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Environmental challenges in the Caspian Sea and international responsibility of its littoral states

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ABSTRACT

The main challenges facing the environment of the Caspian Sea include the water level rise, environmental pollutions, the entrance of exotic species to the Caspian Sea, loss of the flora reservoirs and eutrophication. These challenges forced the coastal states to conclude the Framework Convention on the Protection of the Marine Environment of the Caspian Sea in 2003. The long duration of time taken to adopt this convention and its two protocols, non-significance of two other protocols, the competition over energy issues in the sea and conflict of opinions concerning the legal regime have affected the level of cooperation among five coastal states in this field. This analytical-descriptive study seeks to answer this fundamental question: "What is the responsibility of the Caspian littoral states for environmental damage?" With the reviews, we can say that the Caspian Sea's coastal states are responsible individually or collectively for their own omission and actions resulting in the environmental damages. They have to recover damages through the restitution or the compensation. It should be noted that the speed up of argument over the legal regime may reduce the environmental problems of the sea.

Key words: Environment, Legal Regime, 2003 Tehran Convention, State Responsibilities, Reparation.

INTRODUCTION

The Caspian Sea has no outlet. It is fed by Volga, and then Atrek, Kama and Sefid Rood. Its salinity is 1.3% consisting of 1/3 of the salt content of all oceans. The salinity ranges from 1% at Volga Delta to 14% in the south and up to 300‰ in the Go-Bag of Kara-Bogaz (Ladaa 2005). Following the collapse of USSR, the haste of some coastal states to exploit the sea economically, resulted in this fact that some species of migratory birds and marine creatures are at the danger of extinction in not-far future, and the sea will become a dead sea. For example, Azerbaijan strongly insists on the median-line based division according to which all states enjoy their sovereignty over bio-resources, Bed Sea, shipping the water column

and sea surface. This argument is based on this understanding by Azerbaijan that this water body is a boundary lake. So that, the former Ministry of Foreign Affairs, Hassan Hasanov, pointed out that "the Caspian Sea is a lake and the international conventions say nothing about the status of the lakes" (Yusin Lee 2005; Abilov 2013).

1. Factors damaging to the Environment of the Caspian Sea

The Caspian Sea is the totally enclosed largest water body on Earth (Roshan *et al.* 2012), constituting 44% of the global volume of lacustrine waters. Compared to other semi-enclosed and enclosed seas of the world, little is known about the Caspian Sea variability

(Ibrayev *et al.* 2010). The Caspian Sea is under intense pressure from environmental threats such as changes in sea water level, allowed excessive fishing, risk striker marine, infested industries and agriculture as well as developing the urban of most of the Caspian countries (Karrari *et al.* 2012; Jamalomid 2013). The Caspian Sea is an enclosed water body that plays an important geopolitical role in the Central Asia region. During the last few decades, the joint action of natural and anthropogenic factors has been aggravating the environmental state in the Caspian Sea. Increasing human activities such as the oil and gas industries, especially in the northern part of the Caspian Sea, fisheries, agriculture and tourism, along with decades of environmental mismanagement, have led to the severe degradation of water quality (Fathabadi *et al.* 2012; Fendereski 2014).

The most typical toxicants in the Caspian Sea are petroleum hydrocarbons, heavy metals, phenol, surfactants, and chloro-organic pesticides (Aladin *et al.* 2004).

Some of challenges facing the Caspian Sea are as follows:

1.1. Water level rise of the Caspian Sea

During 1950's and 1960's, some dams were constructed on the rivers, connected to the sea in order to generate energy and to develop water supply projects except on Volga. The contribution of reduction of the water volume entering into the sea due to such projects was one third of totally 3 meters in 1930's (Clark 2000). One of the results from the reduction of fresh water volume entering to the sea was the increase of its salinity in other part of this sea, negatively affecting the area for fish breeding and causing the level of all-aspect environmental damages. However, the water level of the sea rose up to 2.5 m in a mysterious manner as of 1987 (Bundy 1996).

