

Review

Environmental protection of Caspian Sea and its role on the regional and international security - an overview

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ABSTRACT:

As the world’s largest lake, Caspian Sea has unique environmental features. Protection of the Caspian Sea has very importance for littoral states in different terms including: economic, environmental, national and social security. Because of its special geographical position and natural resources, the sea is of global importance in terms of geo-politics, geo-strategic and geo-economics and can help to regional and international peace and security. From the dissolution of Soviet Union in 1991, Caspian Sea Region has suffered from a divergence due to the lack of an agreed legal regime, conflicting strategies and priorities, regional competition for the exploitation of oil and gas resources, and presence of effective trans-regional actors. Certainly, the continuation of this situation will have global consequences. Therefore, regardless of the need for a legal regime and because of the cross-border nature of the Caspian Sea problems, life-science researchers, legal scholars, and coastal states have always emphasized on the necessity of regional cooperation. But the lack of a comprehensive regional strategy has led to the involvement of trans-regional actors in the regional issues. Therefore, to ensure the sustainable social security and stability of the region, it is necessary to establish a regional cooperation council. Such a council will help to develop comprehensive strategies in the field of economy, security, environment and justice. These strategies should be based on the needs and priorities of coastal states and interests of regional stakeholders and help to the development of specific regional structures to monitor related actions and proceedings. Finally, it should be said that the protection of Caspian region depends on the establishment of regional cooperation council.

Keywords:

Caspian Sea, Environmental protection, Sustainable development, Collective security.

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INTRODUCTION

The Caspian Sea has peculiar environmental factors. The ocean has unique biodiversity. As far as biodiversity, Caspian Sea is the home of many animal and plant species. It is accounted that 871 species of invertebrates, 305 species of macro-benthic animals, 566 species of micro-benthic living beings live in the Caspian Sea (Pourkazemi, 2008). There is likewise more than 100 species of fish in the sea. The best known about fish species include six species and sub-species of sturgeon which have been an important monetary asset over the nations (Aqili *et al.*, 2007). The only mammal living in the Caspian Sea is one of the two fresh water seal species over the world (the other seal species lives in Baikal Lake). The Caspian Sea's fishing potential is also significant. Sturgeon eggs (caviar) as the most common species, providing the dietary potential needs of the region and great job opportunities in coastal countries (Naghizadeh *et al.*, 2016).

Special geographical and strategic position of the Caspian Sea is of a vital importance to its coastal states in terms of economic, political, and security matters and it is also an important area to supply the world's energy needs. Geo-political importance of the Caspian Sea region has a historical background. In the 20th century and during the 1973 oil embargo as well as the Persian Gulf war in 1991, the geo-political position of Caspian Sea has played an important role. The Caspian Sea is the main corridor for transport and transfer of goods from/to Europe, Caspian Littoral States, Turkey, Middle-East and East Asia. Caspian Sea has a great strategic position and located between Europe and Southeast Asia.

For many years, the Caspian Littoral States were only included two countries, Iran and Soviet Union. The interaction of two countries in various historical periods had many ups and downs and was based on bilateral agreements and treaties. With dissolution of Soviet Union and the emergence of a new international order, the

nature of power has shifted from absolute military power to military, political, economic power (Hasankhani and Karimipour, 2014). The destruction of the Caspian Sea environment can cause irreversible economic, social, and environmental harms and threat the international peace and security. In the recent years, Caspian Sea has been the subject of many international studies in the field of the environment and regional legal regime. Most of the life-science and legal experts believed that development of regional cooperation is the main solution to save the Caspian Sea environment, but the frameworks to develop such cooperation and save the world's largest lake has not been finalized yet. Assessing the status of military, political, economic, and environmental security, this paper tries to develop a strategy for regional cooperation aimed at protecting Caspian Sea region.

