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Investigation and analysis of printed media attention in
Azerbaijan to the environmental problems during the
years 1986-2008: media as a way to sustainability

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ABSTRACT

Environmental education is considered to be the one of the important measures for environmental problems and leading issues needed for sustainability. The issue of environmental awareness and education emerged in the middle of 20th century meant not only the education of specialists and experts but directed to the idea of education for all citizens. The mass media has a power to contribute to the public awareness and education about the environment and involvement of professionals is very important to develop the environmentally-friendly behavior and responsibility in audience.

The main purpose of this paper is to provide the comprehensive overview of the trends in newspaper coverage of environmental issues in Azerbaijan during the years 1986-2008 in order to get a picture of changes and improvements toward the publishing in environmental issues. In the society with the less environmental education in schools and universities the media plays as one of the important sources of information for the society that is one step forward to the sustainability. The media plays an enormous role in educating people about the existing issues that has a great impact on their behavior and could lead to environmentally-friendly activities.

Public awareness and education through all sources of education is essential to influence their intellectual knowledge and behavior toward the environmental protection. Because the people receive much of the knowledge and information about the events from the news media it is very important to find out what media report that give the assumption of what potential readers know about the environmental issues. This study analyses the print media (newspaper) since it is considered to be the cheap and broad source of information for all levels of society.

From the analysis it was found out that the newspapers in Azerbaijan did not play a role as an educator with the information and knowledge they give through print media. The analysis on

1114 articles showed the lack of information given to the readers about the environmental issues in Azerbaijan as well as global environmental problems through all years analyzed. The global environmental problems were ignored by media dedicating only % 5 of articles to these issues. The economic profits from Caspian Sea played an important role rather than environmental issues. The frequency and prominence of articles in both studies is low and the decrease observed in recent years. Journalists who lack environmental education in Universities did not have a sufficient collaboration with the scientists and experts that could have improve the situation with giving more broad and exact information about environmental issues and problems with the detailed consequences. As a matter of fact the print media condition in environmental informing is not satisfactory since more attention pays to the political and economic issues rather than environmental and the proper actions have to be taken in order to improve the conditions.

This work is the starting point and first attempt to work toward the improvements in media attention to environmental issues in Azerbaijan that has an enormous impact on public opinion and behavior that can be followed by environmentally friendly activities that is one path leading toward the sustainability.

“The media is the most powerful entity on earth. They have the power to make the innocent guilty and to make the guilty innocent, and that's power. Because they control the minds of the masses.”

Malcolm X

1. INTRODUCTION

1.1. Background

The environment is the source of life in the Earth. There are different factors that can be resulted with the environmental degradation. Among them it is the great risk to the biodiversity and human health. Environmental pollution can lead to the damaging balance of the ecosystem development and extinction of the endangered species. Thus as a result of the industrial and other sources of pollution the health of the population can be worsened through the contact with the polluted water, air, soil and agricultural products. The present generation is considered to be the last that can act toward the protection of the environment for the future generation and sustain it for the long period of time. Sustainability is important to save and protect the future generations from all the disasters that can come if we continue to act without taking into account the environmental well-being. This is an action to find ways not to remain or create problems for the future at the same time improving the quality of life for ourselves.

Nowadays sustainability is the point that seems to be unreachable. It is true that sustainability cannot be reached only by one path. Every society, every activity and people's deeds have to be directed toward it. However presently we cannot see such dedication of people toward the

saving of balance and level to reach this extremely important point. The public knowledge, its education and grasping their attention is in the row of one of the important steps and ways to sustainable society, environment and future. Public has a power to change many things they want if they are carefully informed and educated toward it and the role of media is enormous in this path. Finally sustainability needs the strong information sources that is of enormous importance for every generation to shape their knowledge and behaviors toward the saving the biodiversity and everything related with the environment. It is true that if the one generation stops the information sharing and attention to the environmental issues and problems it will have a significant impact on the next generation too. It is also noted by Sumi (2007) and Brewer (2007) that the important role of sustainability science is the distribution of knowledge to society through communication among experts, decision-makers, and the rest of us. The outreach activities and information sharing are crucial in sustainability science (Kajikawa 2008).

The main attentions to environmental problems depend solely from the situation and the conditions in the particular country. In almost all cases the economic or political prevalence mainly in developing world lead to the loosing balance if there any for environmental attention that is contradict the sustainability and the ways of saving this balance have to be designed in every field. The years analyzed in this study are important in order to see the trend and level of importance to environment since throughout all these years the environmental pollution was so severe. In addition the generation of more than 70 years under the USSR with the strict censorship over media did not have an access to the environmental information through any kind of media and to reorganize and reshape the public understanding and attention to the environmental issues is the responsibility of information and education sources that is strong tool in changing.

Throughout the history we see that during the time of Soviets less attention was paid to environmental protection. As an example we can show the slogan used in Stalin and Khrushchev times was “Do not wait for nature’s favor, but transform it for human benefits” or the famous Soviet joke “Turn all swamps into deserts” referred to the Five Year Plan (Ziegler

1987). It is true that there were scientists who were making attempts to gain significant results in science and they were greatly recognized by the international community. However the achievements went out from the scene or were accepted with less demand and attention.

After the gaining independence the newly states were also unable to fight with environmental degradation as a result of economic decline. After some years of reconstruction and integrating to the world economy lead somehow to promote and work toward the solving of environmental problems. States began to join the International conventions for environmental protection and as a matter of fact trying to control the situation. However the present environmental condition in countries of former Soviet Union is not satisfactory since the remaining of the Soviet technologies and problems still here. The old technologies still continue to be used by the countries in oil exploitation both onshore and offshore.

As we mentioned one of the many definitions of sustainability is the balance of activities and it is very important to save this balance. In times when there is an economic crisis or any political difficulties there must be some department or the people who are continuously would be busy with the informing or dealing with the environmental problems. It is very important point to balance the people perception and knowledge and raise their interest toward the environmental problems. News media is one of the main guns to do it.

As we know there are different types of news - TV news, journals, newspapers, etc. In this study the newspaper coverage was chosen since it is believed that newspaper can be saved for the long period of times and can be reached by the individuals via archives. Despite that the TV news seems to be more attractive and can give people the visual news that is very important also but still to reread or research the information after long period of time by the ordinary people is much easier way to do it with the help of newspapers. In other side the number of internet users and computer holders in Azerbaijan is not so high to provide the population with the online news information (Figure 1). In addition the percentage of the people who use internet mainly concentrated on searching information and communicating rather than for educative and learning activities (Table 1)

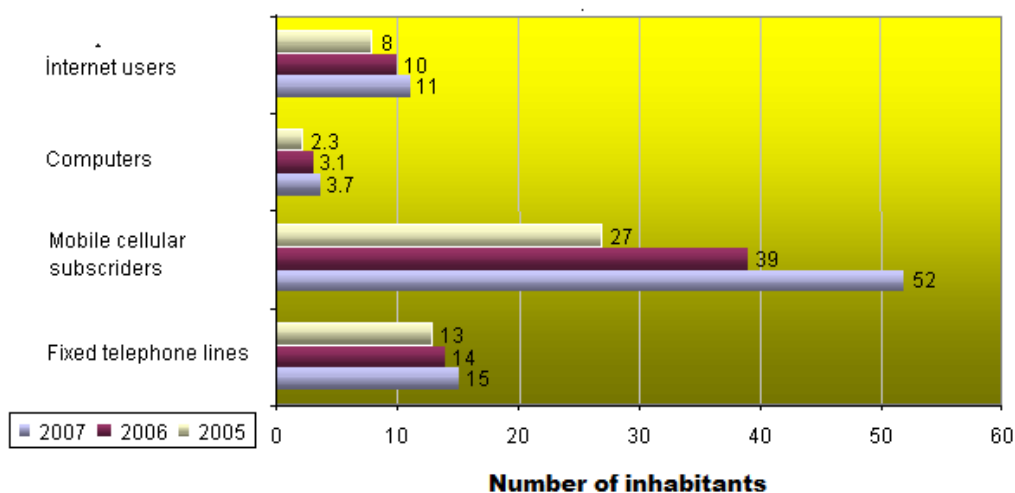


Figure 1: Core indicators on ICT (Information Communication Technology) infrastructure per 100 inhabitants (State Statistics Committee of Azerbaijan Republic).

Table 1. Distribution of Internet users by purposes of use (in the last 3 months), in percentage relative to total (State Statistics Committee of Azerbaijan Republic 2007).

Indicator	2005	2006	2007
Searching information	46.2%	40.9%	41.7%
Communicating	38.3%	37.9%	34.0%
Education and learning activities	7.0%	6.8%	7.3%
Ordering or purchasing goods or services	6.0%	8.3%	10.4%
Ordering or selling goods or services	1.3%	1.7%	1.5%
Dealing with public authorities (getting and sending information, downloading documents)	1.2%	4.4%	5.1%

As it was mentioned above that the present generation is considered to be the last that can change the environment of the future. Thus making the generation aware of the environmental issues from all sources of information is important to lead them to the right way in acting

toward the environmental well-being of present and future generation. The strong media and education plays one of the important roles in this activity.

1.1.1 Political and economic conditions USSR and post- Soviet Azerbaijan

The USSR or Soviet Union – The Union of Soviet Socialist Republic consisted of fifteen countries that now are Azerbaijan, Armenia, Belarus, Estonia, Georgia, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Moldova, Russia, Tajikistan, Turkmenistan, Ukraine, and Uzbekistan. It was founded in 1924 by Vladimir Ilyich Lenin and collapsed in 1991 under the rule of Mikhail Sergeevich Gorbachev (Rosenberg). The political party that controlled the USSR was the Communist Party of the Soviet Union (CPSU). This Communist organization was one of the largest in the world. After the demise of czarist regime the power passed to the Bolsheviks. Thus after the Russian revolution (1917-1922) the Soviet Union was created.

The significant changes happened after the coming to the head of Mikhail Gorbachev who tried to make changes with the new terms of perestroika (reconstruction) and glasnost (publicity, openness to public). However he was the last leader ruling the USSR. Three countries – Estonia, Latvia, and Lithuania first got out from the Soviets and remained twelve declared their independence after the demise of the Soviet Union (Britannica Encyclopedia).

The economy was also centralized and it was the largest in the world. The central planning system was established in the end of 1920s and beginning of 1930s. The series of Five Year Plans were established for the rapid industrialization in short period of. This plans was directed towards the making the Soviets prominent in heavy industry at the expense of consumer goods¹ (The Columbia Electronic Encyclopedia). As a consequence of this plan USSR became the large industrial country from the agrarian society.

It is obvious that the objective of the Soviet was to promote and increase industrial outputs and

¹ Goods that satisfy personal needs rather than those required for the production of other goods or services

development of heavy industry. However environmental well-being was not in the center of attention as one of the great examples shows the Soviet economic development attitude said by the Soviet propagandists: “We cannot wait for favors from nature. Our task is to take from her” (Dobbs 1998).

With regard to environmental related problems mostly sourced from the investment in new projects rather than improving or developing existing ones. As a matter of fact all the industrial equipments and stuff remained old and aged for a long period of time. According to the one article published in newspaper “Izvestiia” the one of the soap factories was described like “looking like a museum of the history of technology” (Peterson 1993).

The data gained from the State Committee of the Azerbaijan Republic for Ecology and Nature Management also shows that investments shared to the industries for environmental protection created only %0.5- %0.6 while it should be %1.7 for the Soviet Union. However with comparison to the other world industrialized countries it is less since their investment consist of %5 to %25 (Ismailov et al).

Another feature of the Soviet economy was the militarization. Soviets used a great amount of resources in order to establish the military-industrial complex. As we know the military related developments is most damaging for the environment and in Soviet times most of the land was used for this reason. As an example we can show that the land under the Soviet Ministry of Defense was accounted to be 42 million hectares that means %2 of USSR’s territory (Peterson 1993).

It is also true that the great amount of the funds shared for environmental protection often was not spent by the particular company or enterprise since head of such many enterprises was not willing to install purification facilities because of high fixed costs (Varank 1973, Izvestiia 1975) and there existed the shortage of expert technicians to operate these facilities (Golland et al 1977, Izvestiia 1977).

The type of USSR economy also led to the irresponsible use of natural resources and also negatively influenced to the surrounding environment. As an example we can show the price of the steel that cost 150 rubles that can be compared with the twenty kilos of apple or the price of the oil for nine rubles for a barrel as for the same amount people could buy 5 kilos of meat at that time (Peterson 1993). The difference is huge and this approach in economy lead to the irresponsible use of resources, some resources being cheap can be also used by the ordinary people not only industries that can consequently lead to the environmental problems and finally destruction.

After the demise of Soviet Union the newly emerged countries faced with the economic problems. In order to overcome it they were looking for ways to develop economically and survive. It is true that in order to gain good results the newly independent countries should not concentrate only to the national policies or ones that remained from the Soviet times but also evaluate and consider in activities the international agendas (Sleptchenko 2002).

Azerbaijan like other post-Soviet countries has become independent. After the short independence from 1918-1920 Azerbaijan was included into the USSR and it lasted until the December 1991. On August 30 of 1991 Azerbaijan declared its independence become Azerbaijan Democratic Republic. The president became the head of executive branch.

After the demise of the Soviet Union, Azerbaijan suffered from economic crisis as other post-Soviet states. However the Armenian aggression to Azerbaijan doubled the problems and difficulties since as a result of the 20 percent occupation of Azerbaijan lands (Mountainous Karabakh and 7 adjoining administrative regions) more than million people become refugees and political and economic ties between the countries was disrupted. The conflict between Armenia and Azerbaijan continuing till the present days since 1988 with the Ceasefire in 1994 destroyed the environment of Mountainous Karabakh and many main cities of Azerbaijan. Since the movements of refugees began in the beginning of 1990th the Baku city settled more than 1 million refugees that made a great impact to the environmental pollution in Baku city

too. According to the UNHCR² many refugees and Internally Displaced Persons (IDPs) have remained in the South Caucasus with more than 600,000 in Azerbaijan (1 million according to information provided by the Azerbaijani Government) (United Nations 2004). The map of movements shown in the Figure 2. The map also shows the place from where the population was displaced by the Caspian Sea level rise called eco-refugees.

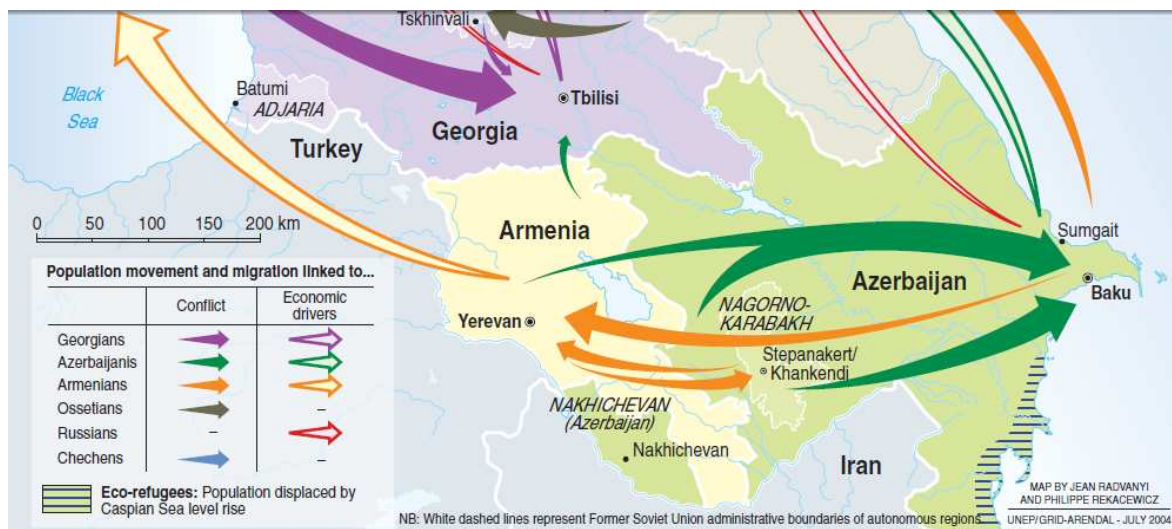


Figure 2: Population movement and migration linked to conflicts and economic drivers (UNEP/GRID 2004).

From the 1995 after taking of important measures by the government the economic and political condition become stabilized. Throughout the years it is easy to see the GDP (Growth Domestic Product) growth in Azerbaijan (Figure 3). This happened because of the two main achievements:

² United Nations High Commissioner on Refugees - the agency is mandated to lead and co-ordinate international action to protect refugees and resolve refugee problems worldwide.

1) Signing the Production Sharing Agreement with foreign oil companies according to which the development of oil and gas resources in the Caspian Sea, constructing the South Caucasus and Baku-Tbilisi-Ceyhan pipeline and transport oil and gas to Ceyhan port of Turkey through Georgia .

2) The World Bank support credits and International Monetary Fund were presented to Azerbaijan government for the reform programs that included strengthening governance in the banking sector, enhancing transparency in the utility sectors, enacting a modern tax code, and ensuring more transparent budget execution and accounting, as well as strengthening internal and external audit capacity (World Bank 2008).

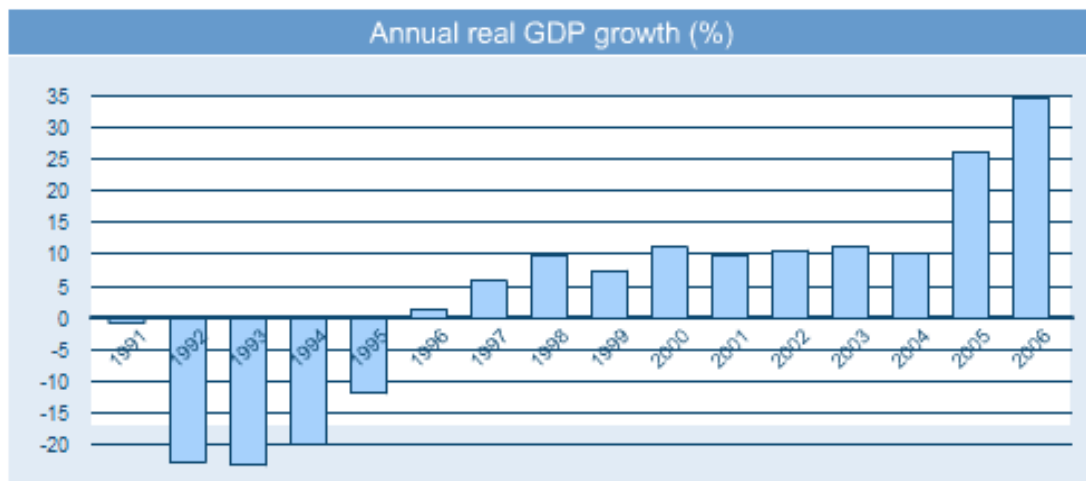


Figure 3: Annual GDP growth in Azerbaijan during the period of 1991-2006 (World Bank, 2008)

Nowadays Azerbaijan is considered to be one of the main places of oil exploitation and development. The huge oil reserves in Caspian Sea can be comparable with the other main oil rich places in the world. According to the Ministry of Ecology and Natural resources 4, 5 billion US dollars were invested in the economy of Azerbaijan in 2005, while it reached to 6

billion US dollars in 2006. This greatly affected the macroeconomic condition and living standards in the country.

Assessment of the World Bank among the 185 countries for the reforms toward the improving business shows that Azerbaijan improved by passing from 96 to 33rd place. It is considered as the record in the report history (World Bank 2009).

1.1.2 Environmental condition in USSR and post-Soviet Azerbaijan

The strategy of Soviet Union for protection of environment was based on the collective ownership and central planning. The famous saying of that time was that “Big was better, huge was best and science solved all the problems”. Such projects as Nikita Khrushchev’s Virgin Lands Program, Great Stalin Plan for the Transformation of Nature and the one established by the Leonid Brezhnev consisting of diverting the direction of Siberian rivers were lead by the mentioned above saying (Peterson 1993).

It is true that the scientists wrote and say a lot about the deterioration of air quality, pollution of onshore and watersheds. However less attention was paid to their findings. Research on environmental related issues was so limited and poorly funded. Pollution related researches were limited because of the preference to research in more productive area or they were not willing to acknowledge the existing problems (Kelley 1976). As a matter of fact we can see that the level of environmental awareness among the public was not sufficient since the information about the pollution issues was officially banned. Social scientist also contributed very little to the environmental awareness activities among the public like public discussion or spreading information about the existing issues and problems (Kelley 1976).

In 1960th government leaders began pay attention to the environmental problems and began to organize the series of protection issues toward the Lake Baikal and so on. After this time we can see legislative interest to protect since in September 1972 the Supreme Soviet organized a session directed toward the protection and conservation issues. However this government activity did not lead to the acknowledging the full causes and information about the problems and most of the information still was hold as a secret (Kelley 1976).

The existence of the psychology that declared that the natural resources is inexhaustible and human beings can reshape or control the nature still remained in minds. Thus people surely though about their well-being more than about the environmental problems (Kelley 1976).

Despite that the 1960th tell us about the increase in number of publications in 1970th the banning of environmentally related articles took place. One of the examples is the series of articles in one of the leading newspapers namely “Izvestiia” that was ordered to stop discussion on pollution of river Volga (Kelley 1976) as the same time preventing the pollution information of Caspian Sea since the Volga is considered to be one of the main polluters through many years.

The approach of the first deputy chairman of the USSR Academy of Science also clearly notes about the restriction to openly discuss environmental pollution problems:

“We treat these problems a little differently. Open discussion in the press and in public does not always produce a review of the problem from the right point of view. We try to consider this in scientific discussion, not in public” (Bush 1972).

The environmental destruction mainly came from the construction of the huge enterprises in one region. The reason of it was that central planners and managers thought that the efficiency of the production depends on the size of the enterprise. Another reason was that ministries were going for the great projects leaving behind or mostly did not take into consideration the small ones with small investments. The reason was also the transportation costs that planners were trying to escape so they took the position of the placing the industrial plants in one place close to the natural resource extraction places. As a result this approach lead to the environmental destruction in particular places that was called after “ecological disaster zones” (Ziegler 1987). People become more aware of environmental problems at the late 1980th. In 1988 the State Committee on Environmental protection Natural resources, Goskompriroda was established during the rule of Mikhail Sergeevich Gorbachev (Kolstad et al 1993).

Another main problem was not existence of the experts. In every field existence and availability of the professionals, experts, specialists is very important since non-specialists soon or far could not handle the experience and quite for the search of any suitable place. The main reason for the absence of the experts in Soviets was little number of people who were professionally educated according to the full requirements of this field. It is true that there

were ecological departments in universities but they paid less attention to the practice and was mainly concentrated in science. Thus the numbers of experts were not so much or were not satisfactory experienced (Ziegler 1987).

After the demise of Soviet Union Azerbaijan became one of the 15 states that was trying to established their own economic and political systems and was responsible to protect the environment since from this time it was the property of Azerbaijan. After becoming independent in 1991 Azerbaijan joined many agreements and conventions that were directed toward the protection of the environment.

1.1.2.1 General environmental problems

Environmental monitoring in the first decade of independence has been reduced because of the severe economic conditions. In addition in Azerbaijan, industrial pollution, soil degradation, deforestation and transboundary water pollution affect public health (Figure 4). The main health problems are the infectious and parasitic diseases and respiratory diseases that mainly come from the pollution of environment like air and water and other kind of pollution.

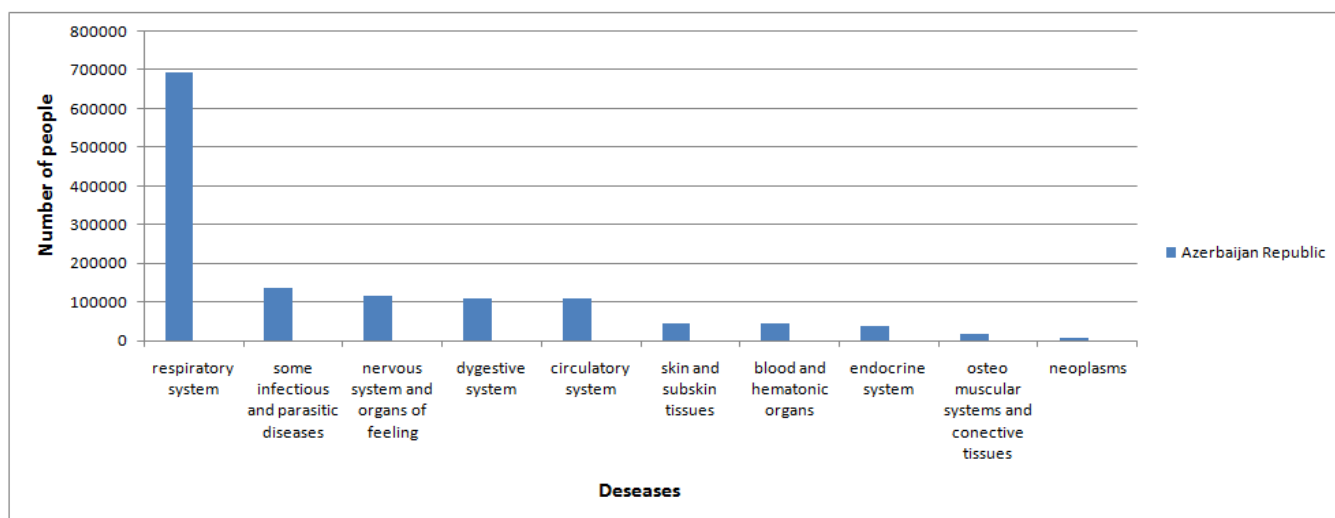


Figure 4: Distribution of populations with main disease groups in 2007 (Ministry of Health).