Now, the greenhouse effect is the effective key factor on vacillation of the Caspian Sea level in its wide extent. The contribution of climate in the sea level changes is about 85%. (Ghodrati *et al.* 2012). Increased sea water level transfers the

pollutions produced by industries to the sea, decreasing the food for fish. In the southern coast of the sea, the lower lands are recovered by the water and the challenge of drying those lands has emerged. This approach of water to the lands destroys buildings. As a result, wastes and trashes enter in to the sea, resulting in the destruction of the farming lands, hence changing the form of hills. The hydraulic slope of rivers would change. This development has destroyed forests in south and south - west coasts. In other parts of the coastal lines, the coastal erosion has happened especially in lower land of Kazakhstan and Turkmenistan. One of the factors destructing soil in the two countries was the water level fluctuation of the Caspian Sea, leaving a direct influence on the saltiness of the soil (Abbasova 2010).

1.2. Environmental pollutions of the Caspian Sea

The main water source of this sea is Volga River (Khosropanah *et al.* 2011). Almost 120 Km² of industrial and urban wastes produced by fifteen cities located around the river and its Kama Branch leaks into this river each other. Over 8 km³ of wastes enters the sea (Clark 2000). Volga River is the main river supplying about 80% of the Caspian Sea water (Agah *et al.* 2011) and 95% of chemical pollutions of this sea have been caused by its wastes (Momtaz 2005). Nearly 90% of oil hydrocarbons entering the sea results from the drilling mud caused by the oil extraction process. Their existence is an inevitable result of oil leakage from the well, being very dangerous due to the high amount of leaked oil before the control of its exist from the well leakage (Clark 2000, 73-74).

The sea pollution may also lead to pH changes, reduced water transparency, polluted sea bed, altered gas content, direct mortality in fish and its embryo as well as destroying gland metabolism (Symbar 2003). The decrease in sturgeon flesh may be a result of oil pollutions. Annual harvest of sturgeons in Iranian shore of the sea (30000 tons) in 1985 has reduced to 5072 tons in 1995 and 4000 tons in 1997 (Zebardast *et al.* 2006).

Oil pollutions in the seawater derive mainly from the following sources:

a) Daily extraction and transportation of oil in the Sea, b) Oil tankers accidents, and c) Oils spillage from the oil tankers. But, oil pollution in the Caspian Sea more resulted from hydrocarbon leakage from natural bed than from the oil leakage of ships (Mityagina & Lavrova 2016 21).

Physical, chemical and biological consequences of the oil leakage in the sea tend to many environmental problems. The oil in the sea will spread very fast on the sea surface.

A portion of that will evaporate and some will be dissolved in the water. Oxidation and photochemical reaction will take place at the surface of the water. Sedimentation of the heavy oil by any means to the bottom of the sea is another way of polluting the plants in the sea. Biodegradation of oil by microorganisms may also happen. There are many means of collecting oil pollution from the sea, however are not cost - effective. So that, it is better to prevent oil pollution than to treat it in the sea, e.g. to control leakage from the tanks carrying oil from Anzali Port every day. It has been observed that much oil is spread on the surface of the streets in Anzali City, which is close to the sea shore. This pollution will enter the sea by any means (Jafari 2010).

In summer 1999, Iran issued a declaration and accused Azerbaijan due to discharging radioactive wastes into the sea.

This event made coastal states worried about the situation, bringing some tension among them (Momtaz 2005). Among other pollution materials, we can refer to the atmospheric source (returning back the pollutions to the land), the collision of tankers and commercial ships, the leakage of materials and loaded one, ships fuels, cargoes, marine terminals and repair basin.

The construction of physical barriers like dams on the main rivers of this sea such as Volga, Kama, Sefid Rood, Atrek, Sulak, causes the destruction and reduction of enough grounds for sturgeons to spawn due to the inaccessibility to these grounds. Sand

extraction from the river bed may destroy the suitable spawning areas and also disrupt the reproductive processes due to malnutrition of larvae and benthic fishes; hence, endangering the life of fishes (Symbar 2003).