Geopolitics and security in the Caspian Sea

Security has always been a matter of great importance to the nations and governments. Recent studies demonstrate that several dimensions have been added to the concept of security in past few years and changed it to a multi-dimensional concept from environmental and economic issues to military threats. Therefore, the term security is no more defined negatively as "lack of safety" and has got a positive concept of favorable conditions for realizing national goals and interests. Today, the third wave of security studies are focused on a concept called "reassuring security" (Naghizadeh *et al.*, 2016).

Geo-strategy is one of the most important factors that affect the power of a country and have a fundamental role in the formation of other elements of power like economic, military and political power. Importance of geographical position is a reason of competition of political actors depending on geo-political relations. Seeking supremacy, domination or hegemony is the main objective of the geopolitical games. When structural and functional elements of a geographic region

become politically important, the nature of this region will be changed and will become a geopolitical region. Powerful governments are a threat to other countries. Accordingly, the increase in power of a government will cause that other countries feel threatened and insecure and take balancing measures (Little, 2007). So it's likely that contradictions of goals and interests, violent behaviors and different conflicts, happen between various actors. To terminate the conflicts, a third party has to intervene in this matter to facilitate the process. On the other hand, there is a cooperation or regional integrated approach based on using actor's positive capacities and potentials. This approach can ensure economic, political and strategic integration balance of regional and global power. Lack of regional union, low level regional security, regional strategies and ideological governments, are some of the geographic and geopolitical forces affecting competition between nations (Naghizadeh *et al.*, 2016).

Geopolitical theories - like Friedrich Ratzel theory on the importance of Central Eurasia, Mackinder's Heartland theory and its emphasis on the dominant role of Caspian Sea to rule the world, Spykman's theory that with a slight difference is just like as Mackinder's theory, Jeffrey Camp's theory on strategic energy ellipse that suggests the Caspian Sea is one of two major strategic energy reserves of the world and emphasize on the great geo-political importance of this sea in the region and world (Ahmadipour *et al.*, 2014) can reveal the cause of regional and global competition in this part of the world. These competitions -along with internal problems of the region such as armed and ethnic conflicts, conflicting strategies of Caspian littoral States, etc. - are some of external factors that positively affect the strategic position of Caspian region.

Energy and security in the Caspian Sea

Looking at the history of the Caspian region, it can be seen that its security is always a top priority in relations between the littoral states. Before the dissolu-

tion of Soviet Union, the security issues of Caspian Sea were limited to military and political security. The dissolution of Soviet Union with emergence of new states in the region - particularly in coastal areas, security issues of the Caspian region are no longer limited to military and political security and include social and economic security as well.

Geo-economy is a flexible phenomenon and covers the new competitive environment in the global system. Since, 1970s oil crisis and OPEC oil embargo, the concept of energy security became important (Diwan and Sarker, 2009). Amount, recognized and secured assets, diverse assets and supply dependability are imperative factors that have a basic part in energy security. From 1991, because of diverse ecosystem and key assets and special geo-financial position, Caspian Sea turned into the centre of consideration of world powers. With the disintegration of Soviet Union, Central Asia and Caucasus face a power vacuum. The years were portrayed by rising oil costs and broad western propaganda entitled as "Caspian Sea, the Second Persian Gulf" which brought about geo-monetary significance of the region (Nami, 2010). In fact, with the increase of tensions and crisis in the Middle East, the importance of Caspian Sea increased for many regional and international players, especially for the western countries. As indicated by the Energy Information Agency of the United States, with an expansion in abuse of natural gas from Caspian Sea in the near future, this region will turn into the new field of world natural gas. On the other hand, some officials believe that maintaining a continuous supply of energy from central Asia will reduce the negative effects of oil shocks caused by instability in west Asia.