The land suitable for cultivation constitutes about %54, 8 that means only 4.7 million ha from 8.6 million ha of Azerbaijan. The quality of its soil has been seriously degraded by erosion, salinization, swamping, chemical pollution and other processes (UN 2004). In order to combat the desertification Azerbaijan signed the United Nations Convention to Combat Decertification that played a significant role in accessing the foreign assistance to fight against decertification. The scale of decertification is shown in Figure 5.



Figure 5: The scale of desertification of Caspian region (Caspian Environment Programme 2002).

It is true that the environmental condition in Azerbaijan after the gaining independence was critical. Azerbaijan itself had to look for ways to interact with the world power to protect the critical condition of the environment remained from the Soviet times. However it was not easy to tackle with these issues since the pollution generated through more than 70 years was so severe to solve.

Among the most polluted cities in Azerbaijan were Ganja, Mingachevir, Alibayramli, Baku and Sumgait that is %80 of all emissions in the country comes from these cities. Baku and Sumgait are one of the worst polluted cities in Azerbaijan since it is situated in the eastern part of the land on the Caspian shore where the chemical, petrochemical and oil exploitation activities mostly took place from the Soviet era.

According to the Blacksmith Institute Sumgait was chosen as one of the 10 most polluted cities in the world. As an example it can be shown that the average harmful emission load for Azerbaijan was 24 tons per sq. km in 1990 and 1991. However the contamination of Baku and Sumgait with harmful emissions was higher many times as 400 tones per sq. km in Baku and 1200 tones in Sumgait. After the period of collapse of Soviets Union many factories and industrial places stopped their activity that was better toward the environment since the emission of pollution was stopped (Ismailov et al).

In 1990 the amount of the wastes released from the stationary sources to the air was 2.1 million ton. As a result of monitoring and environmental protection procedures taken by the Ministry of Ecology and Natural Resources of Azerbaijan the amount of harmful substances decreased up to 344 thousand tons. The total emissions from mobile and stationary sources from 1990 to 2002 are given in (Figure 6). However because of the increase number of automobiles in the last years the amount of the air wastes also increased. According to the Ministry of Ecology and Natural Resources of Azerbaijan the transportation is a great air polluter and acts as a main polluter in comparison with stationary sources (Figure 7).

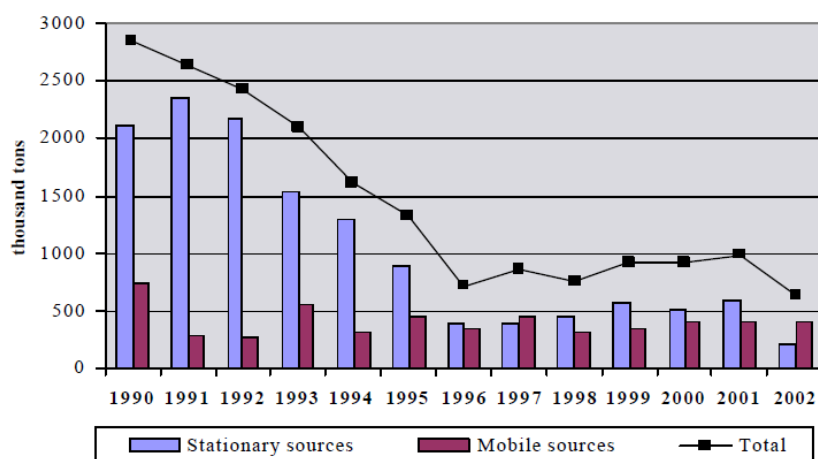


Figure 6: The amount of harmful substances released to the atmosphere from 1990-2002 (in thousand tons) (State Statistical Committee. Statistical Yearbook. 2002)

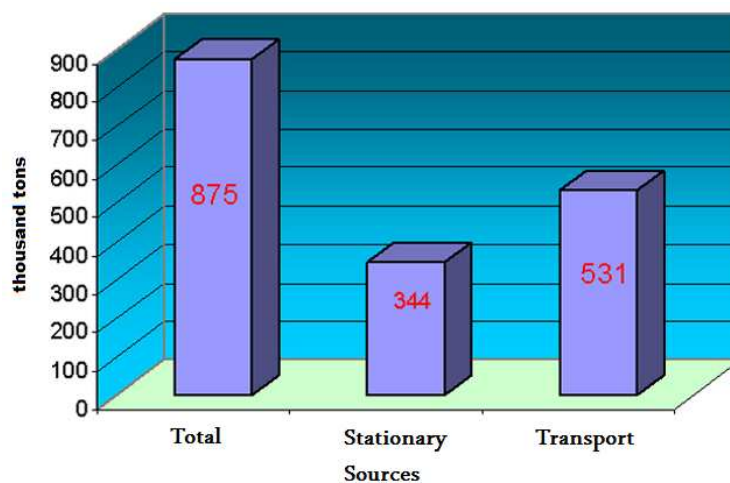


Figure 7: The amount of harmful substances released to the atmosphere from the sources in 2006 (In thousand tons) (Ministry of Ecology and Natural resources of Azerbaijan Republic 2006).

As we know throughout the history because of the using of old technologies led to the pollution of the soil with oil and mineral substances. Only around the Apsheron peninsula and places surrounding it the magnitude of the polluted places consist of more than 10 thousand hectares of which 7, 4 thousand belongs to the agricultural land. In some places oil substances penetrated far deep to the soil about 3 meters and pollute the groundwater. In the places with the oil refinery and exploitation activities soil became polluted with the oil and carbohydrates that also became the source of the air pollution (Ministry of Ecology and Natural Resources 2008).

The concentration of the pesticides in the agricultural lands of the Azerbaijan is more than in any post-Soviet countries. According to the Ministry of Ecology and Natural resources of Azerbaijan in 1990th the amount of the pesticides used in every hectare of the cultivation of cotton consisted of 30-40 kg while in grape lands it was used about 150-180 kg per hectare. In addition there is no place to store the old pesticides. Around the Baku there are containers that

store 8000 tons of pesticides and in some of them there are damages that lead to the leakages. This results with the air pollution and also to the soil and groundwater pollution during the rainfall.

In the area of conflict - Nagorno-Karabakh the minerals, forests and other lands are being exploited thus adding the environmental tension to the conflicts. Additional security concerns in the areas of conflict are the use of landmines on frontlines and sporadic clashes by soldiers bearing light arms. Large areas of land are rendered inaccessible to the local population, leading to reduced land use, loss of livelihoods and displacement. The military situation badly influence to the waste management and disposal and the maintenance and renovation of irrigation and hydroelectric dams, constraining economic growth (UNDP, UNEP, OSCE 2004).

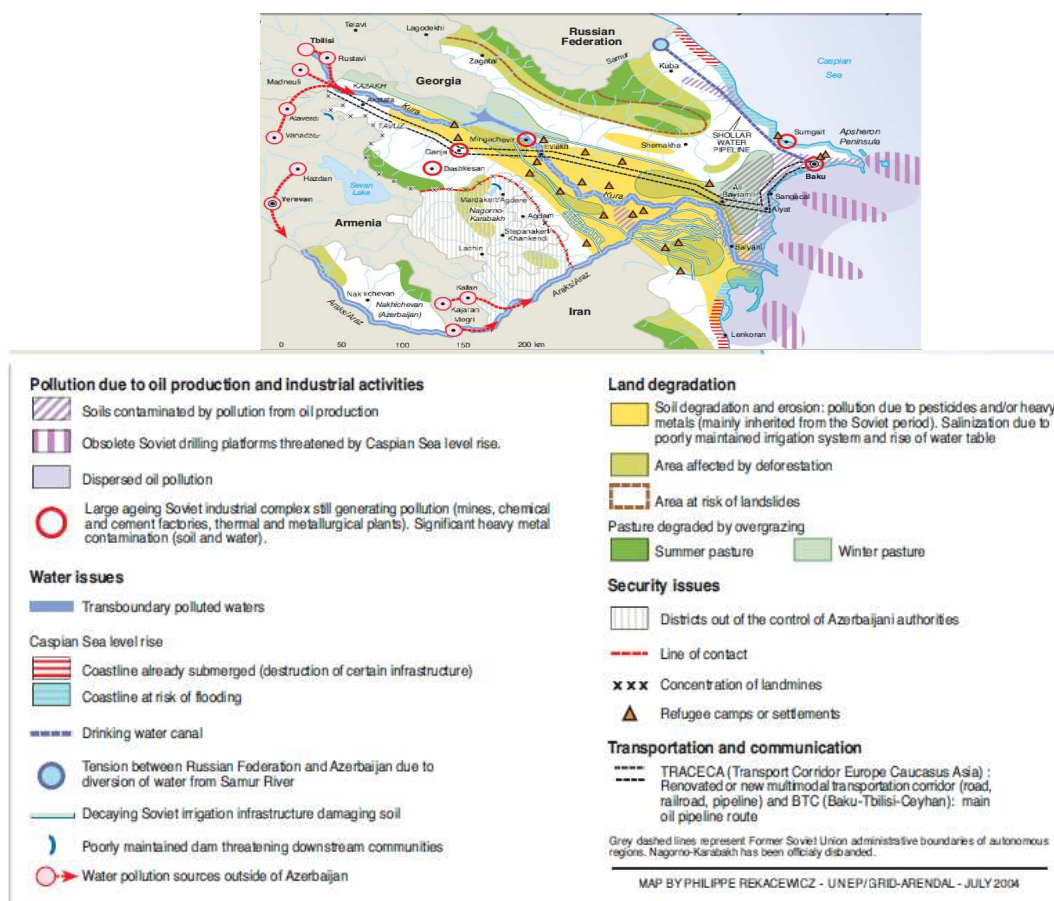


Figure 8: Environmental degradation in Azerbaijan (UNEP/GRID 2004)

The great land of Azerbaijan along the river Kura under the erosion because of the high levels of use of pesticides and heavy metals that is inherited mainly from the Soviet Union as well as salinization and erosion due to the very poor irrigation system and rise of water level. The great Caucasian mountains spread in Northern Azerbaijan are under the danger of deforestation since the lack of energy sources in rural areas lead to the use of forest as a source of energy. In addition almost all part of the land on the Caspian coastline and infrastructure are affected by the sea level rise. Southern cost of the Caspian Sea is affected by disperse oil pollution and the obsolete Soviet Union platforms threatened by Caspian Sea level rise (Figure 8). The news presented by the Al-Jazeera in 2008 and the sayings of journalists and interviewers declares the severity of the environmental problems that still exist as severe as before.

“For more than centuries the oil industry became the profit of Azerbaijan. Here a chemical factory left form the soviet era makes the problem worse. Runoff water has stagnated adding other toxic shade to this water. In total 35 000 hectares of land was damaged by the oil industry which is still increasing its production. The concentration of many harmful chemicals in air and soil is very dangerous for the health. The cleanup is just beginning and 37 hectares were cleaned so far this year that is tiny fraction of polluted area. This process will take many decades. The eight hundred million dollars has been amounted for the government for the cleanup. The oil has brought to Azerbaijan the profits but costly problems too”.

“Now the pollution threatens the entire community. Scary thing is that the young generation will be sick. Nation will eventually die out.” Telman Zeynalov, Ecologist, 2008

“Here in all parts of Apsheron peninsula the oil is so thick that you can actually smell it in the air. It is difficult to imagine what is must be life for the thousands of people living just near over there”. Hamish Macdonald, Journalist, Al-Jazeera, 2008

The main issue in Azerbaijan is the transboundary pollution issues that comes from the major rivers passed through the other countries and end up in Caspian Sea flowing all way from the

North – West to South – East part of Azerbaijan. The Kura-Araks/Aras river system is the essential source of the fresh water for all three countries in Southern Caucasus countries – Azerbaijan, Georgia, and Armenia. Azerbaijan is particularly dependent on that river system for the irrigation and for portable water for more than half of its population (United Nation 2004). According to the recent monitoring activities that take place every month by the Ministry of Ecology and Natural Resources the Kura and Araks rivers are found as polluted from the industrial and municipal sources of the Georgia and Armenia (Figure 8) and the concentration of harmful substances exceeds the permissible levels. In addition the concentration of phenol and zinc also exceeds the permissible norms (Ministry of Ecology and Natural Resources 2009).

Recently in order to improve the environmental situation in Apsheron peninsula World Bank began three projects named Apsheron Rehabilitation Program (APR). The amount of World Bank finance for these projects amounts \$164 million. It was prepared according to the Azerbaijan Government's Environmental action plan and the projects are followings:

- 1) The Contaminated Sites Rehabilitation Project (WB loan of \$74.50 million) - the disposed radioactive from the iodine enterprises will be cleaned;
- 2) The Large Scale Oil Polluted Land Clean-up Project (WB Loan of \$60 million) - onshore oil production will be rehabilitated;
- 3) The Integrated Solid Waste Management Project (WB Loan of \$29.5 million) -the management of the solid waste in Baku city will be improved.

In the future Apsheron Rehabilitation Program will be directed toward the dealing with the other complex environmental issues and raising public awareness that is very important issue. (World Bank 2008). Azerbaijan also became a member of most international agreements and conventions about biodiversity (Table 2)

Table 2: International environmental conventions ratified by Azerbaijan (Azerbaijan Academy of Science).

International convention	Year ratified
UNESCO Convention on Protection of World Cultural and Natural Heritage	1994
UN Framework Convention on Climate Change	1995
UN Convention for the Protection of the Ozone Layer (Vienna Convention)	1996
Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), and Agreement on Protection of Sturgeons	1998
UN Convention to Combat Desertification (CCD)	1998
Agreement on Mutual Cooperation of Commonwealth of Independent States in the area of Hydrometeorology	1998
Convention on Conservation of European Wildlife and Natural Habitats (Bern Convention)	1999
UNECE Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters (Aarhus Convention)	1999
UNECE Convention on Environment Impact Assessment in the Transboundary Context (Espoo Convention)	1999
UNESCO Convention on Wetlands of International Importance especially as Waterfowl Habitat' (Ramsar Convention)	2000
UN Convention on Biological Diversity (CBD)	2000
UNECE Convention on the Protection and Use of Trans-boundary Watercourses and International Lakes (Helsinki Convention)	2000

FAO Convention on Plant Protection	2000
Protocol on UN Framework Convention on Climate Change (Kyoto Protocol)	2000
Protocol on Substances that Deplete the Ozone Layer (Montreal)	2000
European Agreement about Transportation of Dangerous Loads on International Routes	2000
UN Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal (Basel Convention)	2001
UNECE Convention on Long-range Trans-boundary Air Pollution	2002

As we mentioned above the old and outdated technologies from remained from the past was still used in Azerbaijan in order to stabilize economy. However after the signing of the Contract of the Century with 11 international oil companies it was assured to get new oil exploitation and refining technologies that would prevent the pollution of onshore and offshore.

“The contract of the century” was signed between consortium of oil companies headed by British petroleum (BP) and SOCAR (State Oil Company of the Azerbaijan Republic). The contract was signed in 1994 in the period of 30 years. This contract aimed the production of 80.000 barrels oil per day. However output was expected to reach 700.000 b/d. It was provided to develop offshore oil fields like Azeri, Chirag and Guneshli in the Caspian Sea and the estimated reserves are 3, 8 billion barrels (Azerbaijan International Journal, 1994). The %90 of exports in Azerbaijan lies on oil production (Figure 9).

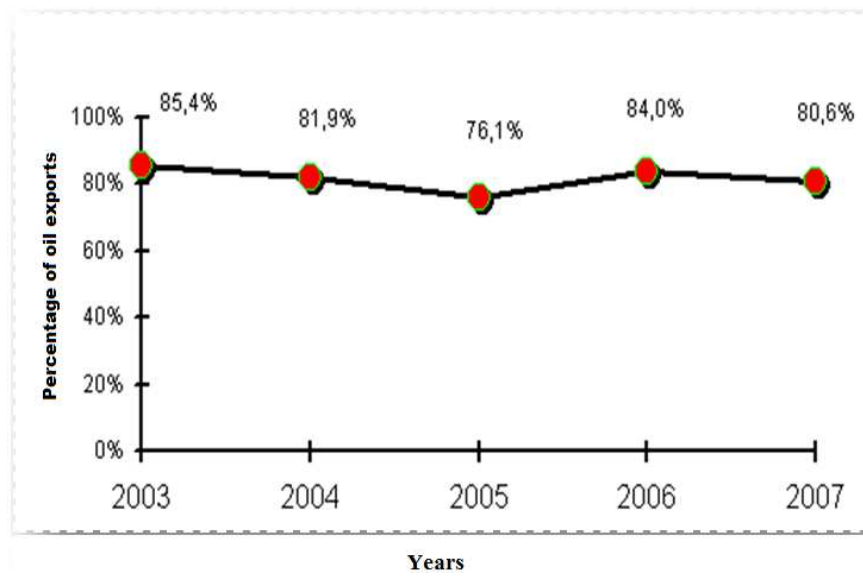


Figure 9: Trend of oil exports in Azerbaijan from 2003 to 2007 (State Statistic Committee of Azerbaijan Republic 2007)

1.1.2.2 Caspian Sea environmental problems

One of the great environmental suffers is Caspian Sea. Throughout many decades it was exploited and used for the transportation and polluted from different sources with the less attention to the environmental consequences of this unique sea. The riparian countries of the Caspian Sea are the Republic of Azerbaijan, The Islamic Republic of Iran, the Republic of Kazakhstan, the Russian Federation and Turkmenistan. The eastern part of Azerbaijan extends along the Caspian coastline for more than 800 km.

According to the Ministry of Ecology and Natural Resources the main environmental problems of Caspian Sea are the followings:

- The reduction of some commercial fish stocks, including sturgeon;
- The degradation of coastal landscape and the destruction of coastal habitats;
- The threat to biodiversity;
- The general deterioration of environmental quality;
- Invasive species; and
- Contamination due to oil and gas production as well as other industrial, agricultural and municipal sources.

Caspian Sea was one of the centers of oil exploitations from the late 17th century. The famous oil barons and oil companies in the past are shown in Table 3. The impacts to the coastal part of the Caspian Sea come mainly from the natural and human made activities. As we know natural impacts is the sea level fluctuation, impacts of the climate change. With regard to the human made impacts these are severe agricultural activities, urbanization, poor infrastructure management, industrial activities etc (National Caspian Action Plan, 2007). The international

comparison of the water abstraction from natural sources, its consumption, losses and discharge of waste waters in CIS³ shown in Table 4 .

Table 3: Local oil barons and foreign oil companies in old Azerbaijan (Mir-Babayev Y, 2004)

<i>Name Local oil barons and foreign oil companies</i>	<i>Activities</i>
<i>Nobel Brothers</i>	The Nobel Brothers Petroleum Company was an oil-producing company established in St. Petersburg in 1879. The primary owners were Ludwig, Robert and Alfred Nobel. On April 10, 1902, the company signed a contract for the purchase of oil fields in Romany (Azerbaijan), which were owned by the oil producer Isabey Hajinsky.
<i>De Rothschild Frères</i>	The Caspian Black Sea Society, established in 1883 by A. Rothschild, was the main exporter of oil products. This company sold 36 percent of total exports, compared with the Nobel Brothers, which sold 18 percent. The remaining exports were distributed among other exporters.

³ CIS - Commonwealth of Independent States an alliance made up of states that had been Soviet Socialist Republics in the Soviet Union prior to its dissolution in Dec 1991

<i>Royal Dutch Shell</i>	<p>Shell was established on October 18, 1897 by Marcus Samuel Jr.</p> <p>Ranked one of the largest British oil companies in Baku, it owned 30 ocean-going ships, and more than 340 oil terminals located between Baku to Shanghai. Altogether, up to the beginning of the 20th century, British oil producers took on the management of more than 11 percent of the Baku oil fields</p>
<i>Hajji Zeynalabdin Taghiyev</i>	<p>His largest oil companies were fourth in terms of oil output, preceded by the Brothers Nobel and the Caspian Partnership. In 1885, his company produced some 7 million poods of oil and 2 million poods of kerosene.</p>
<i>Aga Musa Nagiyev and Shamsi Asadullayev</i>	<p>They were the largest Baku oil producers. Established in Baku respectively in 1887 and 1893, they produced between 7-12 million poods of oil annually. These companies owned oil fields, oil distilleries and oil tankers.</p>
<i>James Vishau</i>	<p>One of the sources of foreign capital inflow to Baku</p>
<i>The Russian Oil General Corporation</i>	<p>Established in London in 1912 by the most important Russian and foreign banks united 20 companies. These included A.I. Mantashev & Co., G.M. Lianosov & Sons, Adamov and sons Moscow Caucasus Trade Company, Caspian Partnership, Russian Petroleum Society, Apsheron Petroleum Society and others. This agglomeration produced more than 30% of Russian oil by 1916.</p>

Table 4: International comparisons of water abstraction from natural sources, its consumption, losses and discharge of waste waters in CIS (State Statistical Committee of Azerbaijan Republic 2007).

	Water abstraction from natural sources	Water consumption	Water loss during transportation	Discharge of polluted waste water into surface water reservoir	of which without treatment
Azerbaijan					
2000	11110	6588	3053	171	170
2006	12360	8865	3495	163	160
Belarus					
2000	1837	1700	117	25	0,1
2006	1674	1546	108	9	-
Armenia					
2000	1871	1046	759	237	236
2006	2827	1991	836	150	124
Georgia					
2000	2010	779	505	394	152
2006	...	...	...	...	...
Kazakhstan					
2000	19830	14678	4946	155	35
2006	21244	18442	3166	240	132
Kyrgyzstan					
2000	8024	4976	1667	4	4
2006	8007	4532	1831	13	10
Moldova³					
2000	918	849	64	9	0,5
2006	854	...	61	7	...
Uzbekistan					
2000	...	...	...	...	...
2006	...	...	...	...	...
Russia⁴					
2000	75,9	66,9	8,5	20,3	4,5
2006	70,1	62,2	8,0	17,5	3,5

The pollution of Caspian Sea is not concentrated only to the riparian countries. The transboundary river pollution from other countries is one of the main polluters of the Sea. The untreated industrial and municipal discharges from the neighboring Georgia and Armenia pollute the surface waters that flow to the Caspian Sea passing the Azerbaijan territory.

As we mentioned before the concentration of DDT and other kind of pesticides in Azerbaijan soil is significant and it mainly remains from the Soviet times. During the Soviet times mainly in coastal zones of Caspian Sea using DDT and other types of pesticides developed the production of cotton. The use of pesticides is very dangerous and effect can be maintained for a long period of time (Napler Sh. 2003). The amounts of DDT in coastal sediment of Caspian Sea are presented in Figure 10 (De Mora et al 2003).

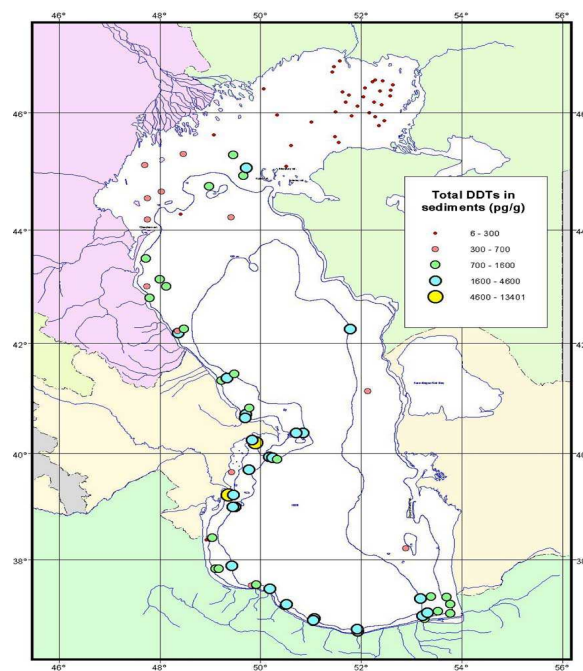


Figure 10: DDT in coastal sediments from the Caspian Sea (Stephen de Mora 2004)

According to the recent news by May 21, 2009 more than 200 dead seals were washed out from the sea. The environmentalist urge that the death of the seals mainly because of the pollution of the Caspian Sea and there is also assumption about the virus called phocine distemper virus (PDV). The examination and the water samples from the sea is continued to be analyzed and the results will be informed in near future (RIA Novosti, 2009). The pollution loads from riparian countries shown in Figure 11.