1.3. Appearance of exotic species in the Sea

Exotic species are considered to be an increasing problem in aquatic systems. They compete for food, space and spawning sites or may be aggressive and limit the breeding success of endemic fish species. They may also have significant impacts on the conservation and restoration of native biodiversity (Niksirat et al. 2010). Recently, many species have entered the sea accidentally or intentionally. One example is the *Mnemiopsis leidyi* in the Caspian Sea which attains its maximal biomass and ecological impact in temperate latitudes, within its native range along the North and South American Atlantic coasts (Roohi et al. 2011; Bagheri et al. 2012; Costello 2012). The unintentional introduction of the ctenophore jellyfish, *M. leidyi* in late 1999 has been added to the environmental problems, affecting a whole tropic level, since this organism feeds voraciously on zooplankton. *M. leidyi* is only one of many introduced species: since the early 20th century, over 60 non-native invasive species ranging from phytoplankton to fishes and their parasites have become established in this sea (Fendereski 2014). In 1997, Joint Group of Experts on the Scientific Aspects of Marine Environment Protection (GESAMP) warned the possibility for entrances of *M. leidyi* into the Caspian, Adriatic and Baltic seas via the ballast water of ships if the International regulations of Marine transportations are not observed.

This warning was issued after the group discovered and studied the *Mnemiopsis* and the species belonging to the Azov Sea in the Black Sea (Esmaeili Sari 2003; Antajan et al. 2014).

Two peaks of phytoplankton abundance were shifted from spring and autumn (before the invasion of *M. leidyi*) to summer and winter (one decade after the invasion of *M. leidyi*) due to the suitable warmer climate and the new availability nutrient. Opportunistic reprodu -

ction, toxin production and harmful characteristics of dominant species in the two seasons are the evidences of the stressful features in the Caspian Sea. The next sequence of this phenomenon will set the Caspian Sea in an unprecedented ecological situation. (Nasrollahzadeh Saravi *et al.* 2014). The negative effects of *M. leidy* on the Caspian Sea include: the huge decrease in the population of planktons especially zooplanktons (Rowshan - tabari *et al.* 2012), reducing the fish numbers particularly common Kilka and sturgeons, decreased population of *Phoca caspica* (Caspian seal), huge disruption in food chains, disorder in the ecosystem, chemical alterations due to growth of *M. leidy*, as well as reducing and changing in the biodiversity (Esmaili Sari 2003). The best solution to this problem is biological treatments. As observed in the Black Sea, *Beroe ovata* (Shiganova *et al.* 2014) has been introduced through the spilling of the ballast water. It is highly interested in feeding on *M. Leidy* and controlling their population. On the other hand, this species has not been seen in the Caspian Sea. In order to introduce it to the Caspian Sea to control *M. Leidy*, a comprehensive study is needed. So that, the *Beroe ovata* should be ignored considering as an exotic species under this ecosystem.

1.4. Deterioration of fauna reservoirs

The modern fauna and flora of the present Caspian Sea consists of the four main components: 1- of the Caspian origins; 2 - of Arctic origins; 3 - of Atlantic and Mediterranean origins; 4 - of freshwater origins. According to Zenkevich (1963), the fauna and flora of the Caspian Sea usually could not compete with invaders and often such invaded fauna and flora destroyed native species. According to Aladin *et al.* (2004) the distribution of the afore-mentioned groups of the Caspian species varies with the different sections of the sea. Thus, 75% of species in the Middle and South Caspian are Caspian indigenous organisms, 20% are freshwater species, 3% are Atlantic - introduced, and 2% are Arctic - derived ones. A proportion of the species in the North Caspian is different. Fresh

water species dominate here by 60%: Caspian endemic species are 36%, Atlantic species 4%, and Arctic species less than 1 % (Aladin *et al.* 2004).

In the northern part, the diversity has decreased from 78 to 46 species, and in the southern and central part the number of species has decreased by one - third. In Baku Bay and Off Sumgayit, crustaceans and some species of mollusks have drastically declined. Bulk stocks of commercial fish species have significantly reduced in last decades.

The sturgeon population has suffered especially. Twenty years ago, about 20 -25,000 tons of sturgeons were harvested in the Caspian Sea annually. Over the last 20 years, the total catch has decreased by 90%. An accident or oil spill in the sea would severely damage a commercially - important resource in the coastal communities and as a land-locked lake, the Caspian Sea is more vulnerable to oil spills and pollution. There are also many dangers in the sea, such as its seismicity and extreme variations in water levels that make the chances of accidents more likely (Jafari 2010)

1.5. Eutrophication of the Caspian Sea

Researchers declared that the most important element of the eutrophication in the sea is phosphorus. It induces the flourishing of algae and phenomenon of the eutrophication in basins and seas (Nasrollahzadeh Saravi *et al.* 2015). In the past, Carbon and Nitrogen are considered to be the causes of this phenomenon, as believed by the researchers and detergents producers. This element destroys fish because it enters urban wastes and the wastes containing fertilizers lead to the flourishing of algae (Bronmark 2006).