After the disintegration of Soviet Union, Central Asia nations have assumed a more imperative part in the universal political and financial standpoint (Zabortseva, 2012). Although, there are several geo-economic regions in the world, but Persian Gulf and Caspian Sea

subsystems – with about 70 percent of the world's oil reserves – are of great importance. On the other word, the Eurasian oil resources are the key of economic development in 21th century. In the case of instability of Saudi Arabia and involvement of Iran, Iraq and Syria in regional conflicts, Middle East oil would be unreliable Energy dependence of superpowers and international key players – like US, China and Europe Union as the main and most important consumers of the energy- has caused Eurasia plays a key role in their foreign policy. US national energy security depends on supplying sufficient energy needed to support economic growth in the country. The Caspian Sea's oil and gas resources have caused US developing some important economic and strategic policies in the region, because energy has a large share in the development of US foreign policy. In addition, efforts to deal with the role of Russia in impaired energy security, prevention of the role of Iran in the region and creating an alternative for OPEC oil in the global energy market are some of US political reasons for its presence in Eurasia region (Hasankhani and Karimipour, 2014). Also, China can increase its presence in central Asia by investment in oil and gas sector of Caspian region and can promote its national security based on regional considerations and global competition with other superpowers.

Energy and environmental security

The development of economic, military and security cooperation between international actors, specially world-powers and the government of Azerbaijan, Kazakhstan and Turkmenistan and their willingness for more cooperation to consolidate their position in international system and to achieve their development objectives, are some of issues that always have been in conflict with Iran and Russia strategies. Technical restrictions, natural and provincial structural barriers (like monetary, political, legitimate and social issues) and financial and political conditions in the territorial and global levels are the absolute most critical factors in

guaranteeing energy security in the locale. In the recent decade, the “international environment policies” are seriously affected by the relationship between environment, nature and human security. Factors such as trans-boundary issues, environmental effects of actions, exploration of national resources and resource limitations, management and utilization of shared natural resources between governments and its potential impact on international peace and security, have made the environmental issues the center of global attention. Therefore, topics like conflict over resources, lack of natural resources, global warming and their social and political consequences have become the basis of the world’s literature of political and environmental security (Naghizadeh *et al.*, 2016).

There are different definitions of environmental security. For example, environmental security refers to a situation in which a country or region creates economic, social and political stability and ensures the welfare of the people *via*. good governance, strong management and sustainable use of natural resources and environment. Solving the problems of natural resources shortage, the environment protection, preserve the nature, prevent social chaos and conflicts and improving social stability, are the basic elements of environmental security issue. Environmental security is a subset of a comprehensive security concept. As mentioned before, environmental security is one of the most vital factors in security topics and has got particular environmental aspects. Since, the environmental matters and issues of international peace are getting more integrated, several measures have been developed to deal, formulate and implement environmental regimes. Each of these international considerations and responses to environmental security are a threat against it. Beside it’s harmful consequences on human health and other living creatures, environmental pollution and degradation also have a significant effect on social and economic security as well as regional, national and international security.

General issues like limited natural resources, lack of equal access to the natural resources and shared natural resources are some of the obvious critical matters in the region. Pollution and pollutants, ecosystem damages, loss of fish stock, severe fluctuations in water level and general environmental challenges in Caspian region can have a far-reaching implication in trans-boundary scale (Naghizadeh *et al.*, 2016). It is obvious that all Caspian Littoral States and actors must try to prevent pollution and control its destructive effects in order to build a good future in the region and its habitats.

Caspian environmental challenges and water resources management

The Caspian Sea is the largest on the Globe closed water body stretching at the boundary between Europe and Asia (Chicherina *et al.*, 2004). The human population on the Caspian coastal region is approximately more than 12 million. The Caspian Sea has a great biological diversity which has been a valuable economic resource for centuries. The Caspian fisheries also provide much needed protein to the diets of the coastal residents, so fishing is important for all the littoral countries. Oil and gas also have been a major industry of the Caspian. The rich ecosystem diversity of the region provides good opportunities for ecotourism. But the Caspian faces a series of environmental challenges. Including: Biodiversity erosion, fisheries decline, invasive species, pollution, sea water level fluctuation and unsustainable coastal area development, socio-economic and political barriers.