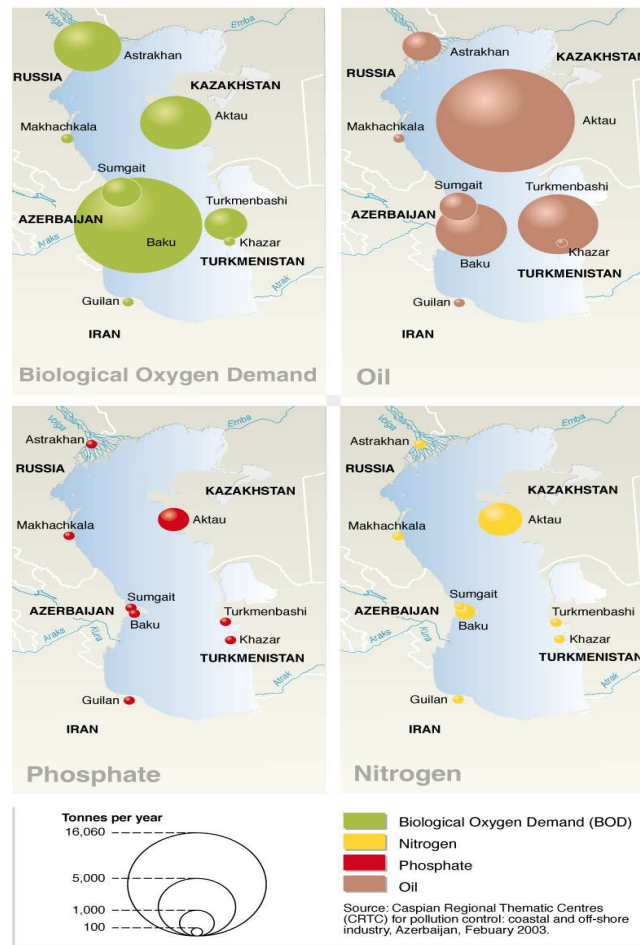


Figure 11: Scale of the pollutants discharged to the Caspian Sea by the littoral states (Vital Caspian graphics)

Sea level fluctuation is one of the leading problems that coastal residents face with (Figure 12). Throughout the years there were huge number of ecological refugees that had to be displaced because of the disastrous sea level fluctuations. The rapid rise of the Caspian Sea level (about 2.25 meters since 1978) has caused great concern to all five surrounding countries: Azerbaijan, Iran, Kazakhstan, Russia and Turkmenistan. Endowed with an oil-rich basin and one of the planet's most biologically productive water bodies, the region is characterized by many big cities and other human settlements along the sea coastal line. In the coastal zone, flooding has ruined or damaged buildings and other engineering structures, roads, beaches and much farm land. This flooding has been aggravated by intensified storm surges. In

addition to the danger posed to oil fields (e.g.in Kazakstan and Azerbaijan), the sea-level rise results in changes in: water regime, hydrochemical regime of river mouths, dynamics and chemical composition of groundwater, structure and productivity of biological communities in the littoral and in river mouths, sediment deposition patterns, pollution by heavy metals, petroleum products, synthetic organic substances, radioactive isotopes and other substances (Tolkatchev A).

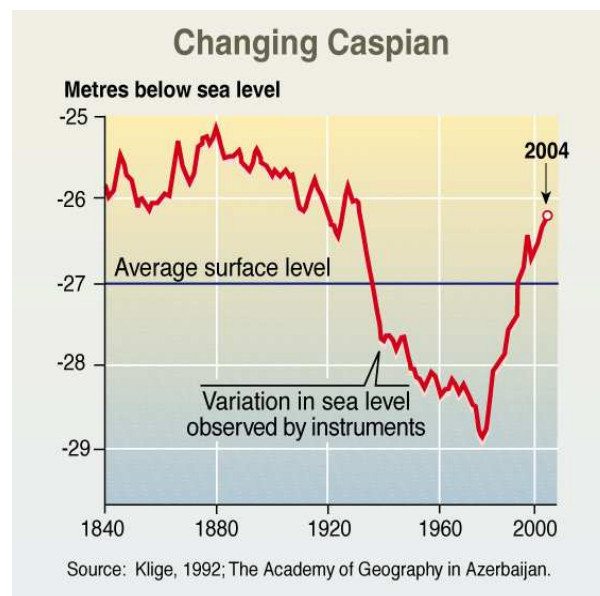


Figure 12: Variations in the water level of the Caspian Sea according to instrumental observations, 1840-2004 (Source: Klige, 1992)

Protection of the Caspian Sea became the main issue in riparian countries and with the power of international organizations began the protection activities. It is true that in order to protect Caspian Sea all countries have to have joint activities and responsibilities and the need for the center to join all countries and assess their environmental activities. For this reason the Caspian Environmental program was established in all five states directed toward the protection of the Sea.

Caspian Environment Program (CEP) is the umbrella program that established by the littoral states for Sustainable development of Caspian Sea environment. CEP directed toward the assistance of surrounded states with the help and support to achieve the environmental stability in Caspian Sea. It is one of the main indicators of regional cooperation between the riparian countries of Caspian Sea. It is supported by GEF, UNEP, UNOPS, UNDP, World Bank, European Union's Tacis Program. CEP was officially established after the Ramsar meeting in Iran. The list of regional agreements since 1991 for Caspian Sea protection presented by Caspian Environment Program is followings:

1. A draft Convention on the Conservation and Utilization of Bioresarches of the Caspian;
2. The Baku Resolution, June, 1991;
3. The Tehran Communiqué, October 1992;
4. The Astrakhan Communiqué, October 1993;
5. The Declaration on Environmental Cooperation in the Caspian, Almaty, May 1994;
6. The Protocol of the Meeting on Programs for the Protection of the Environment in the
7. Caspian Region, Almaty, 1994;
8. The report of the joint meeting of the task force and TDA experts, Almaty, 1997;
9. National reports on the state of the Caspian, 1998;
10. Report of TDA Experts Meeting (including Framework TDA), Tehran, April, 1998;
11. The decisions of the First meeting of the Interim Steering Committee of the CEP, Ramsar, 1998.
12. The Framework Convention on environmental protection of Caspian Sea (Tehran, November 4, 2003).

The main pollution sources from the coastal states of Caspian Sea for the year of 2001 presented by the Caspian Environment Program included in Table 5, Table 6 and

Table 7 (Mahmudov 2001). According to authors the insufficient data and information on industries and discharge pattern have been available to gain an accurate load scenario. Therefore the comprehensive list of hazardous contaminants and their loads must be much longer.

Table 5: Summary of total contaminants load to the Caspian Sea from Industries (Rovshan H. Mahmudov 2001)

Contaminants load(tons/year)	Azerbaijan	Russia	Kazakhstan	Turkmenistan	Total
BOD	1,811.0	1,489.0	585.4	484.1	4369.5
TSS	742.0	767.0		48.9	1557.9
Phenol	18.6				18.6
Oil	720.0	189.6	28.9	34.0	972.5
Mercury*	0.007-10.0				0.007-10
Total N	168.2	1.4	136.7	508.0	814.3
Total P	15.2	0.3	10.2		25.7
Cr	1.2				1.2
Sulfide	4.6				4.6

*The range is given for respectively treated and untreated wastewater discharge.

Table 6: Domestic wastewater load of contaminants (Rovshan H. Mahmudov 2001).

Contaminants, (tons/year)	Azerbaijan	Russia	Kazakhstan	Turkmenistan	Total
BOD	22,643.4	7,892.7	873.0	1,440.8	32,850
TSS	47,910.8	17,093.5	1,418.3	3,120.3	69,543
Total N	4,456.2	3,130.3	179.1	262.7	8,028
Total P	1,221.0	669.5	50.7	74.0	2,015
Bacteria¹	6.26 10 ⁺²¹	2.18 10 ⁺²¹	2.4 10 ⁺²⁰	3.98E ⁺²⁰	9.078 10⁺²¹

¹ The bacteria data are provided as number of counts.

Table 7: Summary of pollutants load to the atmosphere (Rovshan H. Mahmudov 2001)

Country ¹ <i>The bacteria data are provided as number of counts.</i>	NO_x	SO_x	Particulate	Oil/HC
	tons/year			
Azerbaijan	1525.0	6,756.1	4885.9	9,864.4
Russian Federation	1181.2	370.2	5963.5	124.7
Kazakhstan	108,930.0	100,511.0	63,798.0	37,266.2
Turkmenistan ⁴¹	44.2	1,210.0	0.2	31,011.3
Total	111,856	108,847	74,648	79,507

From the history it is obvious that before when the Caspian Sea was shared only with Russia and Iran the negotiations and arguments toward the oil and gas exploitation and also the borders of the Sea did not exist. It is true that the main reason for the arguments toward the status and borders in the Sea between the countries is the oil exploitations since only borders can solve the belongings of each country's sectors. In late 1920s and beginning of the 21st century the riparian countries began to argue over the oil sectors in Caspian Sea. It strengthened in 2001 after the attack from the Iran to the British research group that investigated the offshore sector of Caspian Sea for the oil and gas exploitation that is considered to be the disputed area between Azerbaijan and Iran.

1.1.3 Laws on mass media and access to the information in Azerbaijan

The freedom of the access to the information plays an important role in the development and considered to be the part of the democracy. The one of the main tools for the environmental protection is the access to the environmental information and it has a great impact on people's participating in decision- making process. The environmental information is very important since it can lead to the changing the activities of organizations, companies and people. It can be followed by the environmentally friendly activities that have a crucial role in environmental well-being and sustainability (Jendorska 2002). According to the Hindman (1999) the access to information and knowledge lead to the establishing the projects with regard to particular information or can influence powerful levels of the society to make changes.

According to the Azerbaijan Constitution signed in November 12, 1995 by the Haydar Aliyev declared the freedom of the information. The Article 50 of the Constitution of Azerbaijan Republic declares the prohibition of the censorship over mass media including print media thus establishing the freedom of mass media. The Constitution of the Azerbaijan Republic established in 1995 declares that the environment and natural resources belongs to people. There are number of Environmental laws established in Azerbaijan (Table 8).

The Article 78 of the Constitution of Azerbaijan Republic declares the protection of the environment to be the duty of every person. Also the Article 39 urges that to live in healthy environment is the right of everyone and every individual has right to gain the true information about the environmental problems and situation and also acquire compensation for the damage to his/her property by the distraction of ecological requirements (Constitution of Azerbaijan Republic, 1995). Moreover Article 11 in Law on Access to Public Information declares that the holder of the information have to disclose the information with regard to the risks for life, health, property or environment immediately.

Table 8: Laws of Azerbaijan Republic relating to the environment

30.12.1997	Law on Radiation Safety of the Population
	Forestry Code
27.03.1998	Law On Fisheries
23.06.1998	Law on Acceding to the Convention on International Trade in Endangered Species of Wild Fauna and Flora
	Law on Acceding to the Resolution on Protection of Sturgeon Species
08.06.1998	Law Environmental Protection
13.02.1999	On the Entrails of the Earth
	Presidential Decree on the Application of the Law on Hydrometeorological Activity
01.02.1999	Law on Acceding to the EIA Convention in a Transboundary Context
04.06.1999	Law On Fauna
09.08.1999	Land Code
	Water Code
10.08.1999	Law on gas supply

Azerbaijan is one of the countries who ratified the Aarhus Convention⁵. It was by the Azerbaijan and other 39 countries in 1999. The Aarhus convention is available for the countries of the United Nations of Economic Commissions for Europe. Moreover it is applies in the EU countries including former Soviet Union States. Azerbaijan declared about the right to access to the information, to the truth in environmental events and public participation in decision - making process (Global Campaign for Free Expression 2005). Examples of Aarhus activities are the followings:

- Raising awareness on local environmental issues through all forms of media.
- Providing the public and decision-makers with easy access to environmental information.
- Re-packaging environmental information in a user-friendly and attractive format.
- Engaging government and civil society and the private sector in dialogue and information exchange.
- Raising public awareness of environmental issues through organizing meetings and seminars on specific topics.
- Promoting participation in environmental decision-making by arranging public hearings on various national documents, including legislation.
- Organizing training for journalists, judicial staff, school children and other target groups.
- Providing free legal advice to citizens and organizations on environmental matters.

According to the Article 7 in the Law of Azerbaijan Republic on Environmental Safety the citizens and social units have rights to offer proposals to the state and NGOs (Non-Governmental Organization). In addition people can receive information from the state and NGOs about the sources of environmental danger and measures taken for prevention.

⁵ The Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters

However according to the United Nations Committee on Environmental Policy public participation in decision making process with regard to environmental issues, development of programs and plans is limited in Azerbaijan. The people can receive the information only from mass media if it exists. With regards to the environmental impact assessment it is obligation of the Ministry of Ecology and Natural Resources to include the public into the EIA (Environmental Impact Assessment) documentation process. The hearings by the Ministry of Ecology and Natural Resources and by the many foreign companies frequently take place (UN 2004). There is very few limitations on the spreading of the information and the print media can easily choose the topics and themes to describe.

Nowadays 1830 information agencies from which 1750 are the newspapers and 80 are the TV and radio agencies. %15 of the newspapers belongs to the government and more than %65 to the private organizations (Haydar Aliyev Foundation). At the regional level, only the Baku-Apsheron environmental committee has an information division that cooperates with mass media. Other regions still poor in the communication activities.

On March of 2009 the new changes and amendments were adopted in the mass media law of Azerbaijan. According to the new document, if the person without college education or foreign citizen appointed as an editor of any publication and violate the rights of media freedom or rights of journalists the executive body has a right to file lawsuit against him and close the publication to the period of two month (Seyfullayev, 2009). Unfortunately the law with regards to environmental education of journalists still did not exist.

1.2. Literature review

As we know that mass media, NGOs, public participation in different issues always plays an important role in recognition of risks and problems by the government and act toward addressing them in political agenda. In Soviet period the role of mass media and public participation in environmental actions was insignificant. Before 1980s this passiveness was the result of not public participation in decision making and also they did not have the right to declare independently to mass media or press about the new objectives to be included to policy. People were just able to improve or just promote the current goals by arranged activities.

The information about environmental problems and issues published not so often only occasionally. As the past researches show that the environmental topics in Soviet press were mostly general and very less in national agenda. According to the past examples we can see that in weekly magazine called “Ogonyok” there were only fifteen articles on general environmental problems from 1985 to 1988. Articles about the ozone depletion were covered only by two articles during the whole period of 1989 and 1992. According to another research example carried out in the years of 1960s and 1980s the same results were observed with the limited amount of environmental articles in weekly magazine called “Novoye Vremya”.

There were only two articles in 1960s about the ozone depletion, climate change and transboundary acid deposition and twenty in 1980s. The increase of the environmental articles in 80s with the peak in 1987 and 1988 was because of the Chernobyl accident that drew the attention of society. In 1990s the coverage about the global risks declined but it increased again in 1992 with the Conference held by the UN on Environment and Development (UNCED) (Sokolov et al 2001).

The newspaper coverage analysis and public survey of knowledge about cancer prevention made by Stryker et al (2008) confirmed with findings of analysis and survey that the attention of print media to the cancer issues was significantly associated with the public knowledge about this issues. The more coverage an issue receives, the more concern individuals have with

the issue. In other words, individuals learn how concerned they should be through the amount of coverage the issue receives (Wanta 1997, McCombs 2000).

One of the important approaches in organizing the information is framing. Framing is most commonly defined as “select[ing] some aspects of a perceived reality and mak[ing] them more salient in a communicating text, in such a way as to promote a particular problem definition, causal interpretation, moral evaluation and/or treatment recommendation for the item described” (Entman 1993, p. 52). The dimensions of any particular issues that are selected by media influence the public’s perception and interest of these issues.

Newspapers have a great opportunity to place the issue as an important one and such approach of the media can influence to the opinion of the public reading this articles. This is one of the main steps for the public attention to any particular issue that can be followed by a group demonstration and the movements that can lead to the changes in policies and placing the particular problem to the governmental decision.

As an example we can show the community responses to the Caspian Sea environmental disaster. The survey made with the people of three main rural cities of Azerbaijan – Astara, Lenkoran and Neftcala shows that they did not have the needed information to make a decision. As an example authors shows the shore protection from the sea level rise was not putting forward since they believed that the sea would never rise again. However after the sufficient information they get they offered recommendations and improvements that could be made in such conditions (Kudat et al 1999). The description of these recommendations is given in Figure A. 1. It is again shows as the great importance of the information for the people’s understanding and assessment of current conditions.

The main objective of environmental education (EE) is that citizens develop a responsible environmental behavior. Environmental awareness constitutes an important factor for the shaping of a responsible environmental behavior. The mass media can strengthen the degree of environmental awareness of the public, through the dissemination of environmental information (Skanavis et al, 2007). As we mentioned that newspaper and generally media is

the source of education. According to Coombs (1973) there three types of education. These are formal education, informal education and non-formal education (Table 9). The mass media is the non-formal education. According to Palmer (1998) and Skanavis (2004) the aim of both formal and non-formal education is to transfer the values and beliefs to the public that can penetrate to their behavior and reflect in their actions.

Table 9: The types of environmental education (Skanavis et al 2007).

Formal environmental education	Non-formal environmental education	Informal environmental education
Concerns EE programs developed exclusively in the limits of the national educational system, from kindergarten up to tertiary education	EE is extended beyond the limits of the official educational system and reaches all citizens regardless of age, income, and cultural characteristics	EE expands in all the life spectrum of a person, does not address a specific group of citizen, and there is not any form of evaluation. It is done through the mass media, libraries, community programs, or the internet.
EE addresses groups, with common characteristics (age, level of education). EE is incorporated in the analytical educational curriculum.	EE programs take place mainly in centers of various communities and professional organizations, in nature centers and in institutions as museums, zoos, and aquariums, etc. (Heimlich, 1993; UNESCO, 1986) and the attendance of the public is voluntary.	
Exclusively the teacher or the educational institution under the guidance of the Ministry of Education determines the quantity and quality of environmental knowledge.	EE responds in local environmental problems, which have great impact and are more comprehensible by the local residents (UNESCO, 1986) It also includes mass media (Howes, Disigner, 1988)	

The newspapers are considered to be the most reliable information source as well as being readily available for examination. The awakening of public concern over environmental degradation and the media's environmental coverage in Japan arose with the onset of severe pollution problems in the mid-1950s. Such media coverage and public concern with pollution problems spurred government action, leading to the enactment of a series of pollution control laws beginning in 1971 (Ohkura 2003).

The mass-media are key actors in the identification and interpretation of environmental issues (Boykoff et al., 2007; Schoenfeld et al., 1979; Spector and Kitsuse, 1977). It is important for the scientists to use more simple and colloquial language in the press to make people clearly understand the issue. Research has shown that people get most of their news from mass-media sources (NSF 2004; Project for Excellence in Journalism, 2006).

Leaders of environmental groups point out that the involvement of the media with their movement is important in some degree (Hobo 1989; Yamashita 1989). Whether the media are viewed as independent or of actively engaged with society, the influence of the media and mass communication is regarded as a powerful force in society (Altheide 1985).

The idea of environmental education (EE) was developed in the 1960s and 1970s during the evolution of the environmental movement and it was considered as one of the most effective measures for environmental problems. It was not simply the education of experts for the confrontation of environmental issues, but it focused on education of all citizens. It was aiming the fundamental changes in environmental attitude, behaviors and values of citizens of all age groups (Skanavis et al, 2007). The mass media influence the environmental perception and actions of the public (CEIA, 2000; Nitz, 2000).

In the study of Ishahaya bay land reclamation project the journalists admitted that their reportage have greatly reflected on Japan's degraded environmental problems. They also urge that environmental condition in Japan could have been less severe if newspaper reporters had covered it at an earlier stage and in a more accurate manner (Kihara 1991).

The environment first became a subject of media coverage in the 1960s that such coverage grew to an initial peak around 1970, and then receded to a higher-than-early 1960s plateau (Funkhouser 1973; Brookes et al., 1976; Hansen 1991). The relative dramatic increase in media interest in the environment occurred in the late 1980s and 1990s (Love 1990; Hansen 1991). Taking into account the trend of the environmental coverage in media most of the literature in newspaper coverage of environmental issues suggests that awareness and concern to environment began from 1960s and had a great increase in the 1970th then decreasing again in the late 1970th then increasing again since the middle of 1980th (Young 1990; Hansen 1991). These studies show the linkage between the events and awareness and it is one of the main indicators to show the influence of media coverage to the events and vice versa.

As it was confirmed in many international conferences the mass media must play a vital role in the process of environmental education. In addition the involvement of environmentally aware professionals in the field of mass media results in successful promotion of responsible environmental behavior of the audience (Skanavis et al 2007, Tsampoukou-Skanavis, 2004)

Returning to the Soviet times the most authors urge the press coverage of environmental issues was not supposed for the public but only for part of specialists and intellectuals. It is also true that efforts in internal and external activities were nor efficient to raise public concern about environmental problems. In many areas to implement the goals were not possible to do because of the funding problems, enforcement policy and technological problems. The process of decision-making was not open to public and less role of mass media showed that there were no connection between the experts and public.

Mass media has a great influence to the public education since in many cases organizations and governments refer to the mass media to spread the information about the environmental issues. As one of the examples we can show the notes of Gamson and Modigliani (1989) that in order some events to be defined by the society the role of media is enormous. The one study also shows that the public's perception of the environment can be influenced and affected by the media. It is also proved that the additional and extra information about any environmental

issues can be more closely and seriously accepted by people (Corbett and Durfee 2008). Environmental related articles should not be presented as abstract. It have to be clearly described that can be understood by lay person and at the end the solution and future plans have to be given to the readers or any opportunities that public can do toward the solution of the problem. In this case the environmental problems have a chance to be solved in more easy and collective way.

Journalists reporting about the environmental issues more likely to have the environmental education but in most cases and in cases of the Azerbaijan we see that it is not. The education of journalists is a weak. Journalism courses offered in the state and private Universities but it is not have a sufficient practice skills and the admission of journalism programs does not requires interviews that can result with the flow of untalented students into the journalism schools (IREX 2002). Also generally there is not so much influence of scientists to the newspaper coverage that is also preventing public to get an exact scientific data. It is true that the journalists have to have environmental trainings or education in order clearly demonstrate public about the existent problems.

In Greece researchers tried to evaluate the environmental understanding of Greek journalists. They studied the newspaper coverage of environmental issues as the same time indicating the lack of environmental education of journalists in Greek Mass Media Departments (Tsekos C et al 2008). The same cases are also observed in Azerbaijan since the environmental education for journalists is not satisfactory. It is true that the majority of the print media in Azerbaijan busy with covering political events and focus less on ecology, social development, health etc (IREX 2002). Azerbaijan is the oil country and the professionals of this field are rising every year. In journalism also the qualified candidates in this field are always in demand. Thus many print media also cover a big portion of the newspaper with the oil news (IREX 2001). Thus scientists should have more preference and opportunity to interact with mass media and give clear and comprehensive information to the public.

The newspaper and television is the main sources of the environmental information to the audience. However it is also pointed out that the newspaper can tell much with the comparison of some minute talk in TV news (Steel et al 2005). In addition the increase news coverage of health issues has an ability to influence to the public's concerns about any particular disease presented in news article (Scrully et al 2008). The news media has a great influence to the public opinion, attitudes and behavior. According to the scientists the way of how the news is described in the media can influence to the public opinion (Durrant 2001). According to Fan (1996), the way how the drug issue demonstrated in American newspapers influenced to the public perception of the drugs among the readers.

It is also true that the media coverage is very important in transforming the social problems to individual troubles and vice versa. Many scientists urge that discussions of the frequency of environmental or any other hazards or issues lead people to take actions since they receive personal relevance with regard to certain issue and readers are more likely to seek for the new information and knowledge about the particular problem or news described in mass media (Brown et al 2001). In addition the print media is the cost effective since it can be distributed without any payment it is also fast, flexible and easily reachable by the public (McQuail 1979).

The advantage of the news media is that it is primary source of information for the public. Although the TV are considered to be a major player in information delivery the newspapers are the important and stable source of information since it can be found and investigated from archives that is impossible for general person from the public to do with TV news. Thus the print media is one of the main sources of information and very important tool since it can reach almost every house not considering the status or level in which the family or person lives.

The news media play an important role since they are both reflect the public interests and inform the public of any existed problems or events. According to research done by Wahl's (2002) it is important to point out that the mental illness is likely influenced by what they see in the news. In addition these are trusted source of information that affects expectations of people about different issues.

Thus we see that the news description of any particular issue has a great influence to the public opinion and behavior. These kinds of examples can be referred to any news that gives knowledge about any other field.

2. OBJECTIVES OF THE STUDY

The growing concern with the environmental problems in the world we would expect the more print coverage with regard to current environmental problems. This study aims to analyze four newspapers in Azerbaijan in order to evaluate the way of providing news coverage of environmental issues within the years of 1986-2008. Media is realized to be a powerful tool to manipulate the communities or general public's mind; even this tool can be used to change the political structures of the countries. These analyzes can give a reflection of the real picture of how the mass media (newspaper) acting as one of the main sources of environmental information to direct the society into a constructive and protective way of thinking about the environment. Taking into account the environmental problems mentioned before as well as global environmental problems the study is going to provide a comprehensive overview of trends in news coverage about the Caspian Sea and other global and regional environmental issues in Azerbaijan newspapers setting over 23 years period. The aim is to find how much the newspapers are attentive to the environmental issues happened in regional and global basis. In addition since the attention of the printed press and the way of coverage is an indicator of the level of awareness of the general public, this work will also get an approximate measure of the general public knowledge about environmental issue that plays a crucial role in development of environmentally sustainable society and propose the recommendations for the further improvements of the newspaper coverage.