The wastes of chemical fertilizers used for farming and urban wastes are spilled into rivers without being treated. Rivers delivers these wastes to the Caspian Sea, reducing the transparency, oxygen and also the fish population. Parts of the Apsheron Peninsula - where Baku and its suburbs lie—as well as large parts of the coastal waters of Azerbaijan have been declared as a “dead zone”.(Ladaa 2005).

1.6. Non-formulation of legal regime of the Caspian Sea

For many years, the Caspian Sea did not face any dispute and conflict, but recently it unfortunately confronts the challenge. Two main reasons include the oil and gas fields in macro scale in the sea as well as the decline of USSR (Yand Shu 1998).

According to Note 4 of Article 12 of 1940 Treaty, a 10- mile zone from the coastal line has been recognized for the both states as an exclusive fishing zone.

It means that Iran and Russia could equally exploit living resources. This right expanded to the bed and under bed. Within this zone, only ships belonging to the same state may operate. Consequently, two important rules were established. The first rule or principle is the equality of two states in access to the sea and the exploitation of it.

The second principle is non-access by other states to this sea, having no border with this sea (Pourshykhian 2011; Airom 2011). In this line, it can be argued that the legal regime governing the Caspian Sea is Res Communis and the both states has been joint ownership and sovereignty over the Caspian Sea (Zimnitskaya *et al.* 2011; Dunlap 2004). On the division of marine zones and delimitation, the treaty of 1921 has made no reference to Nejat *et al.* (2016). Concept of joint ownership is a part of international law except in some cases in the history. International justice department confirmed in its decision on Fonsca Gulf the Condominium system (Janusz 2015). Treaty 1921 did not mark the sea and divided it, although the state order was determined. Those countries like Azerbaijan believe that the hypothetical line of Astra – Hosseingholi is the borderline between two states as the USSR had controlled the main part of this sea, considering oil exploitation as the continuation of the Russian possession over that Sea. Their argument is resulted from a wrong construction of the 1964 Air Agreements and the consideration of this hypothetical line as a border is not true because this line was used only for fly zone determination. On the other

hand, that country has not presented any evidence to prove this claim.

There is no trace of such agreement in the treaties existing between Iran and Russia; the both states deny it.

Resources to the fundamental change of circumstances (*Rebus sic stantibus*) and Clean Slate Doctrine by Azerbaijan to cancel or terminate the previous agreements do not include joint inland waters like rivers and border agreements.

In other words, the principles governing these contracts, like Article 11 of Iran-Russia Treaty 1921 is excluded from the scope of the aforementioned two principles.

On the other hand, the Rebus Rule needs some prerequisites if that rule is going to be implemented. So that, the change should be materialized in the situation in which the contract was made. It should be fundamental, and should not be unpredictable by the parties and also the contractual obligations have not been implemented yet (Nejat *et al.* 2016). Following the collapse of the USSR in 1991, all of independent and common wealth states accepted the operation of the agreements made by the USSR based on Deed No. A/49/475 dated October 05, 1994 and the official announcement of Russia as the successor of the USSR, newly established republics have recognized treaties 1921 and 1940. But, they ignored their official obligations in violation of all international law, existing legal regime and the agreements concluded by Iran and the USSR.

They concluded some contracts with oil companies, violating treaties of 1921 and 1940 (Kamran *et al.* 2011; Mehdiyoun 2000). Although ignored by some newly-independent countries, agreements 1921 and 1940 will be the basis of legal system in the Caspian Sea as long as the five countries would reach an agreement on a new legal system. The Caspian Sea is a *Sui Generis* and, as a result, its legal system and borders, as well as other issues are not subjected to the international marine law.

It will be considered as a principle based on the equitable. Iran protected the joint ownership

system in a period of time, then expressed 20% plan complied on fair (Aghai Diba 2016).

Energy and security, therefore, are two of Russia's primary concerns when it comes to Moscow's strategy towards the Black and Caspian seas region, concerns which are reflected by the salience of these two issues in Russian diplomacy with the regional states both through bilateral and multilateral channels (Terterov 2010).