Pollution is one of the primary challenges of the Caspian Sea that is made from a variety of sources. The fundamental input pollutants into Caspian Sea contain oil, petroleum hydrocarbon and petroleum goods and for the most part are caused by river runoff, release of untreated industrial and agricultural wastewater from urban areas and settlements on the drift, navigation, exploration and advancement of offshore oil and gas

deposits, oil shipment by tankers, waste dumping and the leakage from characteristic mud volcanos on the bed (Leonov and Nemirovskaya, 2011). Among all issues mentioned above, problem of oil pollution of marine water areas is critically important. Its significance results not only from the multitude of nature-protection aspects, but also from the administrative and legal action with regard to both the issues of exploration, development, and transportation of oil and gas, and the issues of navigation, control, and maintenance of the entire production process chain (Naghizadeh *et al.*, 2016).

Water resources are the most important limiting factors of development. In some countries, freshwater deficiency has become a real limitation for economic growth, a cause of increasing poverty and social tension (Danilov-Danilyan and and Khranovich, 2013). River mouth areas are usually very responsive to natural and anthropogenic changes in fluvial and marine. Evidently, the most adverse effects of the mentioned changes in the regime of rivers and seas will occur in river deltas (Mikhailov *et al.*, 2014). No doubt that, in the future, these changes may occur at the mouth of rivers in Caspian region. Currently the majority of river deltas in the world are still used in agriculture and fishery, as well as for navigation, the construction of ports, new settlement etc. (Mikhailov and Mikhailov, 2015). So it is necessary to predict the development of a complex of measures to prevent or minimize possible damages. Analysis of the collected materials showed that majority of petroleum hydrocarbons enter the sea's water areas with river runoff (Leonov and Nemirovskaya, 2011). Many kind of pollutants such as pesticides, oil products and etc., are flowing into Caspian Sea by rivers.

The interest to climate changes has increased in recent years (Panin and Dzyuba, 2006). Climate warming and the problems related to this challenge is becoming the one of the most important factor of environmental changes in the world that discussed in many studies.

The rate of atmospheric circulation gradually increases with climate warming. Climate warming in the XXI century may result in a considerable water level rise in the world ocean and related seas as well as in an increase in water runoff in some rivers and in a decrease in water runoff in other rivers. At the same time, water runoff and sediment load of many rivers noticeably decreased under the impact of human activities, including water withdrawal for irrigation, flow regulation by reservoirs (Mikhailov *et al.*, 2014). The rational use of economic water resources of the Caspian river basins, its fishery, recreation, and other problems are directly related to sea level forecasting. In the XX century, Caspian level variation reached amplitude of 3.5 m and started causing considerable damage to the economics of the Caspian Sea basin (Panin *et al.*, 2015).

Water is an economic and social commodity and is one of our primary needs. Due to the importance of water resources, management of these resources is highly needed (Orimi *et al.*, 2015). The problem of qualitative depletion of water resources caused by their contamination has become especially acute for last decades (Moiseenko, 2005). “By the term water management was meant a branch of science and technology covering the account, studies, use, and conservation of water” (Demin, 2010).

It seems that water management in the Caspian region does not have adequate performance. Tehran Convention and its protocols face administrative problems. Lack of integrated and comprehensive policy and administrative structure of economic, social and environmental is one of the reasons for this failure. It is clear that environmental policy in the Caspian region should be revised without delay and measures that can improve the efficiency of water use and prevent the development of environmental catastrophe should be taken. The Caspian region requires the development and implementation of hydro-engineering system, nature-protection, organizational and other measures (Demin, 2007). Any

program on the development of water resources management should provide for a management mechanism, which ensure meeting of requirements. It is necessary to organize the interaction between water users and the management organs so as to comply with the current environmental safety regulations; to determine the economic factors to control the water user activity; to reduce the concentration of hazardous toxic substances; to create an information base for water quality control; to provide environmental and economic substantiation of investments into the implementation of long-term projects, programs, and so on (Abalakov *et al.*, 2001).