According to Martens (2006) one of the central elements of sustainability science is co-production of knowledge and learning through doing and doing through learning. Thus public knowledge, awareness and education through all sources of information is significant for the construction of a sustainable future since as it was mentioned the sustainability can be reached by the joint activity of all spheres and fields. However according to Marcuse (1998) who discuss the sustainability for example of the world poverty does not mean to sustain the poverty but the reduction of poverty. Thus in the case of environmental sustainability the bad environmental condition surely should not be sustained but sustain after the improvement of

existing situation through different ways. The media is among this ways. In addition the experts, scientists or professionals in environmental field are considered to be one of the best ways to get information. However because of lack and infrequent interaction with them the mass media is considered to be the leading educator in Azerbaijan.

As it was mentioned in previous chapters the openness for environmental issues in media in USSR began from the late 80s under the rule of Mikhail Sergeevich Gorbachev. The aforementioned environmental problems existed through all these years and print media began to disseminate environmental information in the late 80s after the removing the censorship over mass media. Thus in this study the years after 1986 were taken to be analyzed. It is also important to see the change in tendency and improvements made toward the print media attention to environmental issues through these years.

After the independence in 1991 Azerbaijan being one of the fifteen independent states after the collapse of Soviet Union directed his power mainly to stabilize the economic condition and it came to the level of stabilization after the 1997. After that time the main attention was directed to the oil and gas issues and improvement of the technology for oil exploitation. The Caspian Sea becomes the main source of economic profit with its rich oil and gas reserves. It started to be exploited by not only Iran and USSR but the five riparian countries. Along with the Caspian Sea problem the other global and regional environmental problems took a great attention in the world. The importance of awareness about the environmental problems and issues was and presently is in a great need. The more economic gain has to lead to the more environmental problems but create an opportunity to spend the gained economic profits for the sake of environmental well-being. Taking it into account it is important to find out the level of balance in publishing of environmental and other issues in the newspapers.

Throughout the history Azerbaijan passed very difficult way and the generation of each time was brought up differently. Before the 1991 during more than 70 years when Azerbaijan was one of the countries in Soviet Union the society mostly didn't have information about the environmental problems and issues since no source of information including newspapers

inform about it. It shaped the people's mind as there are no problems in the environment at that time. After the 1986 during the period of 23 years, political, economical and social structure of Azerbaijan has been changed very drastically. In that storm of evolution in all areas, the coverage of environmental issues by printed press and perception of them by general public were also varied.

The print media was chosen in this study since it plays a significant role in informing and educating people about the environmental problems. Numerous researches have shown that the lack of information in the society lead them to the wrong and primitive actions toward the environmental issues. As an example the misinformation of the people in South Azerbaijan about the Caspian Sea level rise disaster can be a good example (Figure A.1). In addition many scientists also urge that the issues presented in the newspapers are those that are important for the people. Another example of the great impact of the print media to the public knowledge presented is the work of Stryker et al (2008) who found the association of results of content analysis and the survey made among the people. They also suggested that the news media have a potential to change in behavior and attitude and influence the knowledge. News also can make people to feel the issues as a personal and act positively toward it. The success of the role of the mass media as effective environmental educators depends on the content of environmental information, which must be related to the needs, the way of living and the characteristics of the audience (Skanavis et al, 2007).

The print media is cheap and broad source of information for all levels of society. The readership of the newspapers is always more than circulation since the same newspaper is read by more than one person. This issue also tackled in the research of the Durrant et al (2003), Steelman and colleagues where the readership was calculated as more than circulation that indicates the the availability and broadness of the print media in the society.

This study is not going to deal directly with the public awareness or public perception analysis. With the results got from this research we could see the conditions of the media, its passiveness or activeness, the approximate imagination of knowledge given to readers, the

influence of changes in times and periods to the coverage and importance of environmental issues and as the 15 newly independent states released after the independence had and have the same conditions with Azerbaijan the picture of conditions of these states can be derived from the results.

The Caspian Sea being the unique watershed in the world that is source of economic gain for riparian countries with its rich oil and gas resources and sturgeon will be separately analyzed. It is important to find out which aspects used articles discussing the Caspian Sea.

The frequency of the articles will be analyzed since the frequently covered articles are more likely to preserve as important in minds of news consumers. The knowledge about topics receiving prominent coverage should be more easily retrieved from memory than those covered less frequently (Stryker E 2008). The prominence of the articles plays an important role since those placed in front pages are considered to be more important and newsworthy than those in the back page (O'Donnell 2008).

The thematic analysis is important to describe the content of articles that is used by the many previous researches some of which done by Tsekos (2007), Durrant et al (2003), Scully et al etc. Dimension of the coverage of news indicate one's broadness of the perception that is directly related to the intellectual level of that person or a society. Taking into account that Azerbaijan lack of environmental education and environmental related subjects for the students who major in Journalism, the level of journalists' collaboration with scientists, professionals or experts in presenting the information and also contribution from their side is in great need. The analysis to find out the participation and collaboration of the scientists in constructing the information will be analyzed.

Number of themes mentioned in one article will be determined and overall values presented in order to represent and quantify the broadness of perception. The combination of different themes in one articles is an indicator of its newsworthiness, importance and more educative for the public.

Research Questions

1. How much the newspapers are attentive to the environmental issues happened in regional and global basis? What is the frequency of environmental articles?
2. Are there changes or improvements in environmental attention though all analyzed years?
3. Are the newspapers the good source of the information with regard to the ecological problems of the unique Caspian Sea? From which aspect did newspapers observed the Caspian Sea - economic gain, political or environmental issues?
4. What is the state of collaboration of journalists with the scientists and thematic broadness of the articles?
5. What is the prominence that is the indicator of the level of importance of environmental issues in the newspapers?
6. Is print media in Azerbaijan the good source of information and what should be done to improve it?

3. METHODOLOGY

The data were collected in two different languages (Azerbaijani and Russian), in three different alphabets (Cyrillic, Azeri Cyrillic, Azeri Latin). The difficulties of the data collection process were the absence of the electronic catalogue in the libraries. The years covered in Internet archives after the year of 2000 were not satisfactory for the analysis because of the poor Internet design and archive absence of many newspaper editions. As a matter of fact all data was conducted manually from hard copies in the National Library of Azerbaijan Republic during three month period Figure 13. Some months from the years of 1994 and newspapers for the year of 1995 for the “Bakinskiy Rabochiy” and “Khalq” newspapers were unavailable since this was the period of the political instability and many newspapers were closed and did not publish for a long time. Taking into account the limitation of time and the time consuming feature of the Xerox the newspaper articles were taken to the digital camera and analyzed via computer Figure 14.

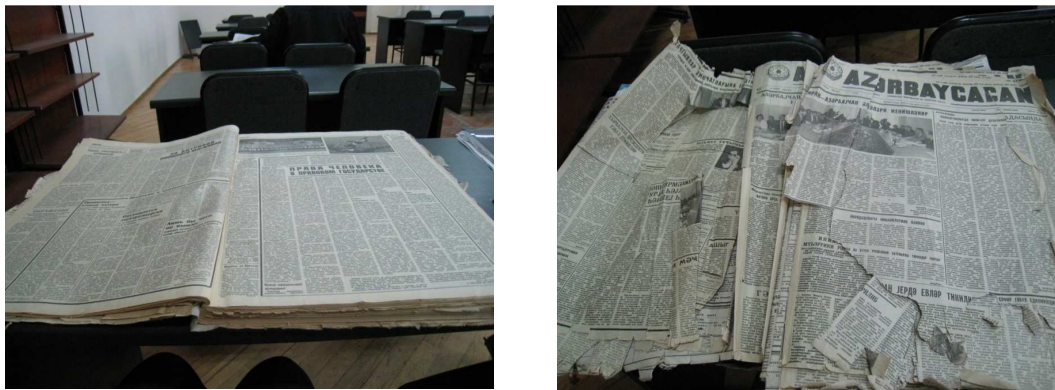


Figure 13: Pictures of the hard copies of newspapers



Figure 14: Example of a picture of the article taken to the digital camera.

The newspapers used in this study are “Azerbaijan”, “Bakinskiy Rabochiy”, “Izvestiia” and “Kommunist/Khalq”. These newspapers were chosen because these were recognized as one of the representative state newspapers with two of them (Bakinskiy Rabochiy, Kommunist/Khalq) publishing during the period of before and after the independence. The details about the format and number of pages of current newspapers are given in Table 10. The analyzed newspapers consist of four pages varying in some years up to 8 pages.

“Izvestiia” is one of the main newspapers in Soviet Union. It was high-circulated daily newspaper in former Soviet Union and present Russia. This word in Russian means “delivered messages”. “Azerbaijan” is the State owned newspaper the first edition of which was released in 1918 after the establishing of first Azerbaijan Democratic Republic. However with the demise of the Republic and entrance Azerbaijan to the USSR the newspaper stopped its activity. It began to publish again in 1993 after two years from Independence. “Bakinskiy Rabochiy” (Worker of Baku) is the newspaper printed in Azerbaijan during Soviet and post-Soviet period. First issue is May, 1906. “Khalq” is the state owned newspaper renamed in December 1991 after the independence. Before the 1991 the name of the newspaper was known as “Kommunist”.

Table 10: The format and page numbers of the analyzed newspapers

Newspapers	Format	Pages
Bakinskiy Rabochiy	A2	4
Khalq (Kommunist)	A2	4
Azerbaijan	A2	4
Izvestiia	A2	4

The circulation of the major newspapers in Soviet Union before and after the demise shown in Figure 15. Table 11 describes the periodicity and circulation of newspapers in Azerbaijan. The newspapers shown in table that are not used in the research are mainly private and opposition newspapers.

Dailies:	1985	1986	1987	1988	1989	1990	1991	1992*	1992**	1993*	1993**
Trud	16.7	18.2	18.2	19.0	19.8	21.4	18.5	13.6	12.5	4.0	1.4
Komsomolskaya pravda	13.2	14.6	17.0	17.6	17.6	22.0	17.9	13.5	2.5	3.7	1.2
Pravda	10.5	10.8	11.1	10.7	9.6	7.7	2.6	1.4	1.4	0.5	0.6
Izvestia	6.7	6.9	8.0	10.4	10.1	10.3	4.7	3.8	3.8	1.1	0.7
Sovetskaya Rossia	4.6	4.6	4.8	5.2	4.2	3.8	1.7	0.9	0.9	0.4	0.7
Moskovsky komsomolets	-	-	-	-	-	1.4	1.5	1.6	1.7	1.3	1.2
Rossiyskaya gazeta	N.A.	N.A.	N.A.	N.A.	N.A.	0.6	0.6	1.0	1.0	0.8	0.7
Nezavisimaya gazeta	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	0.3	0.2	0.2	0.1	0.1

*first half of the year ** second half of the year

Figure 15: Circulation of Major Newspapers in Soviet Union (In millions) (Richter 1993)

Table 11: Circulation and periodicity of Azerbaijan newspapers. (Khudiyev 1996)

Newspaper	Daily Circulation	Weekly Periodicity	Weekly Circulation
Khalq (state)	6,615	7	46.305
Azerbaijan (state)	7,534	7	52,745
Zerkalo/Ayna (indep.)	8,000	5	40,000
Yeni Musavat (oposit.)	14,350	7	100,450
Azadlig (oposit.)	5,610	5	28,250
Bakinskiy Rabochiy	4.700	4 - 8	18.800

Because of the limitation of time and the condition of the newspaper survey process random selection of four months – January, April, August, December from 1986 to 2008 were chosen to cover. In order to identify the prominence of the articles the first four pages were taken into account since it is considered to be the front pages of the newspapers to investigate (Scully et al 2008; Durrant et al 2003). However taking into account that the official number of chosen newspapers in Azerbaijan is four pages varied sometimes till eight the front pages in this case are considered as the first two pages.

4. NEWSPAPER COVERAGE OF ENVIRONMENTAL ISSUES IN CASPIAN SEA.

1.3. Identifying the themes and frequency of Caspian Sea related articles

The data for Caspian Sea related articles were investigated and the following results are the outcome of the analysis. The total of 453 Caspian Sea related articles were analyzed in this study. All articles containing the word Caspian Sea were used for analysis. The cartoons, poems, advertisements were excluded from the study. Different dimensions used by the authors in informing the Caspian Sea issues such as environmental, economic and political. In environmental aspects the Caspian Sea used as sources of environmental discussion about its problems and activities toward the protection issues. The economic aspect directed toward the using Caspian Sea as a source for economic gain with the information about the oil and gas exploitation and other related economic issues. In political aspect is considered to be the articles dealing with the discussion of the status and sharing the seabed, militarization and laws toward the Caspian Sea issues. The total number of the Caspian Sea related articles per each newspaper is shown in Figure 16.

From this Figure 16 we see that the “Khalq” newspaper is considered to be the leading in publishing the Caspian Sea related articles. However the “Izvestiia” published only five articles about Caspian Sea that shows the less attention toward the environmental problems in Caspian Sea by the leading newspaper in Soviet Union despite that the Sea was one of the main economic gains and most polluted sites during the Soviet times.

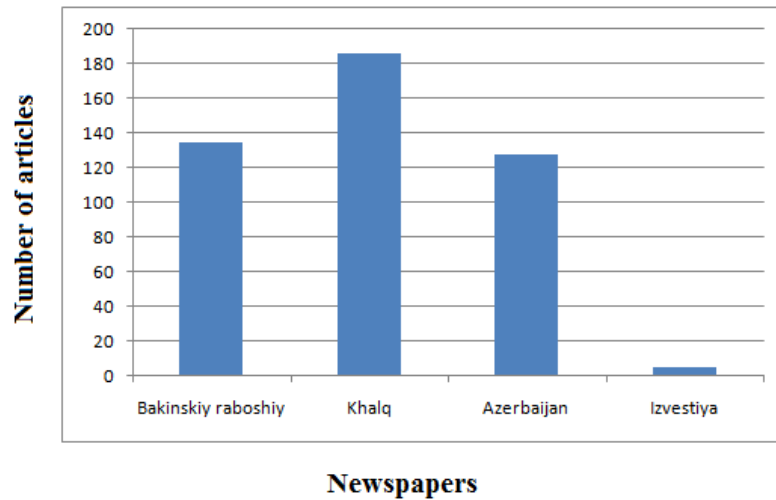


Figure 16: Total number of Caspian Sea related articles per each newspaper during 1986-2008 (Azerbaijan - 1993-2008; Izvestiia - 1986-1991)

The yearly distribution of the articles is given in Figure 17. As it was mentioned above the authors discussed the Caspian Sea in different aspects presenting it in economic, environmental or political image. The articles were separated and yearly distributed by the used aspects. However in the portion of articles with the combined themes (aspects) inside the one was chosen that is more salient and dominant in the articles content. The articles discussed in most cases economic gain in other words the economical framed articles dominated in many years Figure 18. The trend of environmental framed articles remained low through all years and the improvements and increase did not observed.

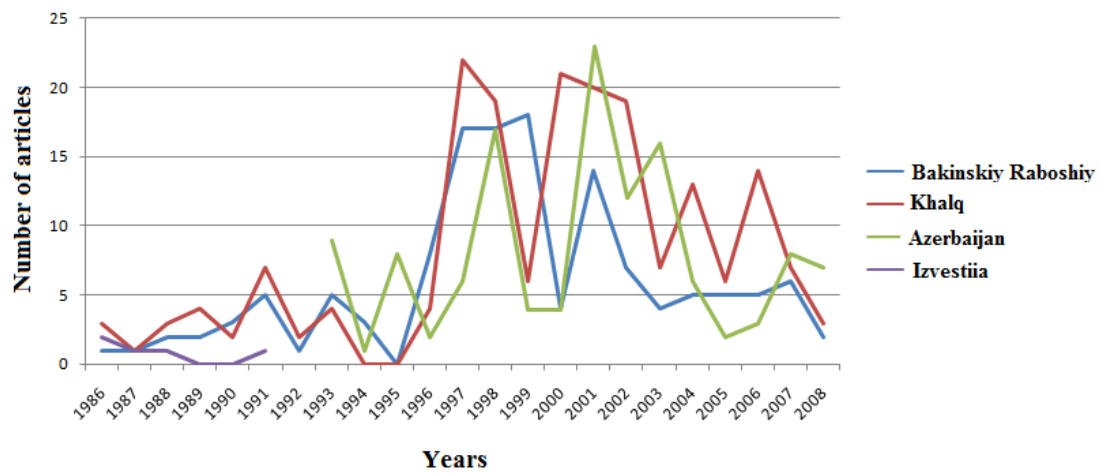


Figure 17: Total number of articles from four newspapers during the years 1986-2008 (“Azerbaijan” 1993-2008, Izvestiia 1986-1991).

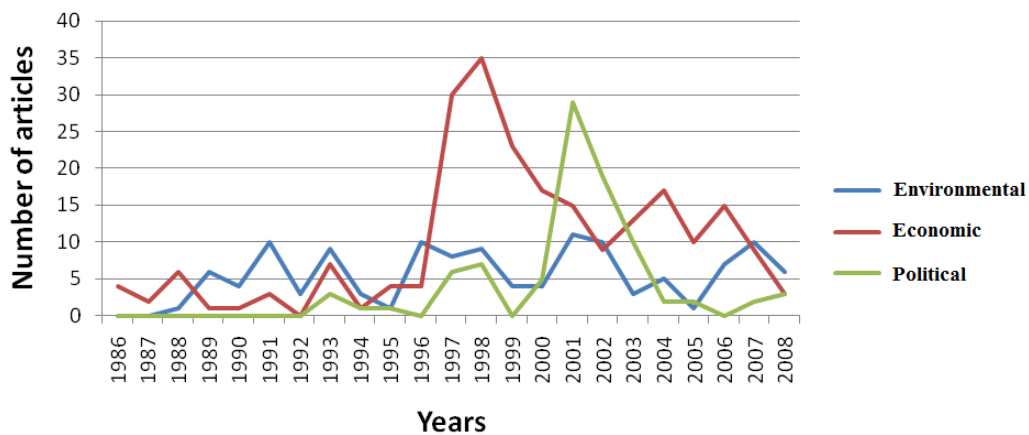


Figure 18: Total share of the Caspian sea articles based as environmental, economic and political.

The thematic analysis showed the dominance of oil and gas exploitation issues over environmental. It is obvious that the attention to the environmental issues is very limited and we can say it is not satisfactory for the public awareness and shows the less attention of the journalists to the environmental issues. Only %6 of the articles describing the oil exploitation

mentioned protection and safety issues. The pollution and biodiversity damage that is main environmental threat to the Sea mentioned only in %22 articles (Figure 19). Most of the articles concentrated on the oil and gas exploitation issues and the word “problem” in many news articles does not describe the environmental problem but the legal status problem or the argument toward the sharing of the seabed for the further exploitation of the Sea. It shows the dominance of other issues over environmental. The political issues and natural events separated to the subthemes (Table 12).

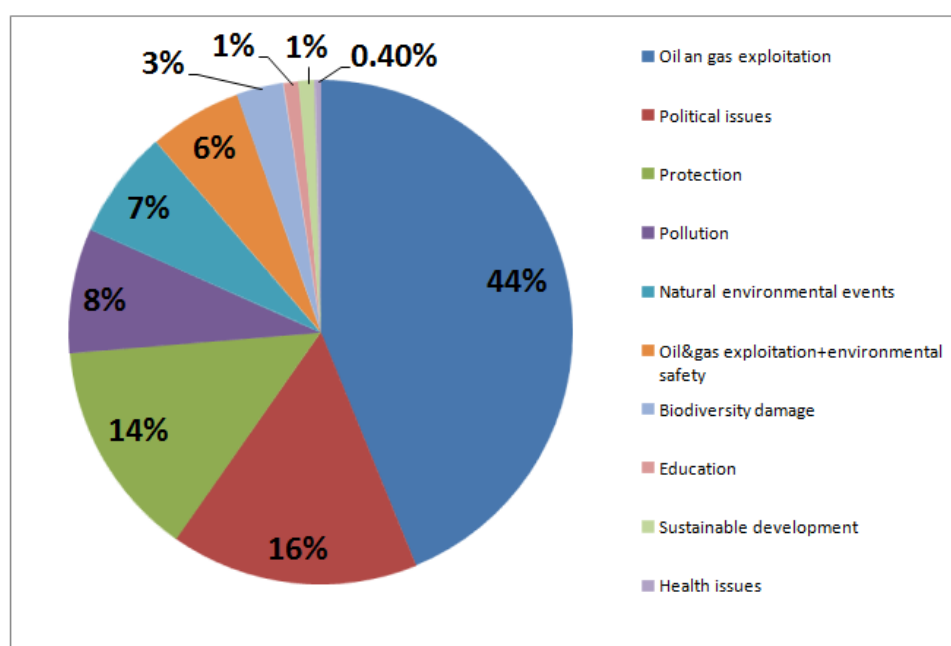


Figure 19: Total percentage of themes from four newspapers within the years of 1986-2008.

The “Oil and gas issues” theme include oil and gas exploitation news, agreements, meetings toward the oil and gas exploitation, construction of oil technologies and discovering of oil and gas points in Caspian Sea.

The “Protection” theme includes all protection activities taken by government, organization or any company to protect environment, agreements, and meetings toward the protection.

The “Biodiversity damage” and “Pollution” include the environmental problems in Caspian Sea, its biodiversity damage, reduction of fish stocks and sea animals because of hatching and pollution, damage to fauna and flora, pollution of Sea from different sources etc.

The “Natural issues” include in itself the not anthropogenic but events naturally taken place like sea level fluctuation, flooding etc. Under the “Political issues” theme are considered the articles describing the identifying Status of the Caspian Sea by the littoral states, sharing the seabed, laws toward it and military issues.

The “Oil and gas issues with the environmental safety” is considered to be the articles in which the economic issues described with a concern to the environmental safety. “Education” category describes the activities in education field such as released books, Olympiads in schools and universities, green actions taken in schools and universities.

“Health issues” describe the attention to the health and consequences that can resulted after the contact with polluted water and sites. “Sustainable development” considered the articles where the sustainability and the activities toward the sustainable development of Caspian Sea are discussed.

From the yearly distribution of themes it is obvious that in almost all years the main attention paid to the Oil and gas exploitations and generally saying sources of economic gain issues Figure 20. The environment related issues are limited and very few. The increase in environmental articles observed mainly some years before the independence. The reason of it can be the policy changing by Mikhail Sergeevich Gorbachev with declaration the “glasnost” as a result of which the openness of information took place and the environmental related articles increased in a number. In recent years the number of Caspian Sea articles decreasing with more attention to the environmental issues. However the frequency Caspian Sea articles in mentioned year is small organizing 12 articles and 18 themes per twelve month (four month from each three newspaper) that equivalent to 365 days. It means that only twelve days were shared for Caspian Sea issues and six days for the discussing of environmental related issues.

The increase of political issues in the beginning of the 21st century is observed because of the confrontation between the Azerbaijan and Iran. After the incident in Caspian Sea when the Iranian forces demanded the British researchers who were investigating the places for oil wells in Caspian Sea to leave this area the littoral states decided to have a meeting to identify the legal status and borders in Caspian Sea. After this event the legal status discussion between the countries intensified and the news articles with regard to this issue increased.

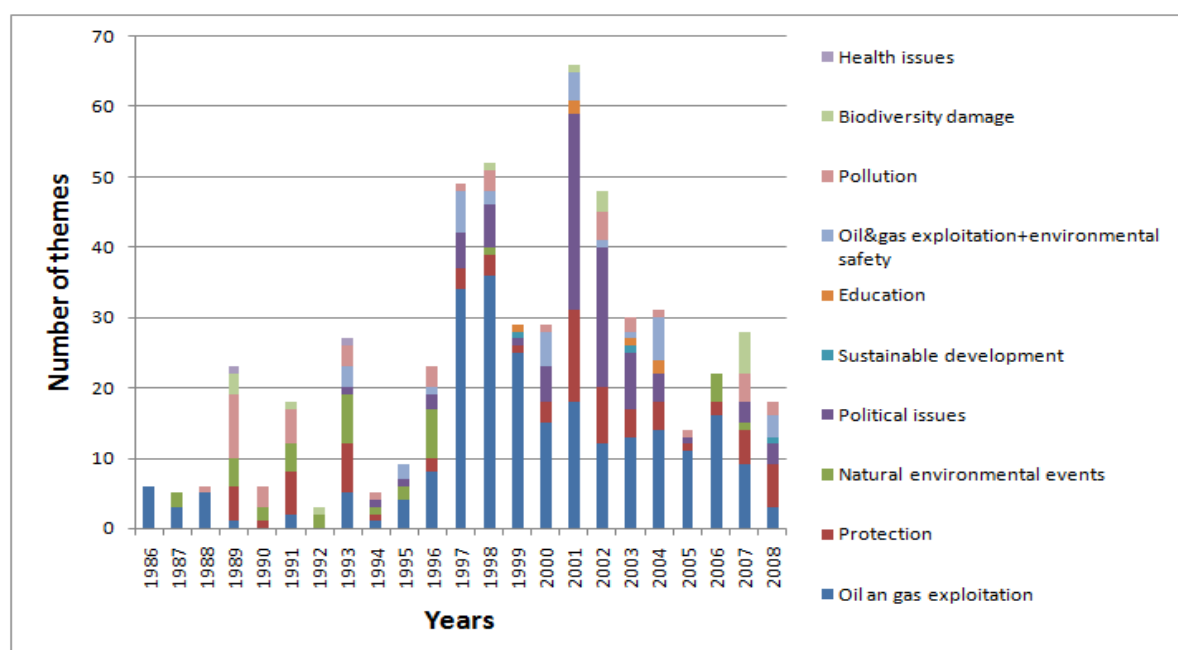


Figure 20: Total distribution of the themes during the years 1986-2008.