If Russia terminates its avarices in the Caspian Sea and if its legal system is directed to the finalization, the coefficient of its change toward a sea of peace, friendship and cooperation will increase (Soleymani 2006), while the hydrocarbon resources of this sea are important in the second position for Iran after Persian Gulf resources. The Caspian Sea oil is not important for Iran but environment has priority, and Iran focuses on the environmental protection (Mottaghi 2016).

In terms of legal system, Iranian stand is very close to the initial stand of Russian Federation based on the Agreements 1921 and 1940 (Mamedov 2012). Russia and Iran both agree in keeping Condominium system caused by the mutual agreements of Iran and USSR. On the other hand, Republic of Azerbaijan and Kazakhstan claim to divide this sea. Formation of both ideological camps results a confusing perspective (Ziyadzade 2015). During the negotiations, 5 main methods were suggested: (1) joint situation or condominium, (2) division based on the international seas law, (3) equal division and allocation of the sea and its bed by 20%, (4) division based on the old USSR maps, and (5) division of sea bed based on the international sea law with joint situation in sea level (Hafeznia *et al.* 2016). The result from Agreements 1921 and 1940 is based on the joint situation, and the mentioned methods will not be yet valid as long as it is not accepted by the five countries.

Based on the aforementioned facts, showing the Res Communis character of the legal regime on the Caspian Sea, the disagreement on the legal regime will deepen the environmental problems of the sea.

Rapid resolution of the legal status of the sea, is necessary for a transition to sustainable development being capable of ensuring a balanced solution for the socioeconomic and nature-conservation issues in the interests of the Caspian countries and the whole world community (Zonn *et al.* 2010).

The role of international organization may decrease environmental, security and economic treaties. This matter may correspond to the interest of Russia to expand the operation of OSCE in the region (Ladaa 2005).

2- International responsibility of coastal states against environmental damages

A state is responsible for a trans-boundary pollution when the "Sic Utere", "tu ut alienum non laedas" principle is present. According to this principle, a state should avoid those actions possibly damaging person(s) or properties located in the territory of another state. This principle was entered into the international environmental law by *Trail Smelter arbitration Case* (Mousavi 2001). Breach in binding obligations in national or international legal systems provides the legal obligation. Failure in observing the international obligation, as an element of international system, is a factor threatening the international security, because the governments in international relations will have independence and obligation.

Principally, international obligation is resulted from an action or inaction tending to the breach in international obligation or liability. Origin of international obligation is the action or inaction providing the requirements of breach in international obligation by governments or causing damages. There are three theories on the international environmental responsibility; first, the responsibility resulting from a mistake or subjective responsibility; second, the responsibility results from the danger or objective responsibility; and third, the responsibility resulting from the legal and permissible actions. The latter has been implemented following 1992 Rio Declaration, being different from other theories. Namely, under the first two theories, an international obligation must be breached. So that the

compensation is claimed. According to the last theory, the compensation is in fact, a primary obligation which has no pre-requirement of violating for an international obligation. The better feature of this theory as compared to other theories is that the burden of proof has been removed for the mistake or the fault which had traditionally been upon the injured party. This theory is used for the damages incurred to the environment because the damage-made state is responsible. Although a legal or permissible action is done by that state, this state cannot argue that the action is permissible, and the state has no responsibility for the damages incurred to the environment of other states. To materialize this type of the responsibility, some requirements should be existed such as the knowledge of the state on the dangerous action, considerable level of the damage, legality of the action, the causing relation between the damaging action and the damage (Poorhashemi *et al.* 2014). Third theory is along with the basic principles of environment similar to the principle of cooperation and environmental protection principle. So, it should be considered by the seashore countries of the Caspian Sea.

In some cases, the determination of the damaging person and organization is very hard. So, we should pay attention to the joint and multilateral responsibility. This kind of responsibility provides the right to choose one of damaging parties by the applicant to call the responsible party for the damage. Concurrently, it means several defendants may be held liable for the entire damage under a joint and several liability regimes. These states are then allowed to sue other parties who contributed to the contamination (Kuruku - lasuriya *et al.* 2006, 58).

As a result, when the trans-boundary pollution causes environmental injury to another coastal state of the Caspian Sea, how can we explain the possible remedy for the injured state against the damaging state? As mentioned in Tehran Convention of 2003, contracting parties are obliged to develop proper rules and mechanisms in connection with the

responsibility and reparation of damages incurred to the environment of the Caspian Sea resulting from the violation of the convention and its protocol, within the principles and norms of international law. In the event of any dispute among the parties they proceed to settle it peacefully.