Cooperative security approach and environmental protection of Caspian Sea

After the dissolution of Soviet Union, new economic, political, ecological and security considerations have raised which make it necessary to review treaties of 1921 and 1940 to consider special characteristics of the sea. Therefore, on 21 December 1991, at a meeting in Almaty, the leaders of 11 union republics, who signed the Almaty (Alma – Ata) Protocol that confirmed the extinction of the Soviet Union and restated the establishment of the CIS, agreed on the obligations of the former Soviet Union on the Caspian Sea and clearly confirmed the validity of 1921 and 1940 treaties between Iran and Soviet Union. But after a while, because of their desire for economic development and preservation of independence, these governments decided to involve the superpowers and major investors in the exploitation of natural resources of the region. Therefore, with signing of multilateral treaties with international consortiums, they actually paved the way for the division of the Caspian Sea and provided new plans in this respect. Factors like the performance of coastal states in the exploration and exploitation of oil and gas resources of the Caspian region, lack of an agreed legal regime and a comprehensive regional system, environmental challenges (including destruction of biodiversity, pollution and invasive species) and unsustainable develop-

ment of coastal areas have caused a regional and cooperation over environmental crisis of Caspian region in order to protect its environment. Although, there were some objections to Tehran convention and its protocols and its objectives are not fulfilled completely; but today, perhaps it is the only agreed issue between five coastal countries of Caspian region and it is possible to use the convention to develop regional cooperation in the social, economic, political and environmental areas. Because of uneven economic situation of the Caspian littoral states, environmental expectations are not achieved completely.

Integration of economic and national security priorities of coastal states has caused to overcome the political and security approaches over other ones. The presence of trans-regional actors and their impact on international relations, including the international sanctions and restrictions for countries such as Iran and Russia, has led in regional political and security considerations. Today, some believe that stability and sustainable security in the region is even much more important than determining a legal regime. It is obvious that security and stability will require all actors' relative satisfaction about the changes. It is necessary to provide security integration and predict the required mechanisms to meet the needs of the actors.

Therefore, the idea of establishing a sustainable collective security is an issue that has to be agreed by the Caspian littoral state and then become operational; because, such a pattern will consider the international policies in a different way and its mainly focus is on relative security which is accessible via mutual commitments on limitations of military capabilities. In such a security approach, despite the mutual distrust, both friend and ally countries and un-friend countries will accept the limitations. It is also assumed that this regulatory and technical limitation will have some mutual benefits. In this approach, security guarantees are achievable, not through domination but rather through

rejecting hegemonic strategies. In a cooperative security approach, security is just like as a condominium property which cannot be shared. In such an approach, not only countries are not categorized as friend, ally, or enemy; but also, threats are equal to all players and all partners are seeking mutual security. In the other words, not only this approach is not based on negative commitments (avoiding prohibited acts); but also, it is based on positive commitments (avoiding non-prohibited acts). This approach is a gradual process that shapes the attitudes of policy-makers and defines the security as a concept which is far beyond a purely military concept. Such approach focuses on consulting, trust, transparency, and interdependence rather than conflict, deterrence, secrecy, and punishment (Snyder, 1999). Regional and international systems and agencies are one of the means to achieve sustainable social security. Because, not only international agencies are not a barrier for international independence; but also, they are considered as beneficial agreements between the countries which facilitate regional cooperation. Providing required information to member states, these agencies reduce mistrust and suspicion and create common standards which help to stabilize mutual expectations.

CONCLUSION

Convergence and cooperation of Caspian littoral states is the key factor for the protection of Caspian Sea. Establishing a regional cooperation council can be an effective way to achieve sustainable security in the region. Such a council can determine regional strategies in the field of economic, security, environmental and judicial issues. Also, through the creation of specific structures, the council can monitor the implementation of collective agreements and determine the duties and responsibilities of the coastal states.

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