The descriptions of the themes appeared in newspapers during the years 1986-2008 with the direct example from the newspaper article, number and percentage shown in Table 12.

Table 12: Description and the amount of themes appeared in the four newspapers during the years 1986-2008.

<i>Article theme</i>	<i>Example of direct quote from article</i>	<i>%</i>	<i>n</i>
Oil exploitation	Northern Apsheron Operation Company (NAOC) began of exploitation of second oil well in “Ashrafi Dan Ulduzu” contract area in Caspian Sea.	44%	241
Protection	The International Caspian Foundation together with the Azerbaijan ecologists established the project directed toward the solving of the environmental problems in Caspian Sea (Azerbaijan, 25/08/1994, p.1)	14%	75
Pollution	Large amount of oil leaked to the Caspian Sea. It covered the 200 sq km of the Sea surface. (Kommunist, 9/04/1991, p.3)	8%	44
Oil exploitation, transportation and construction taking into account environmental safety	The ecological expertise of the technologies used by the foreign companies in oil fields taking place and before the start of activities the documents of “Environmental Impact Assessment” presented by the company. (Khalq, 16/08/2000, p2)	6%	34
Education	The of the part of ecological projects lead by “Exxon Azerbaijan” is called “Our Caspian” in which 15 schools of country compete for the best picture, photo or composition related with the Caspian Sea (Azerbaijan 27/04/2004, p4)	1%	6
Sustainable development	With his new concept ”Ecocivil” that urges sustainable development scientist-ecologist Urkhal Alekperov described the factors and conditions that provide the prosperity of the future generation and the saving of eco-balance of Caspian Sea (Bakinskiy Rabochiy, 15/01/1997, p.2)	1%	3
Biodiversity damage	Nowadays the number of the seaweeds is decreasing. Even some of the seaweeds that exist in many other seas now cannot be found in Caspian Sea (Bakinskiy Rabochiy, 13/12/2002, p.4; The number of sturgeon decreases from year to year and if the situation will not change this type of fish have a risk to be included to the Red Book (Bakinskiy Rabochiy, 5/04/2007, p.4)	3%	16

<i>Article theme</i>	<i>Example of direct quote from article</i>	<i>%</i>	<i>n</i>
Political issues		16%	89
		Per topic %	
Status of Caspian Sea	The first Summit of Caspian countries that took place in Ashgabat (23-24 April) presented the willingness of the countries to reach the compromise in solving the problem of the status of Caspian Sea (Bakinskiy Rabochiy, 25/04/2002, p.2)	96%	85
Militarization	USA plan to establish network of police and other special forces in the Caspian Sea for the protection of the oil fields and pipelines from the attack of the terrorists (Azerbaijan, 13/04/2005, p.5)	2%	2
Laws	<p>Milli Medjlis of Azerbaijan Republic states:</p> <ol style="list-style-type: none"> 1. The convention signed in Tehran on November 4, 2003 on “ Protection of Caspian Sea environment” approved 2. This law is on the action from the date it published. <p style="text-align: right;">Ilkham Aliyev The president of Azerbaijan Republic (Khalq, 18/04/2006, p.1)</p>	2%	2

Article theme	Example of direct quote from article	%	n
Natural environmental events		7%	37
		Per topic %	
Sea level fluctuation	Caspian Sea level suddenly began to rise from the 1978. In last few months the water flow out of the seashore (Izvestiia, 16/08/1991, p.4)	65%	24
Flooding	Flooding is extremely bad event. Sea almost reached the city of Sumgait and many people became homeless (Izvestiia, 16/08/1991, p.4)	35%	13

The “Khalq” newspaper published more articles about Caspian Sea in a comparison with other newspapers. The trend of news coverage is almost the same with the other newspapers increasing after the 1997 and beginning of this decade (Figure A. 20). However in almost all years many articles dedicated to the economic issues rather than environmental. In the late 80s it published more environmental articles that can be the reason of the policy changes by the government and environmental movements in many states of USSR. Approaching to the recent years the share for the environmental articles still low and the attention to the economic issues still remaining (Figure A. 21).

The total number of Caspian Sea related articles in state newspaper called “Bakinskiy Rabochiy” (Worker of Baku) shown in Figure A. 22. From this trend we also see that the highest amount is only 18 articles appeared in 1999 that is considered to be the time after the beginning of the oil exploitation by the international companies in Caspian Sea. The almost same tendency with regard to newspaper coverage of Caspian Sea issues presented in

“Bakinskiy Rabochiy” newspaper. The attention to the economic interests suppressed the environmental attention and made it dominant after the 1997s. In recent years the frequency decreasing with more attention to the environmental issues (Figure A. 23).

In “Azerbaijan” newspaper the highest number of articles published observed in 2001 while in other years the tendency remained mainly below the fifteen articles per four month (Figure A. 24). Newspaper “Azerbaijan” dedicated most of its news articles to the political issues of Caspian Sea. As we see the less amount of themes inform us about the ecological problems but it has more themes with regard to the protection issues than any other newspaper in this study. In recent years the number of the environmental related articles is increasing however the frequency of articles still low (Figure A. 25).

The “Izvestiia” being one of the important and main newspapers of the Soviet time published few numbers of articles describing the Caspian Sea. Despite that Caspian Sea was one of the main centres of oil exploitation in USSR and polluted through many decades, it published only 5 articles per 6 year (Figure A. 26) from which 3 dedicated to the oil and gas issues and 2 to ecological problems and 1 to the natural events in Caspian Sea (Table A. 3). It means that the high circulated newspaper in USSR did not give to the potential readers any data or knowledge regarding the environmental problems of Caspian Sea.

1.4. Identifying the prominence of the Caspian Sea related articles

The prominence in news articles is very important because it is the sign of the importance of the news. The location plays an important role since the articles placed close to the front page are considered to be more important and newsworthy than articles in the rest pieces of the newspaper or any other media type (O'Donnell 2008).

As mentioned before the authors of the articles approached to the Caspian Sea issues and described in different aspects. These are environmental, economic and political aspects. As it was previously mentioned the environmental is the news mainly concentrated in environmental issues such as pollution or any ecological problems, protection, natural events etc. The economic intentioned news are mainly those that use Caspian Sea as a source of economic gain such as oil and gas production, transportation, exploitation and everything intended for economic achievement. The political section is mainly the articles concentrated on use of Caspian Sea as a source of the political issues such as status description, seabed sharing, military purposes etc. The articles were analyzed by their location that is presented below. From Figure 21 and Figure 22 it is obvious that big share of the environmental related articles placed in third pages. As it was mentioned above the newspapers consist of four pages varying to eight in some years. Thus third, fourth and the rest indicated pages are considered to be the back page of current analyzed newspapers. Through the all years analyzed the tendency of changing the location almost kept the same since in almost all years the environmental articles with regards to Caspian Sea placed in back pages. The recent years was expected to be more attentive to environmental issues with placing in front pages. However the attention remained the same as in previous years. In comparison with other analysed newspapers the “Bakinskiy Rabochiy” newspaper placed more environmental articles with regard to Caspian Sea to the first page and less in the rest (Figure A.3).

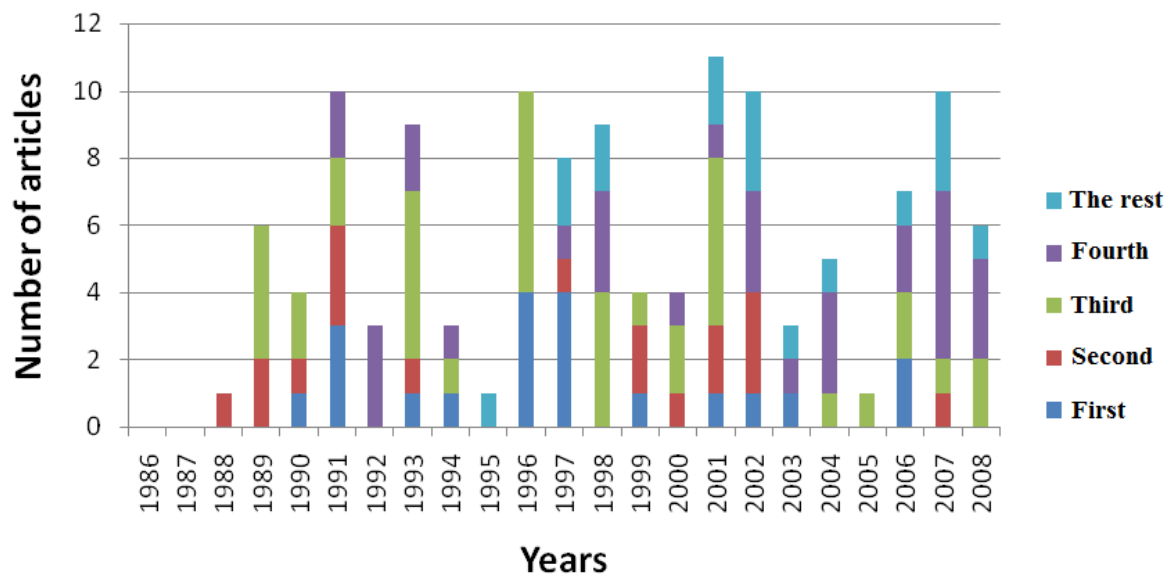


Figure 21: The total of environment based Caspian Sea articles per location.

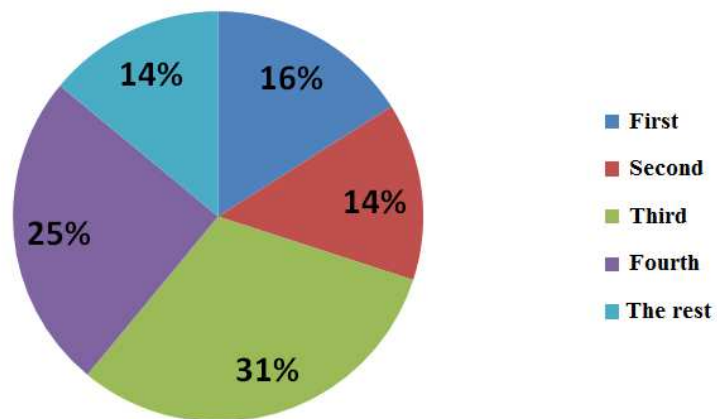


Figure 22: The total share of environmental based Caspian Sea articles by location during the years 1986-2008.

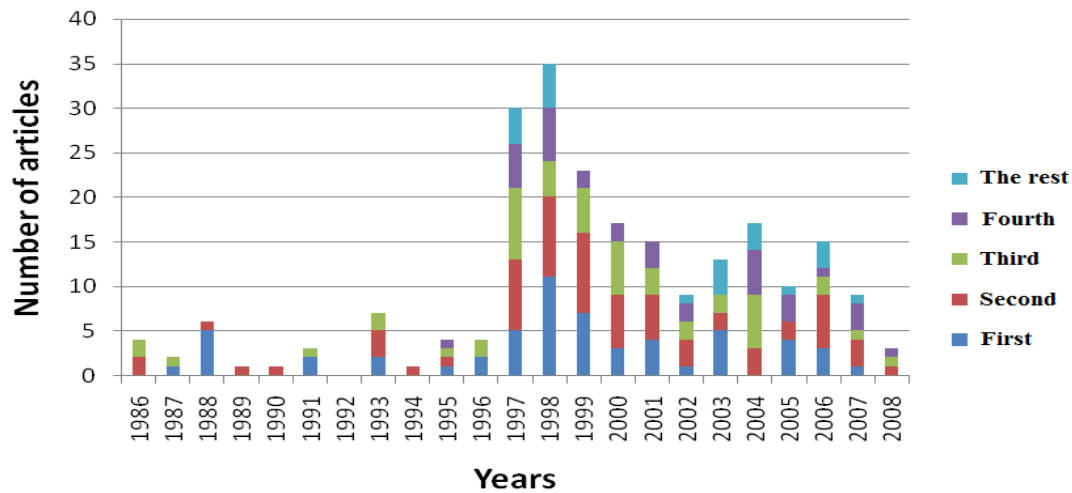


Figure 23: The total of economic based Caspian Sea articles per location.

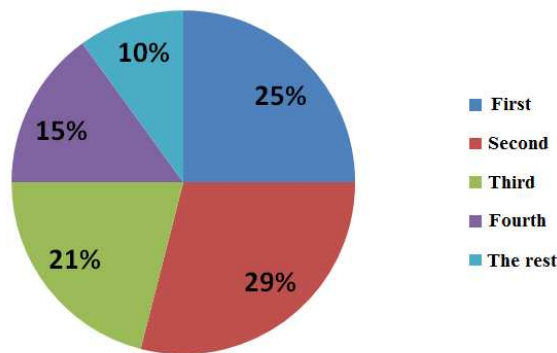


Figure 24: The total share of economic based Caspian Sea articles by location during the years 1986-2008

From the yearly distribution we see the same picture that after the 1997 time of starting the exploitation of the oil fields the Caspian Sea was used in articles as a source of economic gain. The great importance was paid to the oil and gas exploitation issues and placed mainly in front pages (Figure 23). Unlike environmental articles the economic related articles placed mainly in first and a second page that is demonstrates their preferences and importance (Figure 24).

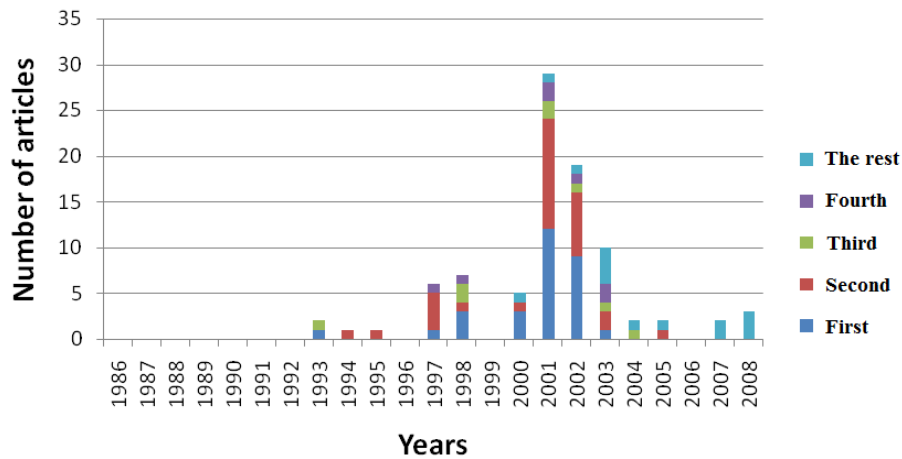


Figure 25: The total of political based Caspian Sea articles by location per each year.

Caspian Sea was presented as a political source mainly after the 2000 when the accident between Iran and Azerbaijan took place for the oil and gas exploitation issues (Figure 25). The identifying the borders and status of the Caspian Sea raised as important issues again and published mainly in first and second pages (Figure 26).

The weighted average for each aspect shows the decline in recent years in the prominence of environmental articles. Almost through all years the prominence of economic related articles is dominant. In weighted average the “5” is considered to be the highest indicator of prominence while “1” is the lowest. A level “5” and “4” is considered to be front pages while below four is the back. There are no articles in the years where the articles are in “0” point. Since there is years when the newspapers published more than four pages that are named as “the rest” the 5 points were taken to calculate weighted average (Figure 27). The yearly distribution and total share of articles per location for each newspaper is given in APPENDIX I.

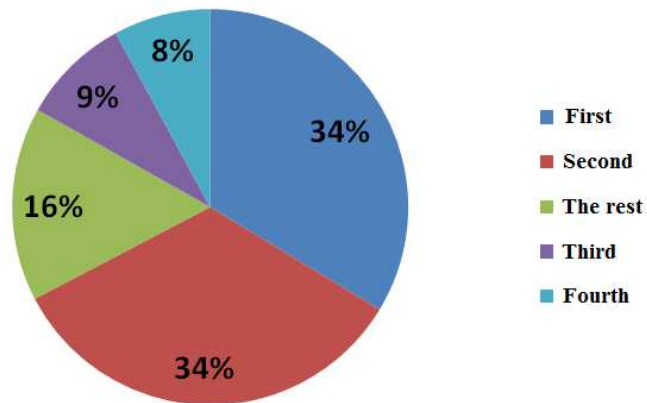


Figure 26: The total share of political based Caspian Sea articles by location during the years 1986-2008.

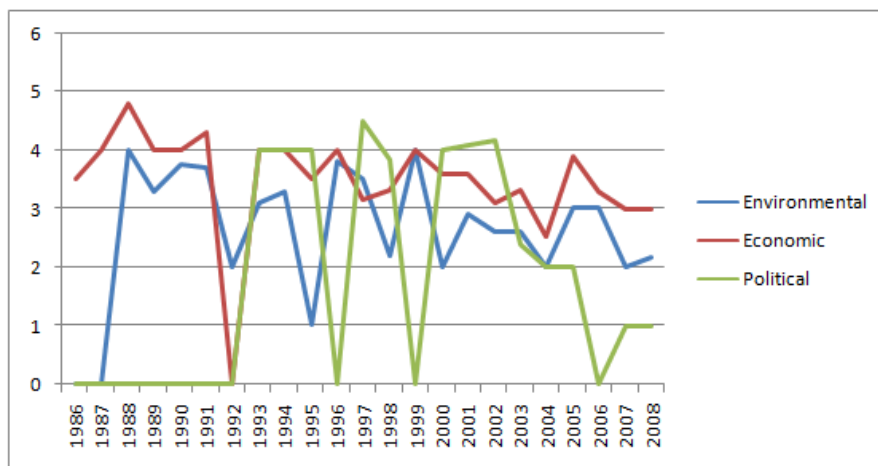


Figure 27: Weighted average of the environmental, economic and political based articles of four newspapers during the years 1986-2008.

1.5. Summary and Conclusions

The total amount of Caspian Sea related articles is 453 with the highest share in Khalq newspaper and smallest is in “Izvestiia” (Figure 16). The %44 of themes presented and discussed in the articles are the economic issues over Caspian Sea while the environmental totally constitute %40 of appeared themes. However the themes presented give very few information about pollution, biodiversity damage or damages and protection during oil exploitation. Thus the description of environmental problems did not get a sufficient attention in comparison with the economic issues. The main discussion directed toward the protection issues that mainly consist of brief news about the hold events, conferences or meetings. This shows again the lack of attention by the media to the environmental condition or consequences during oil production, exploitation and refining.

One of the main newspapers in former USSR with high circulation “Izvestiia” dedicated very few information to the problems of Caspian Sea. From the five articles published only two discuss the environmental problems other three concentrated in oil and gas exploitation issue. This shows the lack of attention to the unique Sea by the Soviets that is being polluted by the oil, industrial, municipal and transboundary pollutions though centuries. The environmental issues began to discuss in articles from 1989. After the collapse the political and socio-economic changes lead to the gap in print media activity and press releases followed by the raise of the articles after the 1997 that is considered to be the start of the oil bloom in Azerbaijan. The international companies began their exploitation issues in the Caspian Sea attracting the attention of media. In the beginning of the 20s century the main attention was paid to the identifying the status and borders of Caspian Sea that is remained the main political issue till present days. The attention to the political problems in the beginning of this decade was because of the argument of Azerbaijan and Iran over exploitation the oil fields in Caspian Sea that situated in the negotiated place between two countries. In the 2008 the dominance of environmental related articles observed. However in total the Caspian Sea

related articles decreased that also shows that economic importance lead to the raising of the articles after 1997 but it is much more than environmental in 2008.

The authors mainly gave salience to the economic content in describing the Caspian Sea rather than environmental that is understood as the given more importance to the economic sources from the Caspian Sea with the describing inside of some of these articles the environmental issues putting them behind the importance.

Considering that the location is the one of the indicators of the article's newsworthiness the analysis for the Caspian Sea related articles shows that the importance given to the articles with economic issues that placed mostly in front pages while the environmental articles placed almost in third and the rest of the pages beyond first four.

With regards to information published in the newspapers about the Caspian Sea is not enough to raise the public awareness and interest toward the environmental problems appeared in this unique Sea. The media is not on the way to raise knowledge with the approaches and frames they present in the articles. The frequency of the articles is less and the content of articles mainly concentrated more to the business than environment.

5. NEWSPAPER COVERAGE OF ENVIRONMENTAL ISSUES

1.6. Identifying the themes and frequency of general environmental articles

The total 660 general environmental articles were analyzed and the followings are outcomes of the study. The frequency of the articles keep the tendency through many years publishing articles below 15 in numbers. It also shows that there is no improvements in informing about environmental issues. In addition the “Izvestiia” newspaper did not inform about environmental problems despite that Azerbaijan was one of the main industrial centers of USSR and the before mentioned environmental degradation mainly remained from the Soviet times. Izvestiia included in this study by its global environmental information (Figure 28). In all newspapers the decline observed in a recent years while the need for environmental information increasing in the world. The frequency of articles for each newspaper presented in APPENDIX I. .

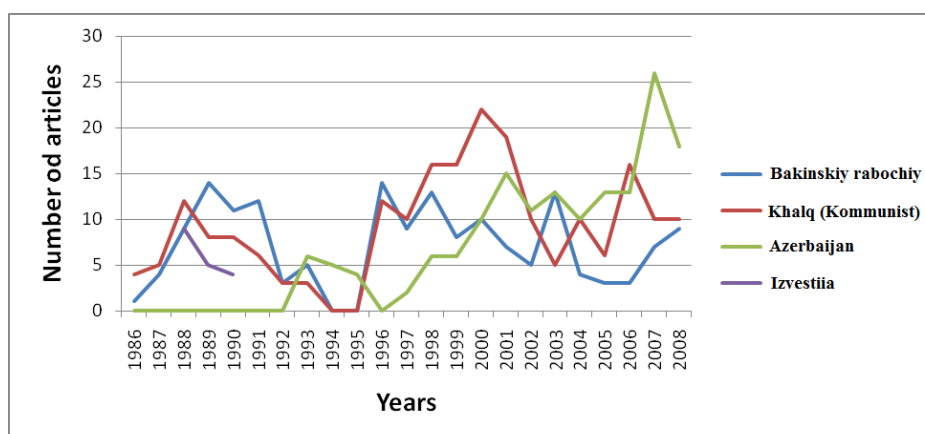


Figure 28: The frequency of general environmental articles during the years 1986-2008.

The themes were separated under the topics as pollution, biodiversity damage, global environmental problems, green activities, environmental policy, clean sources, protection and other important environmental issues. It is observed that the attention to the global environmental problems is far behind of others. The sustainability mentioned only three times during these 23 years despite that the term of sustainability was mentioned in the report of the United Nation's World Commission on Environment and Development (the Brundtland Commission) since 1987. Newspapers of that period did not give any information about the sustainable development issues and very few times till the recent years. Each of the main themes separated to the subthemes to give detailed information about the content (Table 13). The main theme indicated as “Other” contains themes that are not separated to the subthemes but each act as a single theme.

Table 13: The share and percentage of themes appeared in environmental related articles in newspapers during the years 1986-2008

Theme	Total percentage	Total percentage by the theme topic	N
<i>Pollution</i>			
Air pollution	5	30	32
Water pollution	5	29	31
Radiation	2	9	10
Solid waste pollution	2	14	15
Oil and pollution	2	11	12
Noise pollution	0.15	1	1
Pesticide	0.3	2	2
Water quality	0.3	2	2
Transportation and pollution	1	3	3

Theme	Total percentage	Total percentage by the theme topic	N
<i>Biodiversity damage</i>			
Deforestation	4	49	28
Decertification	0.3	4	2
Soil erosion	2	25	14
Degradation of fauna and flora	2	19	11
Contamination of food	0.3	4	2

Theme	Total percentage	Total percentage by the theme topic	N
<i>Green activities</i>			
Plant trees	5	49	34
Establish parks	1	10	4
Clean outdoor activities	1	10	4

Theme	Total percentage	Total percentage by the theme topic	N
<i>Global environmental problems</i>			
Global warming	2	52	16
Ozone depletion	1	29	9
Acid rain	0.15	3.3	1
Greenhouse gas effect	1	16	5

Theme	Total percentage	Total percentage by the theme topic	N
<i>Environmental politics</i>			
Law	5	39	30
Penalty	5	39	30
War and environment	2	21	16

Theme	Total percentage	Total percentage by the theme topic	N
<i>Clean sources</i>			
Clean technologies	3	77	17
Renewable energy	1	23	5

Theme	Total percentage	Total percentage by the theme topic	N
<i>Protection</i>			
Importance of protection	7	23	48
Programs, projects, conferences etc for the environmental protection	19	59	126
Forest protection	4	11	24
Onshore oil fields/pipeline protection	2	7	14

Theme	Total percentage	Total percentage by the theme topic	N
<i>Other environmental issues</i>			
Environmental crime (cut trees, kill animals etc.)	5	29	33
Education issues	7	38	43
Wastewater treatment problems	1	3	3
Health	3	19	22
Sustainability	1	4	5
Cultural heritage	1	3	3
Ecology and architecture	0.15	1	1
Environmental holidays	01	4	4

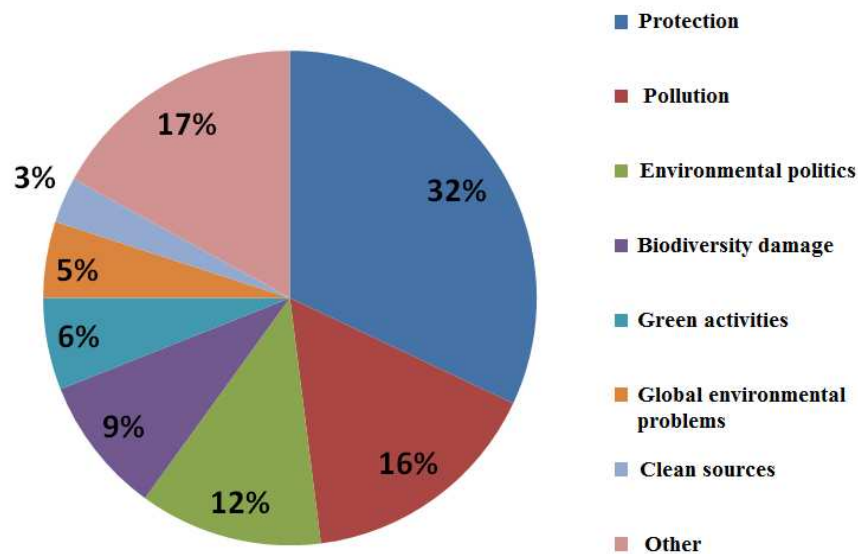


Figure 29: Total percentage of main themes of environmental articles appeared within the years 1986-2008.