Chapter II of Draft on Responsibility of States for Internationally Wrongful Acts, deals with the forms of reparation for injury, spelling out in further detail the general principle stated in article 31, and in particular seeking to establish more clearly the relations between the different forms of reparation, viz. restitution, compensation and satisfaction, as well as the role of interest and the question of taking into account any contribution to the injury which may have been made by the victim. In accordance with Article 34, restitution is the first form of reparation available to a state injured by an internationally wrongful act. Restitution involves the re-establishment as far as possible of the situation which existed prior to the commission of the internationally wrongful act, to the extent that any changes that have occurred in that situation may be traced to that act. Under another definition, restitution is the establishment or reestablishment of the situation that would have been existed if the wrongful act had not been committed. The obligation to make restitution is not unlimited. In particular, under article 35, restitution is required "provided and to the extent that" it is neither materially impossible nor wholly disproportionate. The phrase "provided and to the extent that" makes it clear that restitution may be only partially excluded, in which case the responsible state will be obliged to make restitution to the extent that this is neither impossible nor disproportionate (United Nations International Law Commission 2008)

Principally, the determination of one or another method to compensate the damage is firstly assigned to state or international organizations being a party to dispute within their agreement. Otherwise, the international arbitral or judicial authorities are of the jurisdiction to resolve any

dispute. According to chapter seven of the UN Charter, the Security Council may do this job as the case may be. However, the restitution is hardly practical due to its features and implications (Pourhashemi *et al.* 2014). If the resort to the restitution is impossible for any reason, Article 36 2001 Draft Articles of the State Responsibility provide for the compensation. Taking the definition of "damage" under Article 31 into consideration, we can argue it includes both material and immaterial compensation. Due to the use of financially assessable" phrase, the compensation under Article 36 refers only to financial remedy.

Compensation is perhaps the most commonly sought in international practice. In the *Gabčíkovo-Nagymaros Project* case, ICJ declared: "It is a well-established rule of international law that an injured state is entitled to obtain compensation from the state which has committed an internationally wrongful act for the damage caused by it. In addition to ICJ, international tribunals dealing with issues of compensation include the International Tribunal for the Law of the Sea, the Iran-United States Claims Tribunal, human rights courts and other bodies. (United Nations International Law Commission 2008).

The third method of the reparation is satisfaction. It makes no sense in case of the environmental damages to the Caspian Sea. The reparation should be done firstly by the restitution and secondly through the compensation.

As a result, it is very clear that the Caspian Sea coastal states are responsible individually or collectively for their own omission and action leading to the damage of environment, recovering the damage through the restitution or compensation. Merely, being satisfied with those beautiful and attractive terms inserted in 2003 Tehran Convention will not be useful.

This is the reason why any of five convention parties has not yet posed any claim against others, although the environmental situation of the Caspian Sea is severely deteriorated. The responsibility should be based on common but

differential responsibility as it has been repeated in principle 7 of Rio 1992 and plus 20 Rio Declaration (2012) as well as principle 15.

There are many research programs, which will be investigated in the future for waste minimization in the Caspian Sea. The important ones are given as follows:

a) The first plan is to identify the point sources of pollution in the Caspian seaboard. This includes the pollution from all industries, commercial places and cities around the Caspian Sea.

b) The second task is to identify as much as possible, the non-point pollution sources and to characterize them as point sources of pollution.

c) The third plan is to determine the contribution of each point source pollutant including domestic, industrial, business offices and nonpoint sources in the Caspian Seaboard and also to prepare dispersion map of pollutant sources.

d) The fourth task is to investigate the effect of these pollution on the aquatic life of the Caspian Sea.

e) The last plan is to measure the amount of oil pollution in the Caspian Sea (Jafari 2010).

2.1. Effectiveness of Framework Convention on the Protection of the Marine Environment of Caspian Sea (2003) in Action

Environment will be protected against all pollution sources. The pollution in the Caspian Sea is an important problem. Seashore governments undersigned Tehran convention for controlling pollution in 2003 but did not have any further development (Aghai Diba 2016). The method of Convention – Protocol has failed and suffered from many weak points. First, each environmental provision should follow two stages before it comes into force (one stage is the adoption of related convention and the second one is to pass protocol). This requirement may deepen the problem of the environmental nature.

