a century ago. Then, with the implementation of “returning water to sea”, can the water runoff reach this amount? I believe so. In 1992, the Soviet scholars Esenov (Ecenov III.E.) et. had drawn a conclusion based on scientific interpretation of remote sensing images that 30 billion cubic meters of agricultural water loss could be reduced if the water-saving systems in dry years could be used to manage the water use in normal years. For Kazakhstan, occupying 73% of arable land of Central Asia, agricultural modernization has become its national development strategy. Of which, agricultural water control is the priority policy. Overall, under the direction of the above mentioned strategy, it will direct the future development of agriculture strategically, restrict agricultural actions by law, support water-saving measures financially and punishes actions against water control priority with executive power. So it is feasible to implement the water-saving systems in dry years. "Kazakhstan -2050" Strategy stressed that "the overall agro-industrial complex must shift to water-saving technology", "to introduce the most advanced water-saving technology," "and to solve the irrigation problem by 2040", which laid the policy foundation for the water-saving agriculture. In 2003, Chinese Production and Construction Corps made demonstration experiments on the technology of “Mulched Drip Irrigation” of cotton plant on the 633 hectares of arable land in Tajikistan. Compared to conventional cotton farming, the new technology saved water by 40% and increased production by 133%, which had been highly praised and popularized in parts of Uzbekistan and Kazakhstan. Uzbekistan is a country earning foreign exchange by cotton exports and a rice producing country as well. Cotton and rice are high water consumption crops. Our country precisely made experiments on the technology of “Mulched Drip Irrigation” of cotton plant in Tajikistan which showed that 60% of water could be saved. And 70% of water could be saved if the technology was used on the rice plant. The water use of the two crops is only 40% and 30% of the original method and this is not the upper limit. If the innovation-driven mechanism is introduced to implement intelligent precision irrigation, there will still be potential for water saving. It is known that Israel explores desert agriculture and saves water by 80%. If the technology of “Mulched Drip Irrigation” can be promoted in 2/3 of the 20 million hectares of arable land in Central Asia, 32 billion cubic meters of agricultural water can be saved. Coupled with the 30 billion cubic meters of water saved by strict water management system, the total amount is more than the 56 billion cubic meters of inflow amount in the early 1960s. Moreover, this is not the upper limit of water saving. If intelligent precision irrigation is introduced and promoted, there will be room for improvement. In addition, the Aral Sea is rich in groundwater resources. According to conservative
estimates, the amount of groundwater reserves which can be exploited reasonably is about 10 billion cubic meters, which increases the potential of the measure of “returning water to sea”. Therefore, I believe that the measure of “returning water to sea” can be achieved. That is to say, the Aral Sea shrinking can be contained and it can be expected to restore the waters to a certain level and there is hope for the Aral Sea recovery.

5. Conclusion
The above analysis demonstrates that the key to water resources utilization in Central Asia lies in rational water utilization of agriculture. The fundamental solution lies in implementing comprehensive transformation of agricultural modernization in Central Asia, to completely achieve efficient water saving agriculture. “Lucid waters and lush mountains are invaluable assets”, which is remarkable in Central Asia. The effect of developing advantageous resources in Central Asia such as arable land, wind, solar directly depends on the ecological environment in Central Asia. The idea of sustainable development is a dominant principle in building Silk Road and Economic Belt. In the course of building Silk Road and Economic Belt, related and simultaneous environment protection and governance is needed, which contributes to building Silk Road and Economic Belt as a green economic belt.

Over 24 thousands years, Aral Sea has been undergoing a cyclic periodic change of “filling-drying-filling-drying”. The theory of “Aral Sea extinction” has extended Aral Sea shrinking happened in a specific evolution stage to the whole evolution life of Aral Sea, ignoring the counterbalance power by underground spring in Aral Sea. If Aral Sea extincts, plentiful advantageous renewable resources in Central Asia such as arable lands, wind, solar will lose its merits, the plan of building Silk Road and Economic Belt in Central Asia will lose support by advantageous resources. However, as a relieve, Aral Sea will not die. Do not just parrot, follow public opinion blindly and yell “Aral Sea dooms to die”; we shall use scientific attitude toward Aral Sea Crisis.

High Efficient water-saving agriculture aims to optimum agricultural water use, such as promotion of precision irrigation in Central Asia, which can not only drive “returning water to sea”, advance Aral Sea governance, improve nature and ecological environment in Central Asia, but also gradually resolve disputes of water resources allocation between upstream countries and downstream countries along Aral Sea. It is a fundamental argument in the article that a new approach of developing arable land, renewable resources, water resources altogether will offer opportunity in achievement of co-building Silk Road and Economic Belt. The author proposes that Aral Sea is governable, the idea of “returning water to sea” can gradually resolve Aral Sea crisis, curb shrinking of Aral Sea, relying on “co-building Silk Road and Economic Belt” to restore previous “Lucid waters and lush mountains” scenery of Aral Sea is promising. It will be a century project, contributing to the benefits of whole world and human being as well.

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