For the period of 23 years the protection issues took the biggest share in the environmental articles while global environmental problems mentioned few times Figure 29. The attention was directed mainly to the water and air pollution issues. The highest number of themes describing them took place mostly in Soviet times. It can be related with the change in policies made by Gorbachev that lead to uncover and openly speak and write about the environmental pollution issues. As it is obvious in 1986 there were not so much information following by changes in coming years (Figure 30).

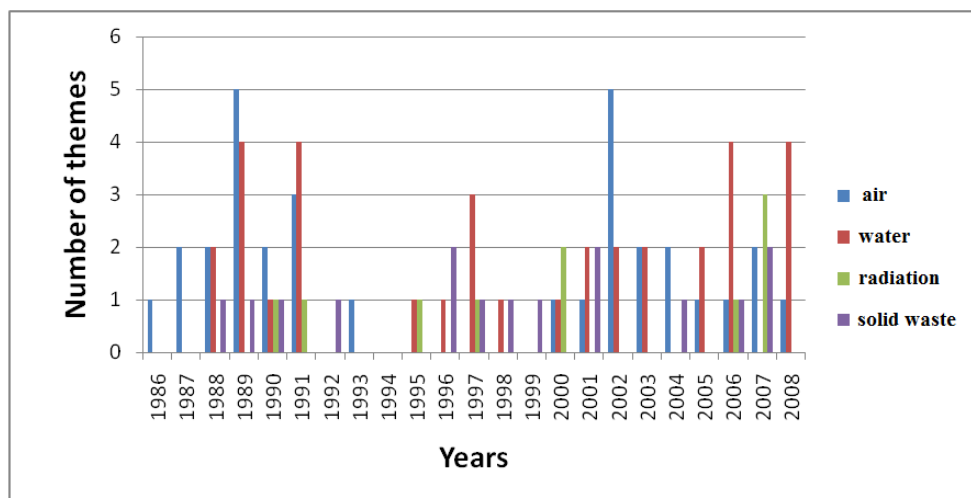


Figure 30: Distribution of pollution related articles by the years from 1986-2008.

In the following pollution issues the highest point is only 3 themes described throughout all years. Almost nothing about the noise and other very important pollution kinds that is now exist in the country as well as in the world (Table 14). It was already mentioned above about the land degradation because of the oil pollution mainly in Apsheron Peninsula. The oil contaminated land makes about 37.000 hectare and it will take a decades to clean the polluted land. However the information about it constitutes few articles per some years. Before the 90s the danger from pesticides was so huge (Table 15) since during the Soviet period pesticide used in huge ammount and according to the Ministry of Ecology and Natural Resources in one hectare of soil contained more than 100 kg of pesticides. Various kinds of pesticides used and continue to be used in the agriculture sector. In fact land affected by the uncontrolled use of fertilizers, herbicides, and pesticides on a large scale , and such habitat modification may reduce biodiversity. In recent years there has been an increase in uncontrolled import of these chemicals into the Republic. There is also little awareness among farmers on the correct use of these chemicals. Overuse can cause a number of negative effects in natural communities and can threaten key species, especially those at the top of food chains. Over recent years, due to the decentralisation and privatisation of companies, and an increase in prices, the level

of fertilizer use has decreased (Azerbaijan National Academy of Science 2004). However no information exists about this problem and potential consequences to acknowledge public. From the beginning of the 21th century the number of automobiles grew from year to year. According to Ministry of Ecology and Natrual Resources of Azerbaijan the pollution from the automobiles had and have a great share presently (Table 16). However the media doesn't give any information about the damages of the pollution to the environment and human health. There is no explanation to people about the preferences of other clean type of vehicles than automobile.

Table 14: The distribution of pollution related themes during 1987-2008

	1987	1988	1989	1990	1992	1993	1995	1997	1996	1998	2000	2001	2002	2004	2008
oil and pollution		1	1						1	1	1	3	1	1	2
noise pollution						1									
pesticide		1										1			
transpor tation and pollution	2	1													

Table 15: Use of pesticides during the years 1988-2000 (Azerbaijan National Academy of Science 2004)

Year	Tonnes of fertilizer used
1987	301,000
1990	140,000
2000	13,400
2001	10,500

Table 16: Emission of air pollutants from mobile sources (thsd. ton) (Ministry of Ecology and Natrual Resources, 2007)

	2000	2001	2002	2003	2004	2005	2006	2007
Azerbaijan Republic	392,7	401,8	403,3	412	435,5	496,4	530,9	584
of which by cities:								
Baku	229,9	284,7	285	289,8	306,3	349,2	373,3	410,7

Though the years the attention was paid to the deforestation problems since it is on track many years. However the number is very few that can not be considered as enough for the 23 period of time. The soil erosion that is considered to be the problem of the all years till now mainly because of the oil exploitation in the seashore, agricultural activities and war it was mentioned only few times with the highest point in 2001. No information was given with the risk of contamination of food by the pesticides or other chemicals (Figure 31).

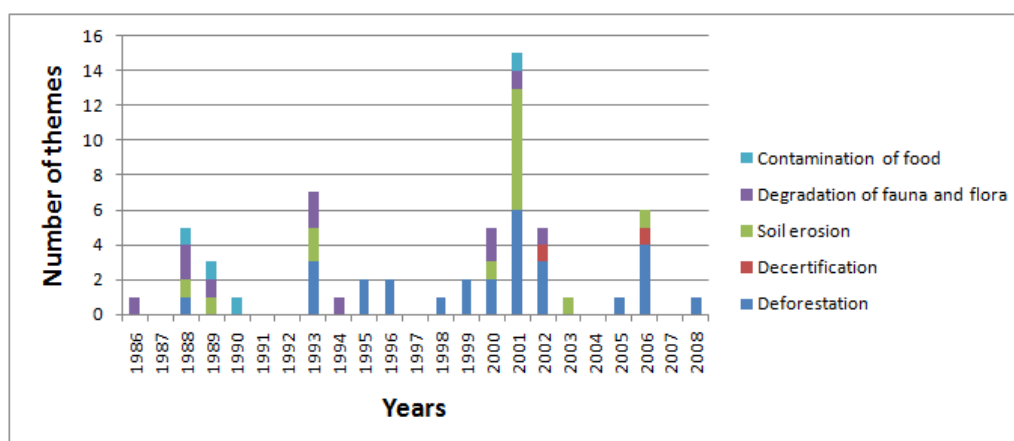


Figure 31: Distribution of the articles related with biodiversity damage during the years 1986-2008.

Main attention was paid to the green activities such as plant trees expesially after the 2000 when the Haydar Aliyev Foundation releaseed the compaign called “Let’s each of us plant

one tree”. It was one of the main activities that lead almost all to participate in it. Small number was dedicated to describe the clean outdoor activities and park establishment (Figure 32).

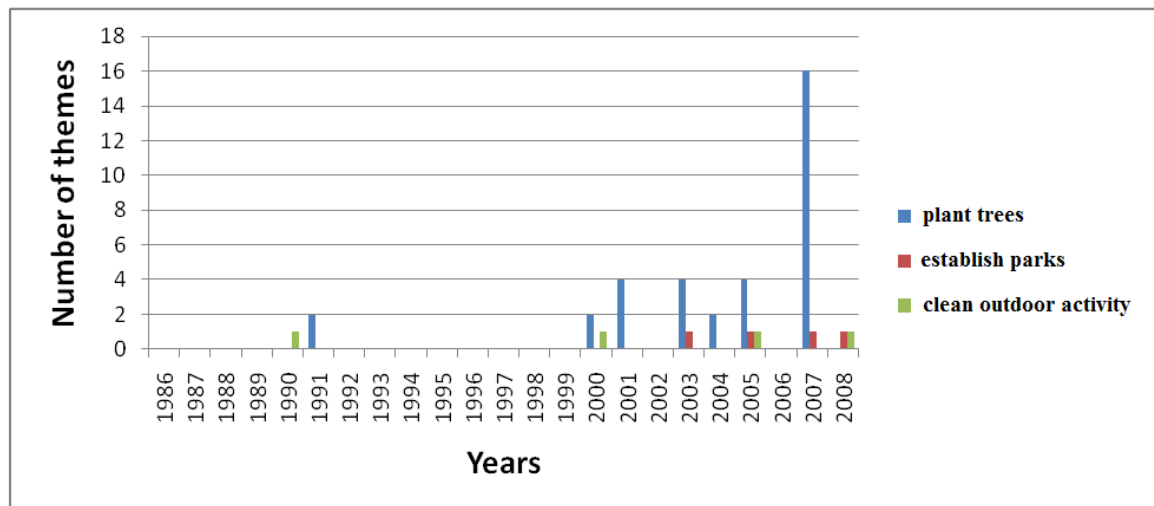


Figure 32: Distribution of the articles related with green activities during the years 1986-2008.

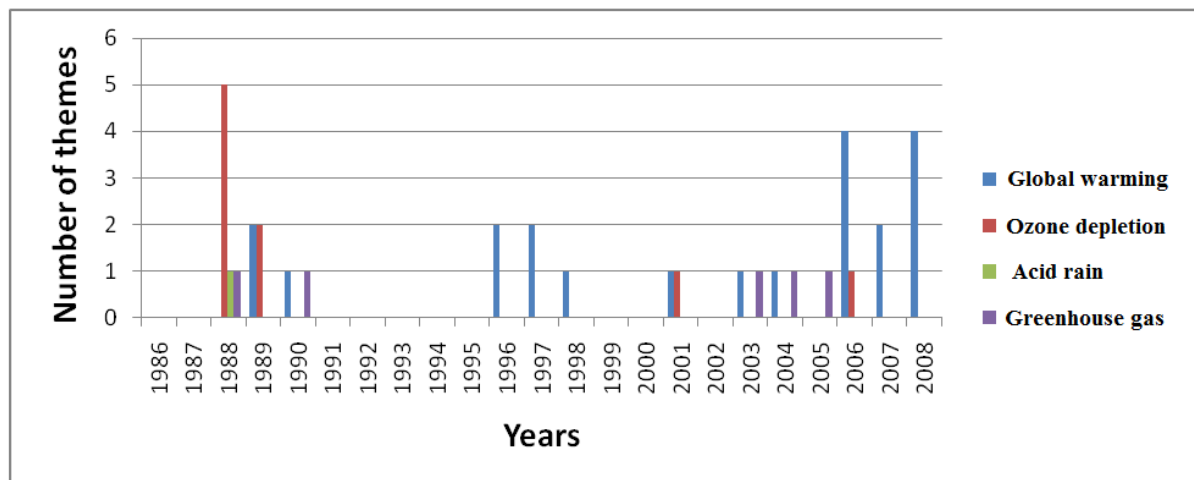


Figure 33: Distribution of the articles related with global environmental problems during the years 1986-2008.

Many years the global environmental problems such as global warming, ozone depletion, acid rain and many other issues become one of the important cases in our life. Climate change is the global challenge. Everyone have to be the participator of this issue and more information have to be given to the people about it to encourage them to act positively and think about the future life. However in analyzed newspapers the limited information given to the audince about this issues. The highest point is observed during the Soviet time describing the ozone depletion problem and only two time it was mentioned after the 2000 years. Global warming issue reached the highest point in 2006 and 2008 and it ia only 4 themes for the 2 years. As a matter of fact the print media audience doesn't get satisfactory infromation about the global environmental problems through the newspapers (Figure 33).

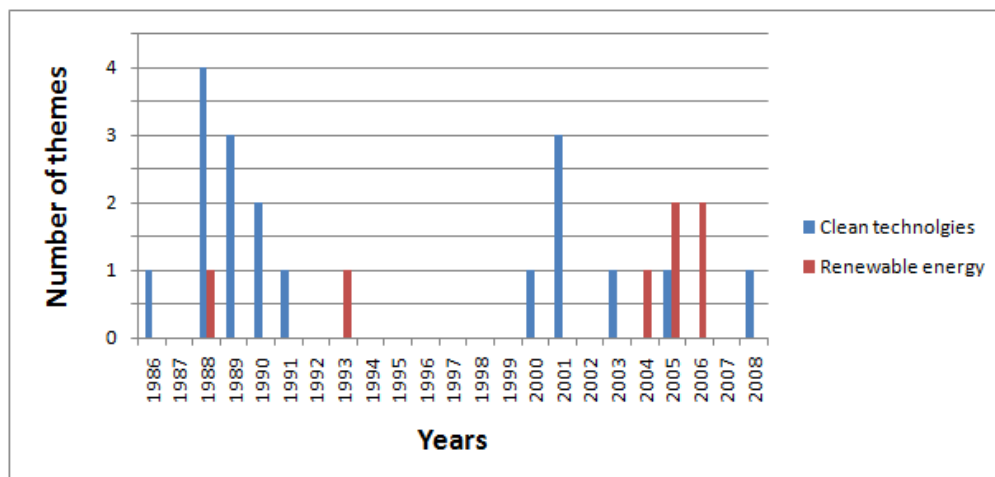


Figure 34: Distribution of the articles related with clean sources during the years 1986-2008.

In Figure 34 it shows that in 1980's media mentioned about the clean technologies more than recent years. This trend can be related to that the recent economic developments based on the oil industry decreased the sensitvity to the clean technologies since economic development is

considered to be important for the community. Another possibility is that the recent technologies have more developed and cleaner than before, hence this concern is decreased in recent years. However the newspapers dedicated less attention to inform audience about the clean sources, their advantages and necessity for the health and Earth. At the same time renewable energy sources gained importance in recent years that is considered to be the positive point however total number of articles dedicated to this issue during the period of 23 years is very limited to give the sufficient information about it.

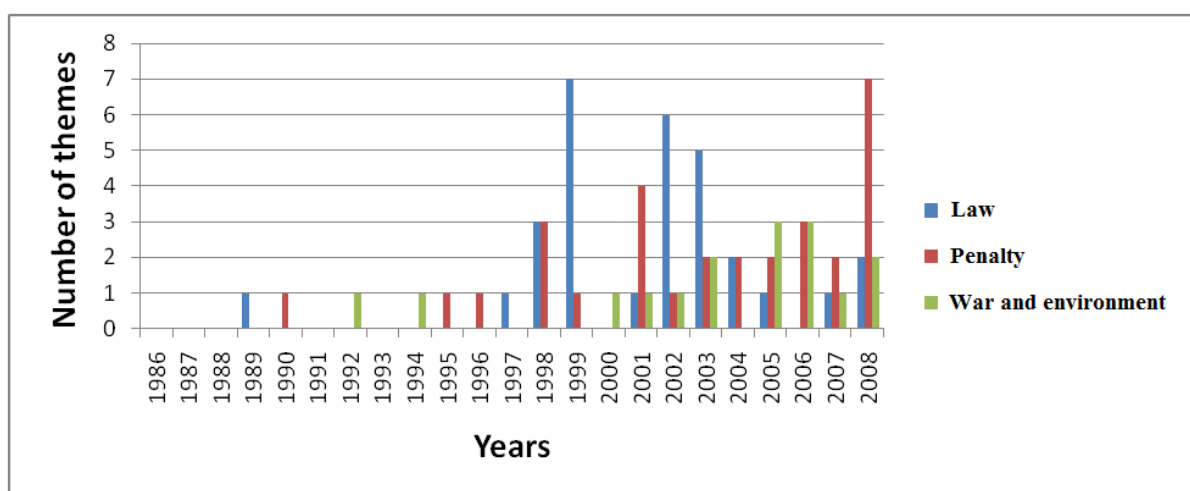


Figure 35: Distribution of the articles related with political issues during the years 1986-2008.

The political issues seems to be tackled frequently with the small number of themes per year (Figure 35). However the number of penalties for environmental issues began to grow after the mid of 90s and reached the pick in 2008 that is could be the reason of increasing number of environmental crimes in recent years (Figure 37). It is an indicator that the pollution and environmental degradation problems still exit. This again shows the lack of information among the society about the importance of environment and importance to sustain it for a long time.

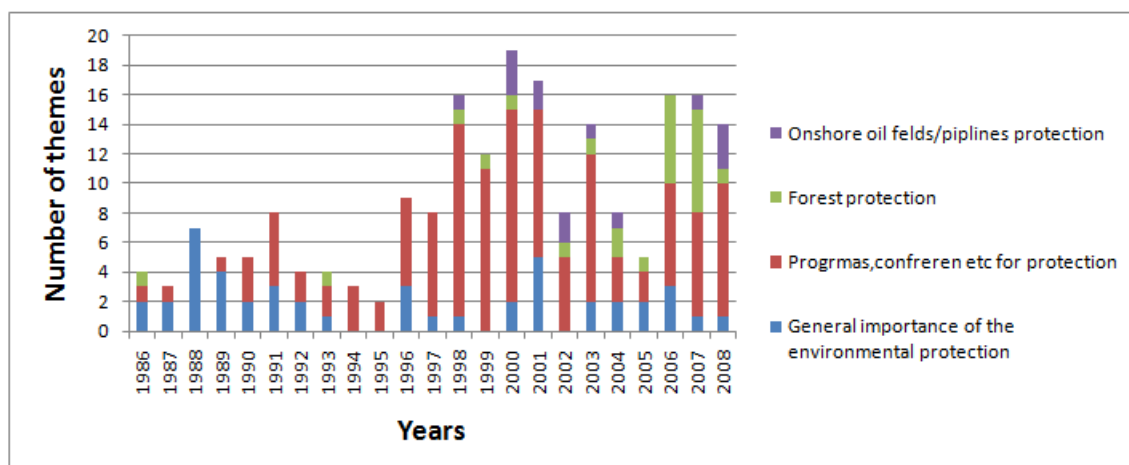


Figure 36: Distribution of the articles related with protection issues during the years 1986-2008.

The newspapers dedicated great share to the activities toward the protection of the environment when the conferences, projects and other activities take place. However most of the articles give just information about the activities but not about the causes, consequences of the problems. Small share given to the onshore oil protection and forest protection that is very important in present days in Azerbaijan and in the world too. Till the recent years in differen regions of Azerbaijan because of shortage of energy the forests was destroyed by the local population and become one of the source of it. Nowadays the condition is better but the forest destruction continous in occupied territory of Azerbaijan. The need for the detailed explanation of the forest importance is in urgent need (Figure 36).

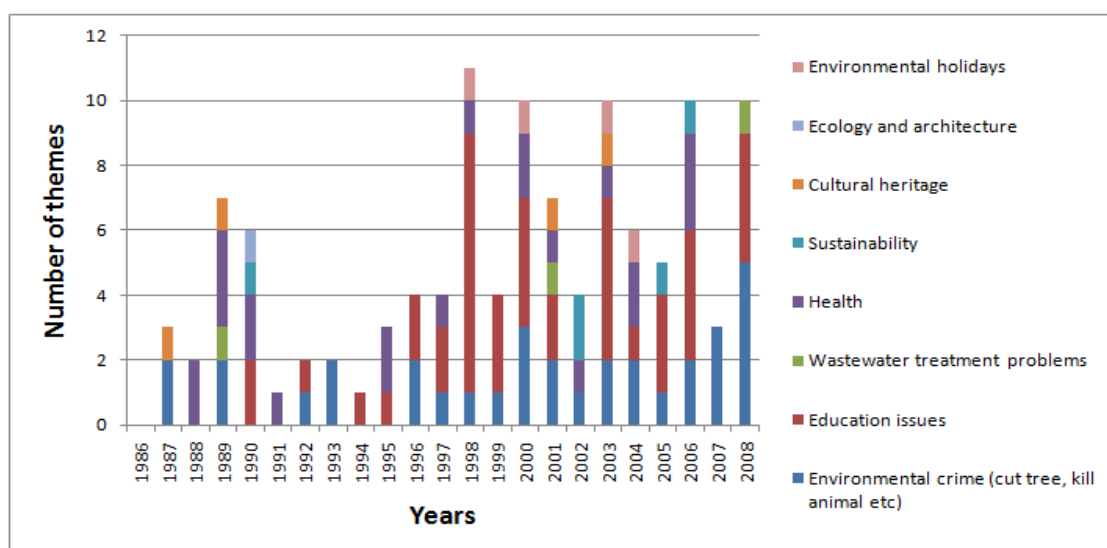


Figure 37: Distribution of the articles related with other important environmental issues during the years 1986-2008.

The health problems exist throughout the years and still on the track in present times (Figure 4). However though almost all years health issues were ignored by media. The much attention was paid during Soviet times. It can be explained that in late 80s there were movements in different states of the Soviet Union after the Chernobyl accident. The movements also took place in Azerbaijan because of the health problems in big cities like Baku and Sumgait. These cities are the centers of industry and mainly all pollution concentrated in here. However the health issues remained through many years since the Sumgait was selected as one of top ten polluted cities in the world in 2007. As we see till that time only few information was given about the impact of the pollution to the public health. In addition uncontrolled hunting of large charismatic animals (and indeed insects) is reducing the populations of a number of species, resulting in some species being at risk of extinction. Existing legislation has set limits in order to regulate the level of hunting. Nevertheless, mechanisms controlling the quotas of fish and animals are not effective, and these limits are often exceeded. The weakness of the structures to regulate the industries means that there is also little information

on the actual levels of hunting and fishing. The awareness of local populations is often very poor, in respect to the importance of their local habitats and biodiversity. An example of how this impacts natural populations can be seen with reptiles and amphibians when people destroy the animals, seeing no difference between poisonous and non-poisonous animals (Azerbaijan Academy of Science, 2004) (Figure 37). Thus the number of environmental crimes increasing that is indicator of non-awareness of public as it was mentioned above.

Throughout the analyzed years term sustainability used only seven times. Many years sustainability emerged as an important issue. As it mentioned before the sustainability can not be reached without joint activities and to have this union most people have to be informed in order to act toward the protecting Earth for the future generation as well as improving the present conditions. However in the case of Azerbaijan we don't see the desire to share this understanding that could lead to the disinformation and lack activity toward the sustainable future (Figure 37).

1.7. Identifying the prominence of general environmental articles

Throughout the analysed years the increase of the placement of the articles in the first pages did not observed. In almost all years the third and fourth pages prevails that shows that the level of importance still not changing to make the environmental articles more newsworthy and important for the public. In recent years the decrease of the articles published in the first two pages observed (Figure 38). Total share of the articles published in the four newspapers is shown in Figure 39. As it is obvious the environmental articles tend to be published in back pages more than the first two. Articles in the first pages create the smallest share in a comparison with the other pages. If to observe each newspaper separately in all of theme the tendency to place environmental articles in the back pages is the same (Figure 40; Figure 41; Figure 42; Figure 43). The average shows the decline in recent years in prominence of environmental articles that is mainly below point 3 from the highest 5. In comparison with other newspapers analysed in this study the Bakinskiy rabochiy newspaper has increase in prominence in recent years (Figure 44).