The fact that the approach of convention-protocol is more successful than the approach of full convention is not accurate. The reason is that the taken period of time commences when negotiations starts and ends when the protocol

enters into force. Second, states may ratify it due to political motives for internal purposes. But, they may accede to any protocol when it is in their interest. The application of the method is not a new initiative for multilateral environmental agreements. This method was used to conclude a series of regional agreements on pollution in joint waters in mid 70's and early 80's. In any case, particular features of the environmental problems make this method ineffective when the environmental agreements are concluded (Mousavi 2001).

Tehran Convention 2003 is approved by all the Caspian Sea countries in 2006 as the first regional and binding mean for these countries. It is a framework for general requirements to protect the marine environment of the Caspian Sea (Monakhov *et al.* 2015). Tehran Convention predicted 4 protocols including: 1) Protocol on the protection of the Caspian Sea against pollution from land - based sources and activities; 2) Protocol concerning regional preparedness, response and co-operation in combating oil pollution incidents; 3) Protocol on environmental impact assessment in a trans-boundary context; and 4) Protocol on the conservation of biological diversity. After passing approval of this convention for one decade, only protocols 1 and 2 were approved by the seashore countries, and failure in confirming other two protocols indicates the serious non-intention of seashore countries for marine environmental protection.

Such organs as Environmental Program for the Caspian Sea represented by Department of Environment of coastal seas, the commission referred above with the presence of Coastal State fishing organizations, being independent from each other and operating in environment related fields, have had positive backgrounds. However, there is no comprehensive approach and no regional and national power. These problems have failed to stop environmental crisis or biodiversity loss. Article 2 in Tehran Convention of 2003 aims at destroying pollutions and pollution resources as well as continuing sustainable utilization of the living

resources of this sea. So, it is imperative that the improvement of the existing situation is seriously taken into consideration due to the main and secondary contributions to the ecosystem crisis of the sea, such as the identification of the pollution source, control and avoidance of its entry into the sea, social and economic problems and the employment of valuable equipment of other countries. The destruction and damages to some species of sturgeons are irreparable. It requires urgent reaction of coastal states, prioritization, common plan to prevent illegal fishing and illegal transfer of sturgeon, to decrease pollutions, to codify standards, to communicate scientific findings, to use experiences of each state and international organizations such as FAO to save sturgeons as soon as possible. The seriousness of the destruction and damages requires an urgent and immediate reaction.

Many researchers and scholars are concerned that regional plans within protocol or Tehran Convention are implemented when sturgeon species meet the most danger and when the Caspian Sea becomes a place in which many pollutions are accumulated as Oral becomes so. Therefore, ratification of more protocols is not enough and the volition of states is also necessary. The accurate enforcement of Tehran Convention and its protocol may reduce the scope of the environmental pollution, which has not happened yet. The influence of political implications during the enforcement of environmental agreements is very considerable because the operation of instruments and environmental agreement entails practical programs in this sea. It even requires to determine jurisdiction and sovereignty scope of each state. To answer questions such as what is the territory of each state to operate and which measures each state should implement and also what are environmentally destructive actions, other states should pay attention to the sovereignty of each state. These issues are of completely political nature to which states are highly sensitive. Those organs which have been designated to operate in this sea are active only

in research fields. They have no enforcement power to control pollutions in this sea. But, the sea needs a centralized institutional mechanism. On the other hand, the permanent secretariat fulfilling below mentioned functions should be established to operate 2003 Tehran Convention:

1- To hold a regional joint Information Network, 2- to establish assistance fund to implement pollutions control projects, 3- to assess projects financially, 4- to direct human resource development to control pollutions, 5- to coordinate with concerned international organization to attract their participate in regional pollution projects, 6- to establish permanent bureau and experts, 7- to monitor the sea pollution, and 8- to examine the record of states in terms of their compliance with the provisions of the Convention (Omidi 2010.)