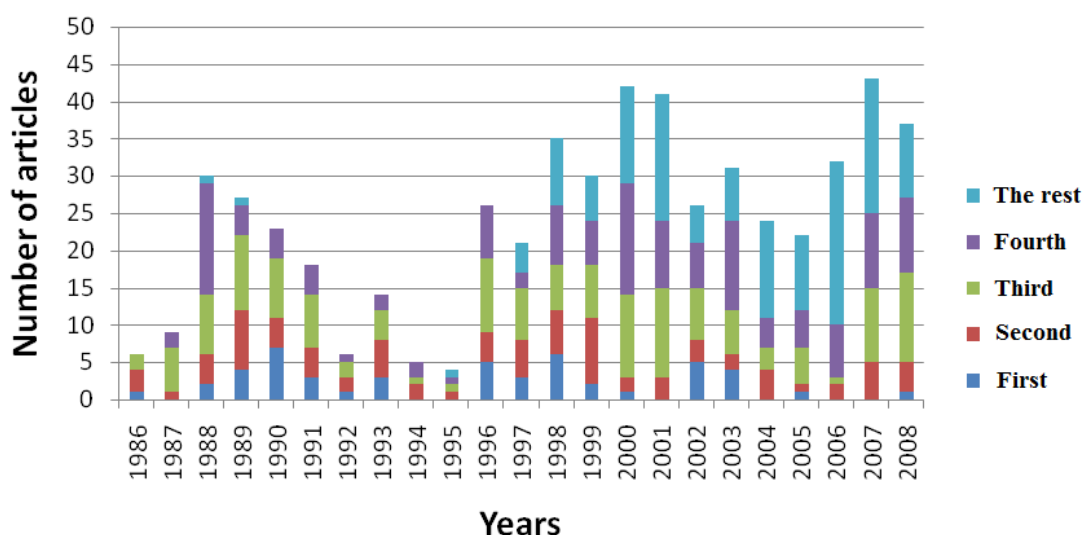


Figure 38: Total distribution of the articles by the location during the years of 1986-2008.

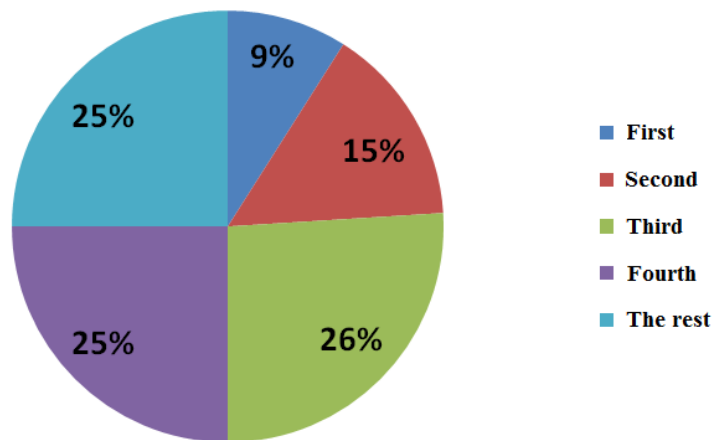


Figure 39: Total share of articles published in first four and the rest pages of the four newspapers.

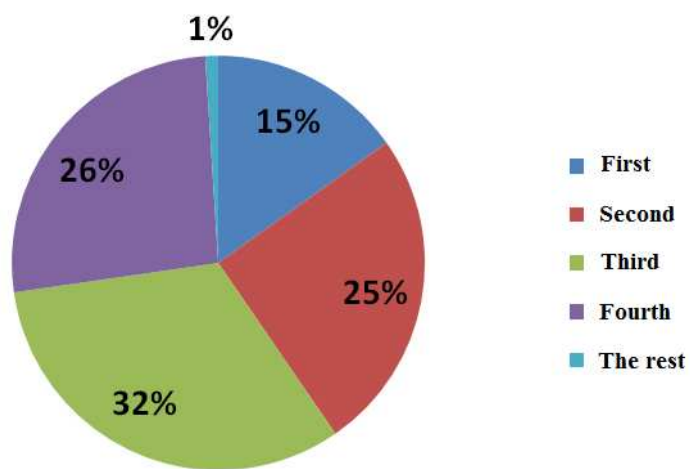


Figure 40: Total share of the articles published in first four and the rest pages in Bakinskiy Rabochiy newspaper.

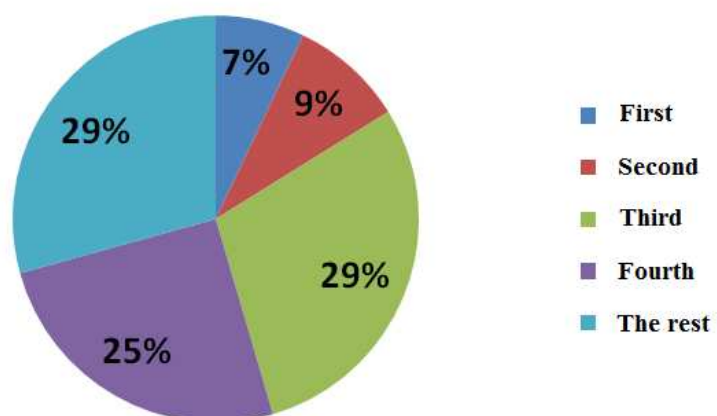


Figure 41: Total share of the articles published in first four and the rest pages in Khalq newspaper.

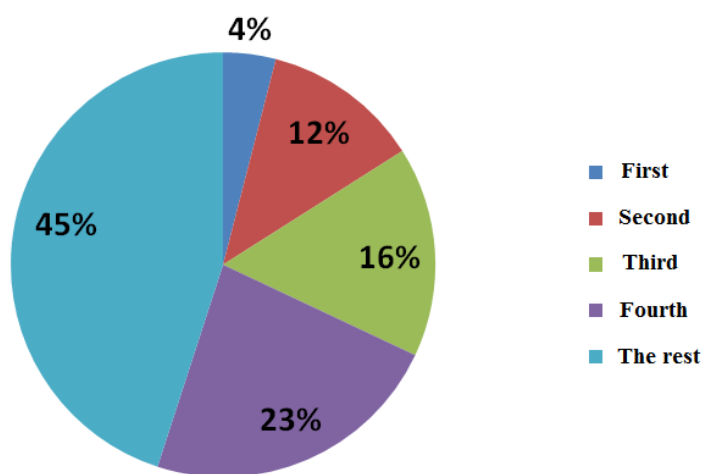


Figure 42: Figure Total share of the articles published in first four and the rest pages in Azerbaijan.

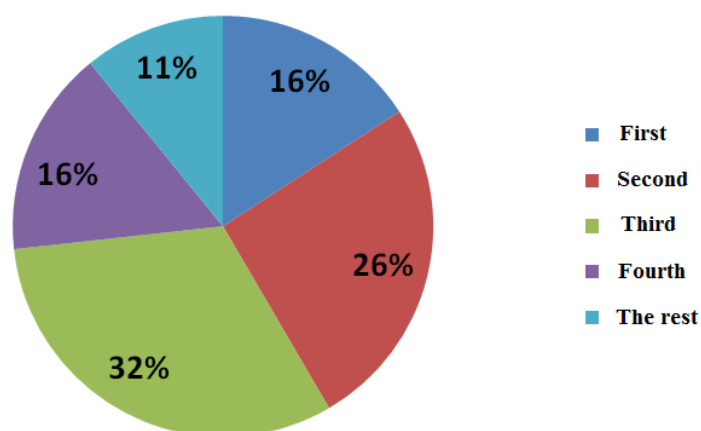


Figure 43: Total share of the articles published in first four and the rest pages in Izvestiia newspaper.

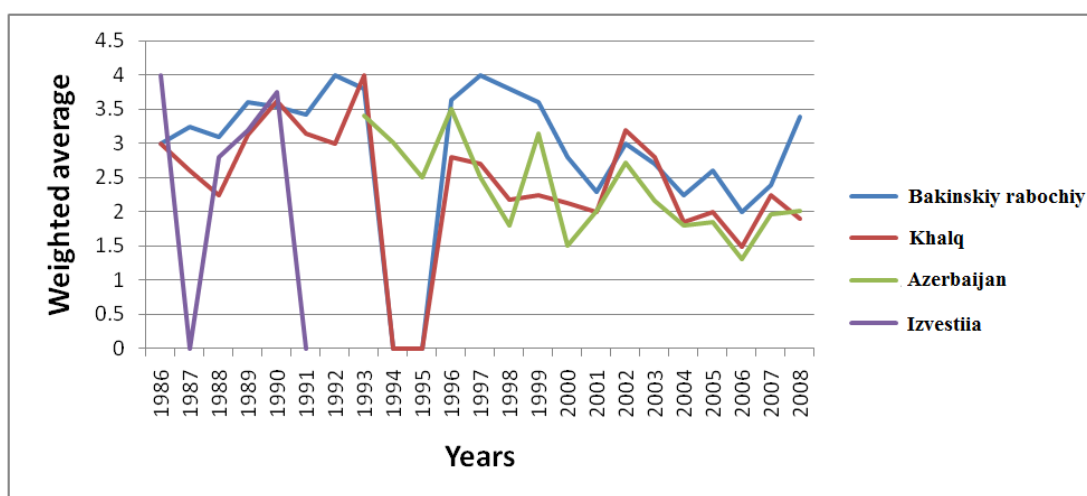


Figure 44: Total weighted average showing the level of importance of the environmental related articles published in four newspapers during the years 1986-2008.

1.8. Summary and Conclusions

During the study of 660 articles it was found that the environmental issues of global interest, such as ozone depletion, global warming or acid rain issues were ignored by the newspapers. The environmental issues of regional interest took the stage in high percentage of articles. As in the case of Caspian Sea related articles in general environmental articles study also the main attention is put on the environmental events directed toward the protection and prevention issues. However many of them don't give the sufficient information about the problems but give news about hold events.

The frequency of articles of each newspaper is low with the highest 26 articles per 4 month in 2007 in "Azerbaijan" newspaper. It is suggested by many researchers that the frequency of news coverage may influence on individuals knowledge of any particular issue (Stryker E et al 2008; O'Donnell C 2008). With the results of frequency analysis the assumption of individuals' knowledge with regard to environmental issues cannot be seen as satisfactory.

Absence of environmental related articles in the middle of the 1990s creates a gap in the informing process. The information about the environment and environmental issues has to be followed continuously without delay in order keep public in track of events. According to the Law of Azerbaijan Republic on Environmental Education and Awareness that was accepted in 2001 also declares that the environmental related information have to reach people continuously as we do not see after the 2001. The term "sustainability" that is very important to know, define and act toward it mentioned only in %1 of existing themes. Even in recent years when the main attention has to be paid to the environmental issues after the years of gaining the economic stability there is no articles used this term. Since all this four newspapers is considered to be the State owned newspapers the readers of which consist of all levels of the society including government leaders it can lead to the further policy changes and improvements in the field of environmental protection and solving other environmental problems.

Throughout the analyzed years there were no improvements toward the increasing the number of environmental related articles in the first pages. In almost all years the dominance of articles in third and fourth pages is observed. In addition the last years shows the decrease in importance of the articles with very few articles placed in front pages. All four newspapers did not see the environmental articles are important to place them in front pages.

The print media during the years of 1986-2008 not in the way of acknowledge the public since the information provided by the newspapers lack of global interest and knowledge at the same time publishing not satisfactory information about the level of pollution and treat to biodiversity in regional level. The main objective of the newspapers is to cover the political and economic events happened in the country. During the process of collecting the materials from newspapers it was observed that one article in one newspaper edition capture less than half of the page while the rest is mainly covered for political events. In other side newspaper coverage observed throughout the years gives a hint to assume people non- interest in environmental field that is linked with the non-interest of journalists and lack of information presented by them and vice versa. In addition taking into account the condition of the media with regard to environmental issues in Azerbaijan the assumption can be made for the other CIS countries that the same trend could exist in their media too. The less education and information sources for public lead to the less interest that also force the media to publish the information that is more important for the public. Thus such shape and circle will not lead to the sustainability while the people actions and thoughts are not be occupied with the importance of the environment.

6. THEME COMBINATION AND STATE OF SCIENTIFIC COLLABORATION OF JOURNALISTS IN BOTH STUDIES.

Composition of news articles with several themes indicates two things: one is the description of diverse environmental problems; the second shows the ability of journalists to cover as many issues as they can to give the broad environmental information. Multidimensional approach to the environmental issue is directly related to the intellectual level of that journalist, also it is directly related to the level of general public who can read and comprehend these compositions as well. On the other hand, the level of scientific collaborations represents the level of public consciousness or awareness on environment since this collaboration is urgent because of the environmental education problems in Azerbaijan. From the sustainability point of view it is also important to have a linkage and involve scientific and other fields too to get satisfactory results. In addition the collaboration of newspapers and journalists shows the importance of the issue that is mostly followed with the multi theme combination that is indicator of good information.

Authors of the articles are the main actors who shape the information and present to the public. It depends on them how it would be accepted and digested by the public. The professionalism plays an important role in this case and very important. However according to the IREX (International Research and Exchange Borad) Media Sustainability Index for Azerbaijan the quality of journalism is not up to internationally accepted standards (Figure 45). Also the formal journalism education is not up to professional standards at the university level. Training provided by local and international NGO's seems to offer the best professional instruction for journalists (IREX 2001). This is very important problem for the media and for the public since non-professional approach could lead to the non-satisfactory explanation and

knowledge of particular issues to the public.

According to the IREX ⁶ the professional journalism is in the level of unsustainable mixed system (Figure 45). The unsustainable mixed system is when country minimally meets objectives, with segments of the legal system and government opposed to a free media system. Evident progress in free press advocacy, increased professionalism and new media businesses may be too recent to judge sustainability (IREX 2008). The Journalism that meets professional standards of quality is described as followings:

- Reporting is fair, objective, and well sourced.
- Journalists follow recognized and accepted ethical standards.
- Journalists and editors do not practice self-censorship.
- Journalists cover key events and issues.
- Pay levels for journalists and other media professionals are sufficiently high to discourage corruption.
- Entertainment programming does not eclipse news and information programming.
- Technical facilities and equipment for gathering, producing, and distributing news are modern and efficient.
- Quality niche reporting and programming exists (investigative, economics/business, local, political).

⁶ International Research and Exchange Board – is an international non-profit organization specializing in education, independent media, Internet development and civil society programs.

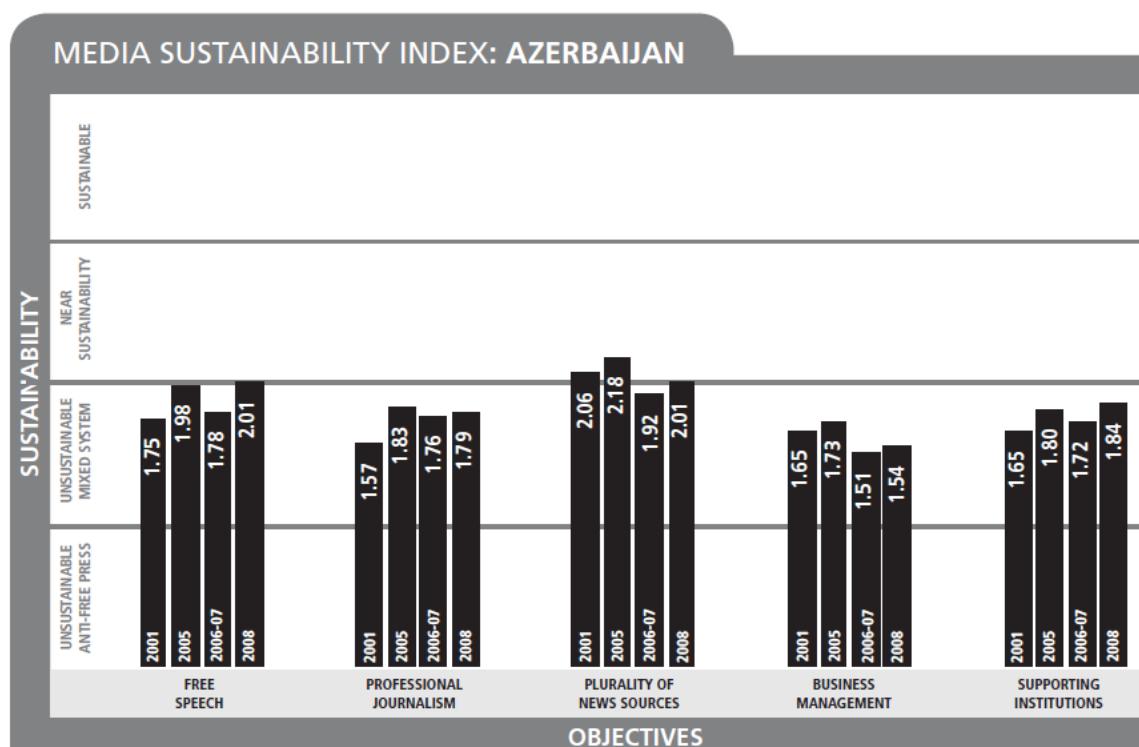


Figure 45: Media Sustainability Index. Azerbaijan. 2008.

One of the indicators of professional journalism is when reporting is fair, objective, and well sourced. It is found out that there are no environmental related subjects in Mass media departments in Universities of Azerbaijan. Only some environmental subjects are being taught in Baku State University (Yalchin Alizade Mustapha, 2009) such as Journalism and modern global problems, ecology, wars and so on for the students who major in Journalism. The major Universities were investigated via internet search and interview and the list is presented in Table 17. However, obviously it is not enough for the rising the environmental or scientific knowledge of the journalists. Thus the journalists not having environmental and scientific knowledge are not able to clearly and scientifically approach to any problem and describe it in needed quality. In this case the collaboration of the journalists with the scientists, professionals or experts in this field is in the urgent importance.

Table 17: List of Universities in Azerbaijan without journalism schools, with journalism schools without environmental subjects and journalism schools with environmental subjects for journalists

<i>There is no Journalism school in Universities</i>	<i>There is Journalism school in Universities but there are no subjects about environment</i>	<i>There is Journalism school in University and environmental subjects for journalists</i>
Azerbaijan State Economic University	Baku Slavic University	Baku State University
Azerbaijan University of Languages	Azerbaijan University	
Azerbaijan State Oil Academy	Khazar University	
Odlar Yurdu University		
Qafqaz University		
Azerbaijan State Pedagogical University		
Azerbaijan Teachers Institute		
Azerbaijan Medical University		
Azerbaijan Construction and Engineering University		
Azerbaijan State Cultural and Art University		
Azerbaijan Technological University		
Azerbaijan Tourism University		
Baku Business University		

For this reason the presenters of the articles were identified and found out that the great share of the articles of both Caspian Sea related and other environmental issues related articles are prepared and presented by the journalists or news agencies (Figure 46; Figure 47). Few articles were presented with the collaboration of journalists and scientist/experts in the environmental field that is proves again the above analysis that the information published in newspapers and presented to the public in not sufficient and professional. It is true that in some cases journalists and news agencies used Internet or other sources to present the information. However the scientific and environmental knowledge could presents more explanatory and rich content to public.

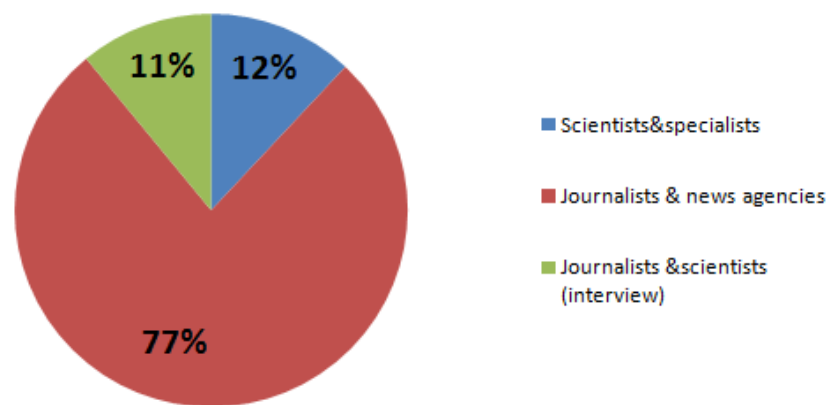


Figure 46: The share of the authors of Caspian Sea articles

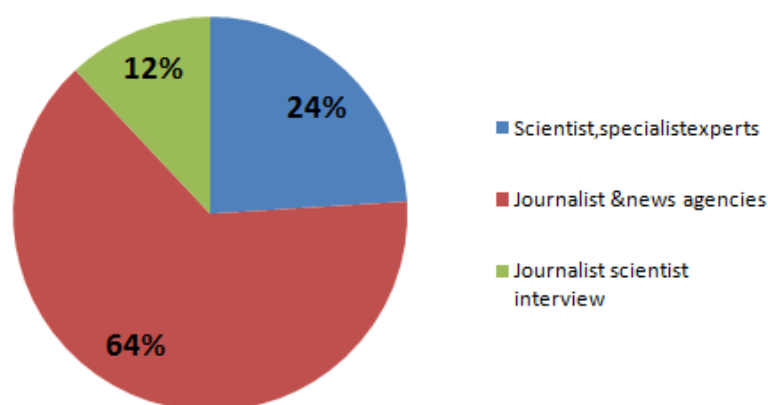


Figure 47: The share of the authors of the environmental realted articles in four newspapers.

The Khalq newspaper more likely to have more collaboration with the scientists than other newspapers since the articles written by the scientists and experts and the interviews of journalists with the experts of current field took place more often. However in all newspapers the articles written by the journalists and provided by news agencies are dominant.

The combination of different themes in one article shows the importance of the approach to the particular problem by the presenter. It is also makes the article more newsworthy and rich with information that can give more information to the public in one article. In addition the linkages in environmental issues have to be transformed to the written information and show the consequences of each issue. However the articles in analysis newspapers almost consist of one theme and only small share with the combination of different themes. The articles consisted at least from four themes (Figure 48; Figure 49).

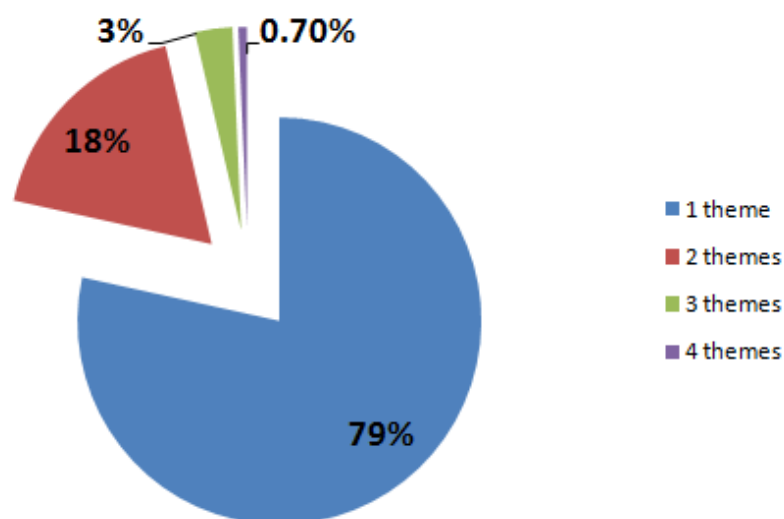


Figure 48: The share of the theme combinations in Caspian Sea articles during the years 1986-2008.

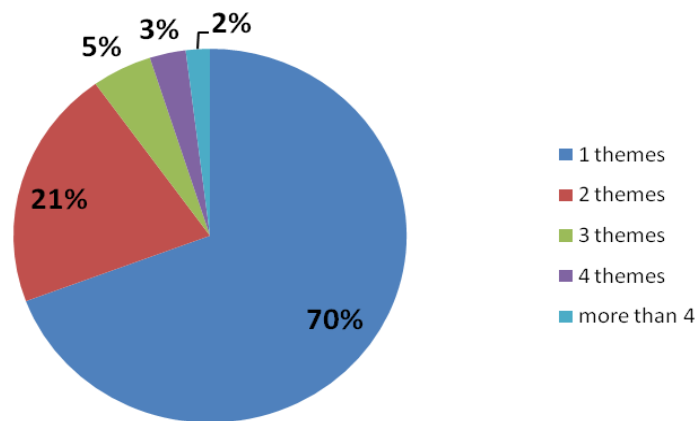


Figure 49: Total ammount of theme combination in environmental articles in four newspapers during the years 1986-2008

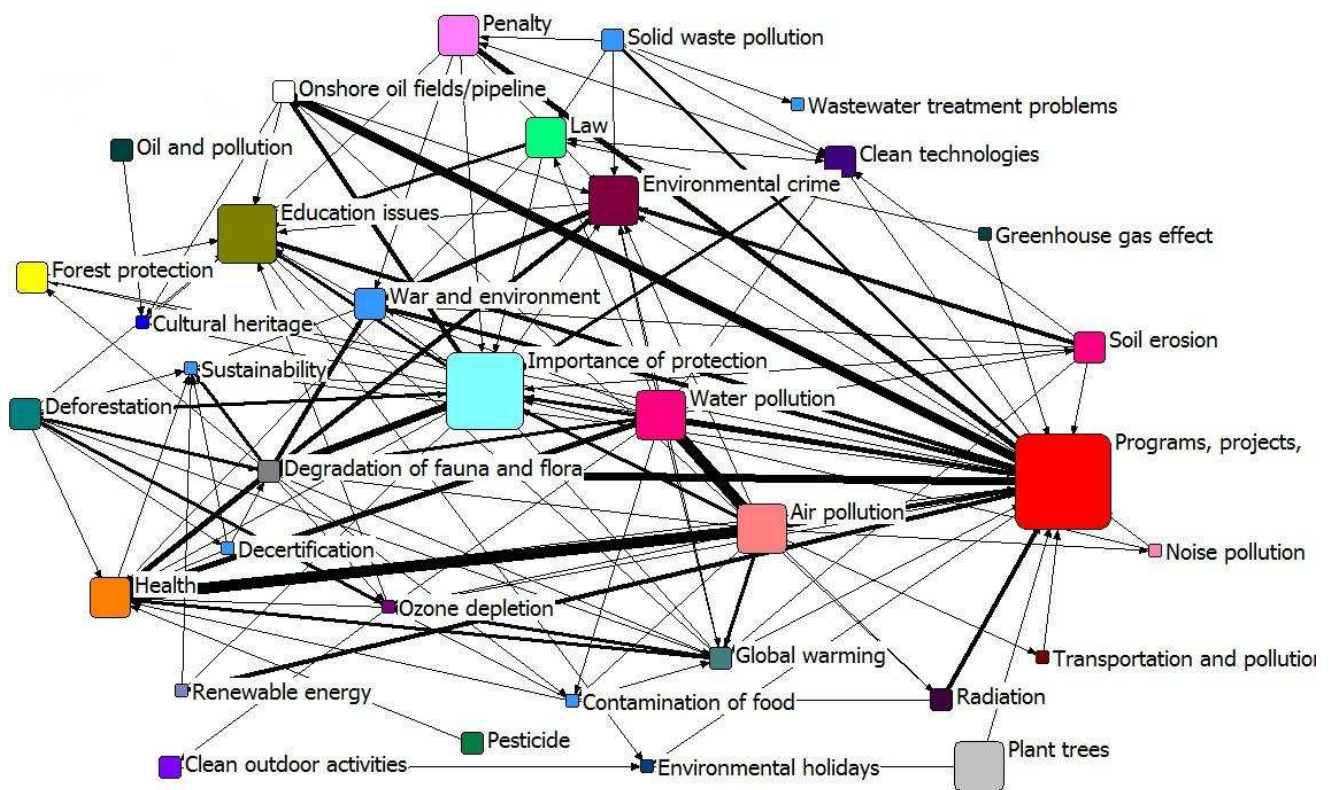


Figure 50: Combination of themes in multi themed articles

To discuss many issues in one articles it is important at least in the this case where there is less frequency and the more information is needed to cover the majority of issues. In addition the linkage of the themes need to be followed by the consequences of any particular issues in order to give the full needed information. In this study more than %70 of articles consist of only one theme and about %30 combined themes. However from the network graph it is obvious that not so much of them discussed in the same time. The network density is weak that is indicator of poor broadness and the lines connecting the themes is absent or not dense in some important issues when it is needed. Many results can be derived from the network graph however as an example we can take the Oil and pollution issue that is very important problem in Azerbaijan. The connection of the oil and pollution themes with the others is poor. In reality the oil and pollution leads to the degradation of fauna and flora, soil erosion, health problems the need for the protection is important to mention etc. However from the graph it is obvious that the consequences and these kind of issues in the same time that is very important to mention is not observed (Figure 50). Another important issue is sustainability that is very necessary term that have to be used continuously in media and with the majority of themes in order to lead the readers' thoughts toward the understanding and getting importance of it. However in addition of the low frequency of articles with the sustainability in content the mentioning of it with different themes is poor. As a matter of fact it was found out that the existence of multithemed articles is positive point however the content of these articles is not satisfactory in mentioning the right issues in the same time.