CONCLUSION AND SUGGESTIONS

According to the international legal principles and canonical rules along with international and regional agreements, the Caspian Sea state governments have international obligation in predicting actions causing dangerous effects on environment and preventing border pollutions. Therefore, observing common measures in prevention of the Caspian Sea pollutions is a duty of seashore governments. Breach in this responsibility and damaging the entities or assets on scope of other country will follow the payment of compensation. Access to environmental security in the Caspian region needs the principal management, regional cooperation of the Caspian countries, and accepting environmental responsibility. The main causes of the Caspian Sea environmental pollution include water level rise, environmental pollution, entrance of exotic species to the sea, floristic resources deterioration, and eutrophication of the Caspian Sea. These problems forced coastal states to conclude framework convention on protection of the Caspian Sea environment in 2003 Tehran Convention. This convention include basic principles of the environmental law such as preventative, sovereignty,

cooperation etc. principles with which the coastal states are obliged to comply. So, some suggestions are made as follows:

1- As understood from the spirit of 1921 and 1940 treaties, the legal regime of the Caspian Sea is based on Res Communis or Condominium. Therefore, it is suggested that the coastal states do not seek a new regime. They should follow a regime based on the provisions stipulated in those two treaties.

2- It is suggested that five coastal states proceed to adopt two other protocols of Tehran Convention in 2003 to preserve environmental interests, instead of merely following economic interests, since Tehran Convention has paid attention to the generalities.

Preserving environmental interests bring out sustainable economic interests.

3- The 5- year prohibition of fishing sturgeons by Russia may benefit the protection of these species. Consequently, it is suggested that the prohibition is adjusted in accordance with the artificial reproduction of these species by the coastal states. So, each state will be allowed to fish and exploit in accordance with its own sturgeon culture level. This may motivate the states to promote the propagation of sturgeon -s.

4- Since all coastal states are obliged to protect the environment of the Caspian Sea, there is a common responsibility upon all these coastal states. This responsibility is not completely equal among them.

Each state should play more effective role in protecting the environment in accordance with its damage to the environment and their capability and powers, taking fundamental steps in this respect.

As a result, it is suggested that the coastal state of the Caspian Sea are obliged to inform other states of possible risks of each development projects they construct, cooperating with each other to solve environmental problems-and-even-to prevent such problems.

For instance, the event of drilling oil wells by any coastal state should be communicated to other states. On the other hand, any pollution caused by oil exploitation even tough legally or

makes the drilling state liable for the pollution. 5- As the restitution is a remedy to recover the damage, the state being responsible for the pollution as a result of its oil operation should remove the pollution even though the environment is not completely restituted, whenever the pollution causes the destruction of the fish species. The population of these fish should be increased through the reproducing and releasing them into the sea. So that a sort of the former situation is maintained. It is clear that the coastal state avoid individually or collectively any action or omission leading to the environmental damage(s). They are obliged to recover any damage through the restitution or compensation.

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چالش‌های محیط زیست دریای خزر و مسوولیت بین‌المللی دولت‌های ساحلی

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چکیده

از عمده چالش‌های محیط زیست دریای خزر، بالا آمدن سطح آب، آلودگی‌های زیست محیطی، ورود گونه‌های مهاجم غیر بومی به دریا، تهی شدن ذخایر جانوری و پرغذایی شدن دریاست که نهایتاً منجر به انعقاد کنوانسیون چارچوب حفاظت محیط زیست دریای خزر ۲۰۰۳ شد. روند طولانی تصویب این کنوانسیون و ۲ پروتکل الحاقی به آن، عدم امضای ۲ پروتکل دیگر، رقابت بر سر مسایل انرژی دریای خزر و اختلاف نظر در خصوص رژیم حقوقی بر میزان همکاری‌های منطقه‌ای زیست محیطی این دریا موثر بوده است. این پژوهش به روش تحلیلی-توصیفی در صدد پاسخ به این سوال اساسی است که دولت‌های حاشیه دریای خزر نسبت به خسارت‌های زیست محیطی دارای چه مسوولیتی می‌باشند؟ با بررسی‌های به عمل آمده می‌توان گفت که دولت‌های حاشیه دریای خزر نسبت به هر گونه فعل و ترک فعل خویش چه منفرداً و چه مشترکاً که منجر به خسارت زیست محیطی می‌گردد، مسوول بوده و می‌بایست خسارت وارده را به طریق اعاده به وضع سابق و یا پرداخت غرامت جبران نمایند. البته توافق بر موضوع رژیم حقوقی این دریا می‌تواند از معضلات زیست محیطی دریای خزر بکاهد.

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