7. DISCUSSION and CONCLUSIONS

If we can assume that the media and specifically print media shape the public perception and play an important role in the environmental sustainability the results of this study shows that the level mentioned above have not been achieved yet. The writers of the articles mainly demonstrate interest on the economic interest of Caspian Sea more than environmental. The high percentage of the economic based articles was given more importance with more frequency and prominence. Thus the public who potentially exposed to read these articles did not get the sufficient environmental information of Caspian Sea problems. As a matter of fact the Caspian Sea being one of the unique watersheds in the world did not get a sufficient attention from the environmental point of view.

With regard to the attention to the regional and global problems the newspapers ignored the global environmental issues such as global warming, acid rain or effects of greenhouse gas that decreased a chance for public to know about the issues and take a personal measures and steps to escape the further deterioration of environment. The global environmental problems solving of which have great impact to the sustainable development were ignored by the media and it is empirical evidences shows that with such frequency of globally related articles the public cannot feel the importance of existing problems and would not have desire to act for the environmental well-being.

Regarding the authors of the articles it is obvious in the both studies that the great amount of articles written by the journalists and news agencies. In many international conferences the importance and necessity of the education of journalists in environmental field and the contribution of the scientists to the media issues in order to get a contact with the audience through the media was discussed and underlined. (Tsekos et al 2008). Taking into account that the journalists don't get sufficient knowledge with regard to environmental issues

because of absence of the environmental related subjects in almost all universities the articles cannot be fully identified as the clearly explanatory and rich in the content. As a result the collaboration of journalists with the scientists and experts constitute small share in the organizing the articles that is considered to be not sufficient for public since the journalists lack of environmental education and need to have collaboration for the broad introduction of the environmental issues. This also shows the non-interest of the journalists in environmental issues making it less important for the media and for the public.

In 1992 on the Earth Summit the Rio Azerbaijan joined the Convention on Biological Diversity. Among the main issues in this Convention are the education and public awareness about the environmental issues. In addition the one of the principles of the Rio Declaration on Environment and Development states:

“States shall facilitate and encourage public awareness and participation by making information widely available. However with the analysis we made in this study there is not sufficient share of environmental information widely available to the public.

In May 2001 the Ministry of Ecology and Natural Resources of Azerbaijan Republic established a press office to improve links with the media and NGO's and to produce information publications for the general public. The office releases issues a few times each week and circulates these among journalists and NGO's (UN 2004). However in as a result of current analysis it was found that during the 23 years period the highest number of articles published within 4 month is 26. Generally speaking approximately 26 days from the 120 were used for the environmental articles.

In the report prepared by a working group on Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters established by the Ministry of Ecology and Natural Resources declares:

“All events held under the auspices of the Ministry addressing its major activities and a concept of sustainable development which are of particular interest to the public has a good coverage in mass media and awareness raising materials on accomplishments of the Ministry are periodically published on the website of the Ministry”.

However this study shows that the coverage is not satisfactory and enough for the rising the awareness among the audience in environmental matters and sustainable development.

The National Strategy and Action Plan on Conservation and Sustainable Use of Biodiversity in Azerbaijan were approved by United Nations on 2006. One of the Key directions of the National Strategy and Action Plan (2006) is:

“Ensuring wide dissemination of ecological knowledge and consistent and continued environmental education by identifying legal, economic and organizational bases related to the environmental awareness of the population”.

According to the Action plan in order to educate and raise public awareness the information on biodiversity and its conservation have to be widely disseminated during the years 2006-2009. The issue in the section 8.3.3 of the Action plan saying “Provide updates on biodiversity-related information through mass media” was not met. Thus there is not empirical evidence of the goals pointed in the National Strategy and Action Plan on Conservation and Sustainable Use of Biodiversity in Azerbaijan.

The total amount of articles analyzed in both studies is 1114 from which articles regarding Caspian Sea issues are 454 and 660 other environmental problems. The empirical analysis of the four newspapers revealed the fact of interest of Azerbaijan media to environmental issues and gave the approximate assumption about the level of public awareness through the print media. As a matter of fact the Caspian Sea being one of the unique watersheds in the world did not get a sufficient attention from the environmental point of view. The economic profits and gains described frequently with high prominence while the environmental issues come behind with the less attention. During the Soviet time Caspian Sea did not get good attention and information were not delivered to the public despite that the environmental condition of the sea has a disastrous character exploited with the old technologies and becoming the target of polluted discharge, It is true that in comparison with other environmental related sections the newspapers shared the highest point to the protection issues. However these articles gave the information about the holding events and attempts for the protection without giving in detailed the nature of the problem and educative information to the public. The sustainability

of the Caspian Sea and general information about the sustainable development or emerged few times that makes it clear to assume that the public have no information about what sustainability is and what is needed to act toward it.

The collaboration of journalists with the scientists makes small share in the organizing the article that is considered to be not sufficient for the public since the the journalists lack of environmental education and need to have collaboration for the broad introduction of the environmental issues. This also shows the non-interest of the journalists in environmental issues making it less important for the media and for the public. It leads to:

- 1) Not to discuss environmental issues in a broad spectrum
- 2) Less attention to the environmental issues and publications
- 3) Less frequency and less prominence

The majority of the articles were not broad in the content since the collaboration and combination of the different themes in one article is the indicator of the importance given to the environmental issues and as the same time it creates the broad content that is very useful and important for the public.

As a result of analysis declare, Azerbaijan is considered not to be in the way to create environmentally aware society through print media. The results of this study are only the preliminary and first attempt to get the empirical results of the conditions of the print media as a source of environmental information. With the result of this study the print media and education ministries get the hint to improve their work and collaboration for environmental safety and sustainable future.

The following recommendations could be useful for the Azerbaijan press to improve the existing situation with regard to environmental issues:

- The Ministry of Ecology and Natural Resources have to encourage the press in publishing the environmental related articles frequently with high prominence.
- Journalism Departments in Universities to include the environmental subject as urgent to the curricula of that department.
- The links and collaboration of journalists and news agencies with the scientist has to frequently take place to make journalists effectively deal with the environmental issues and improve the prominence making environmental issues more salient and important.

This study and recommendations is the first and starting point to lead for the further improvements in order to create the environmentally aware and educated society for the sake of sustainable future.

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I. APPENDIX

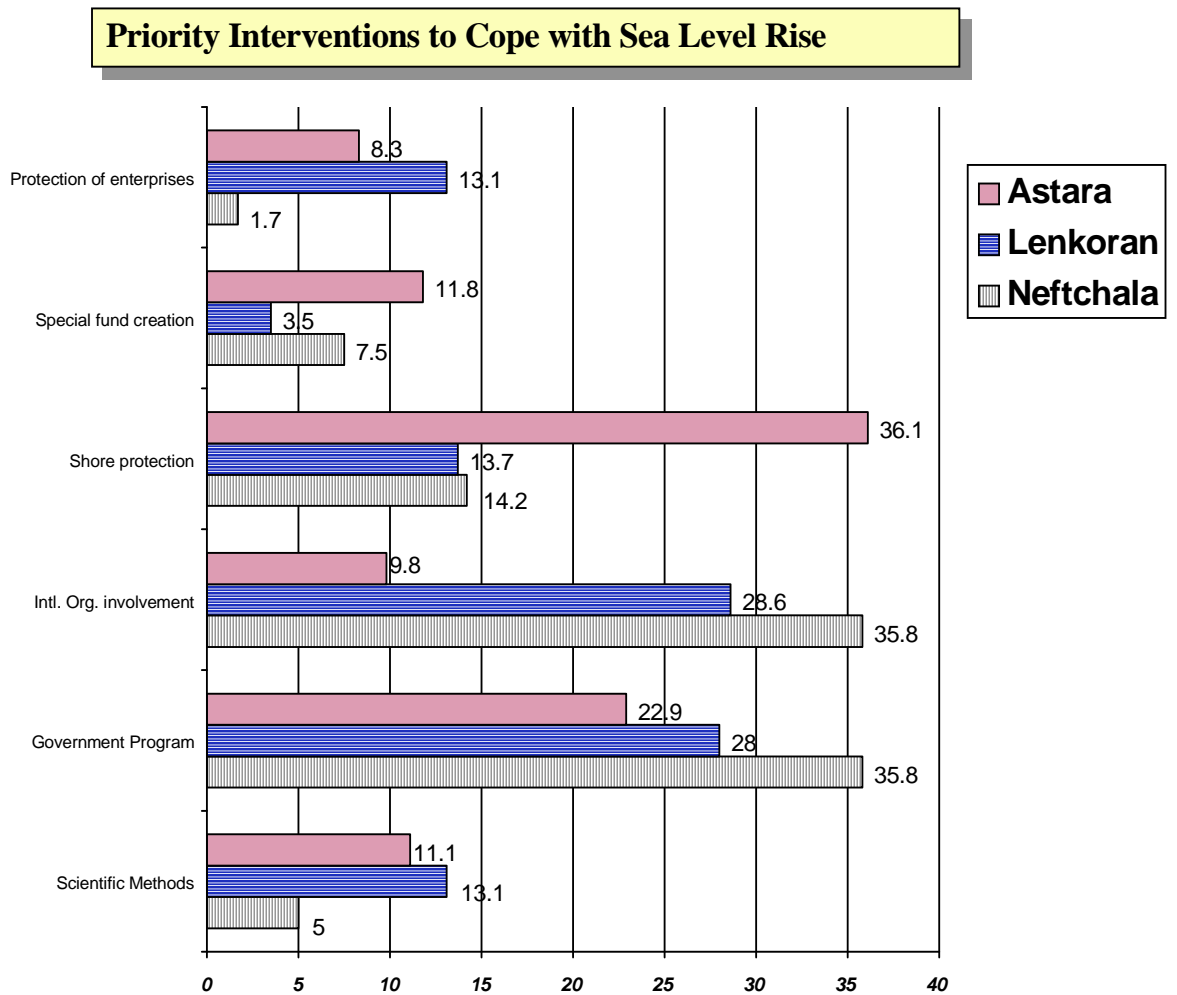


Figure A. 1: Descriptions and recommendations of people toward the Caspian Sea level rise
(Kudat et al 1999).

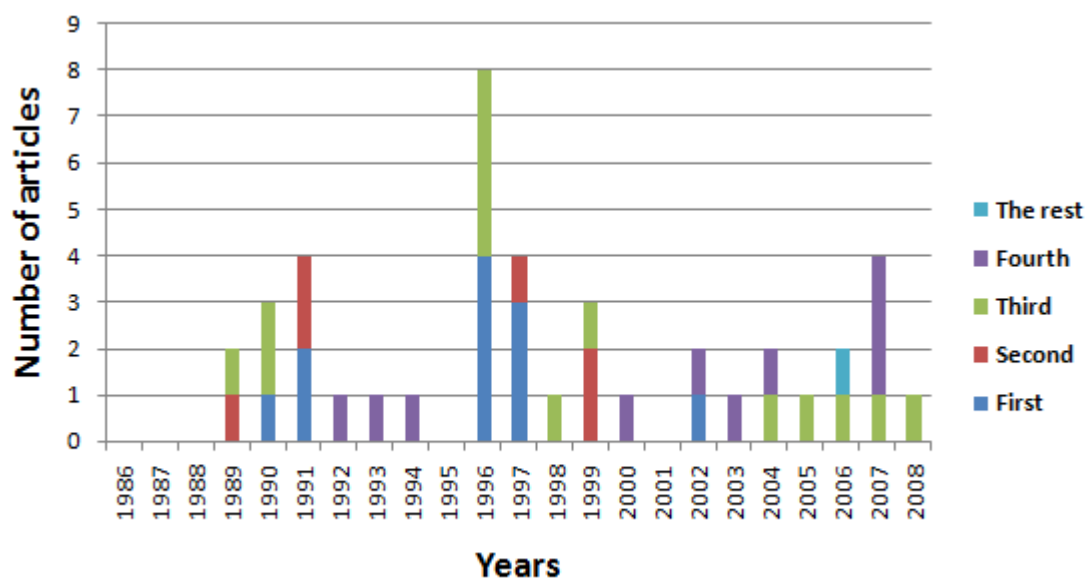


Figure A.2 : The number of environmental based Caspian Sea articles by location for each year during 1986-2008 in Bakinskiy Rabochiy newspaper.

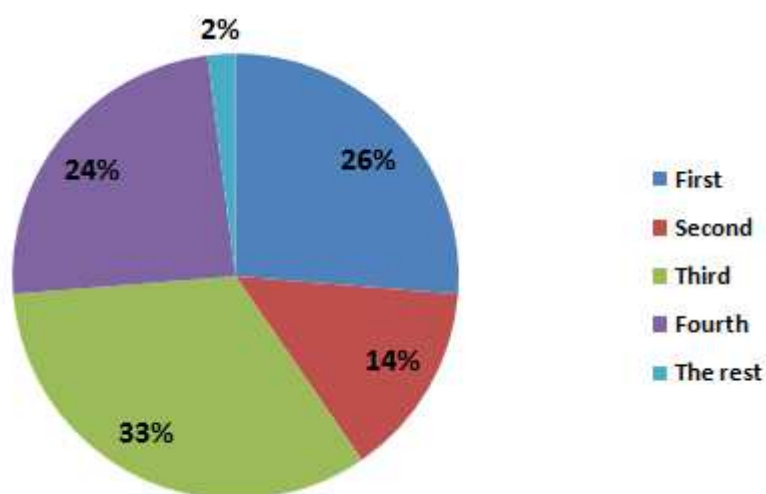


Figure A.3: The total share of the location of envrionmental based Caspian Sea articles in Bakinskiy rabochiy newspaper during the years 1986-2008.

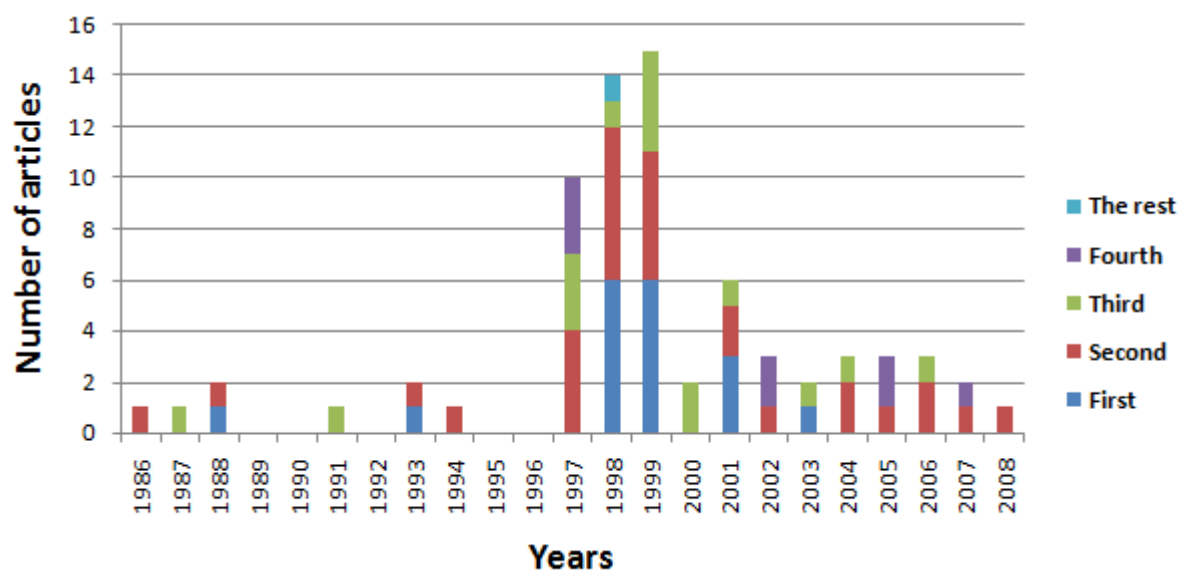


Figure A.4: The number of economic based Caspian Sea articles by location during the years 1986-2008 in Bakinskiy rabochiy newspaper.

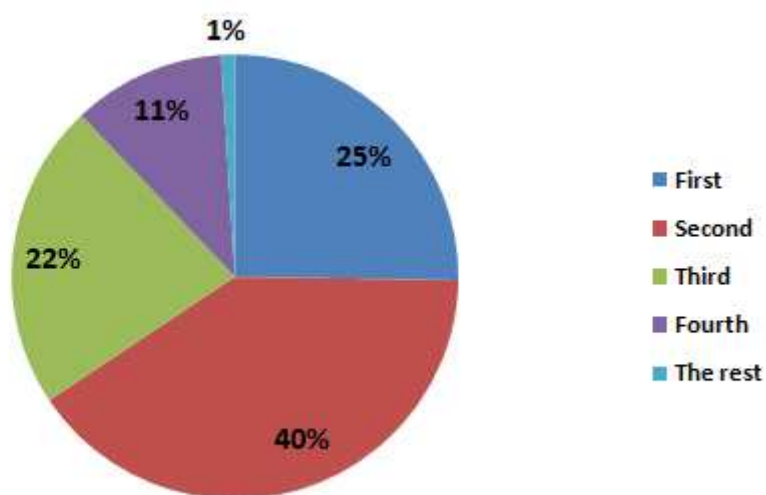


Figure A. 5: The total share of the location of economic based Caspian Sea articles in Bakinskiy rabochiy newspaper during the years 1986-2008.

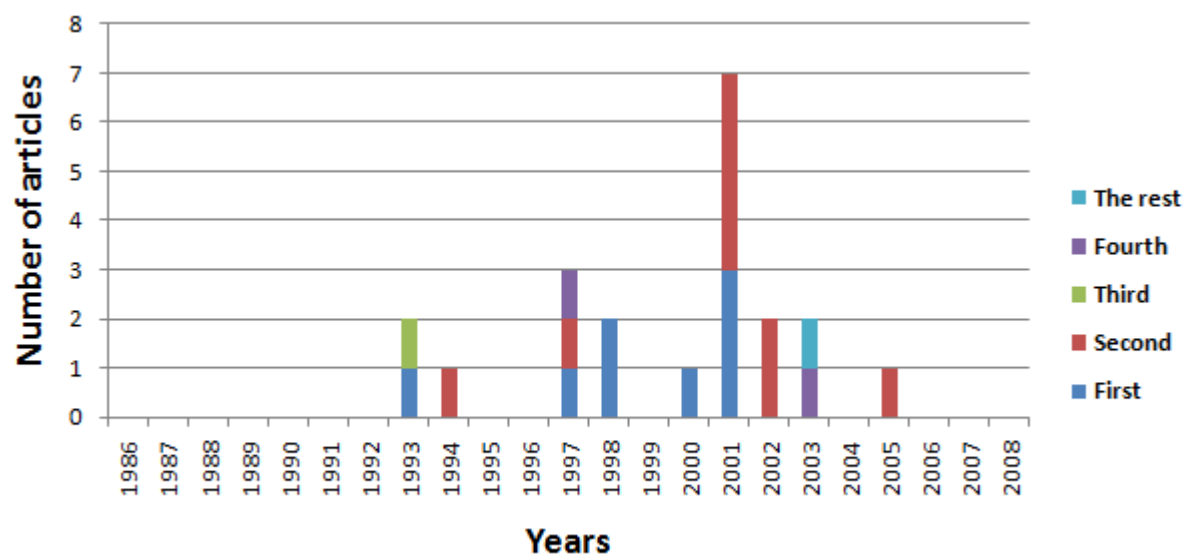


Figure A. 6: The number of political based Caspian Sea articles by location during the years 1986-2008 in Bakinskiy raboshiy newspaper.

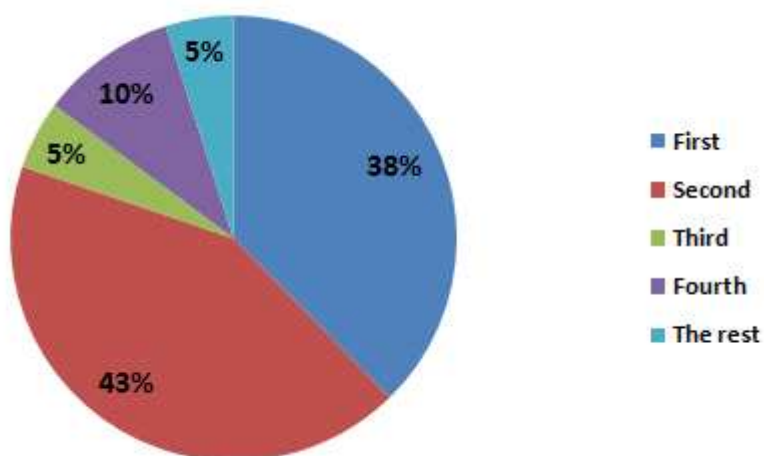


Figure A. 7: The total share of the location of political based Caspian Sea articles in Bakinskiy rabochiy newspaper during the years 1986-2008.

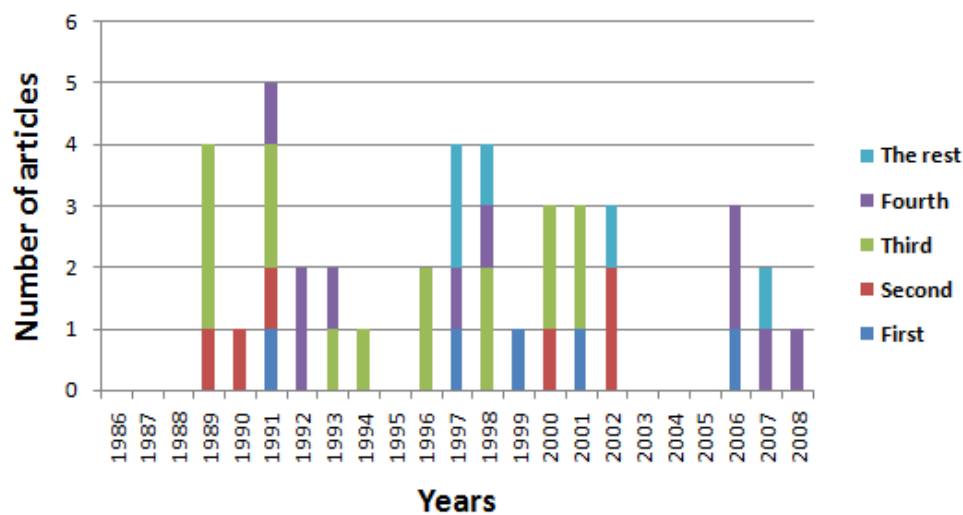


Figure A. 8: The number of environmental based Caspian Sea articles by location during the years 1986-2008 in Khalq newspaper.

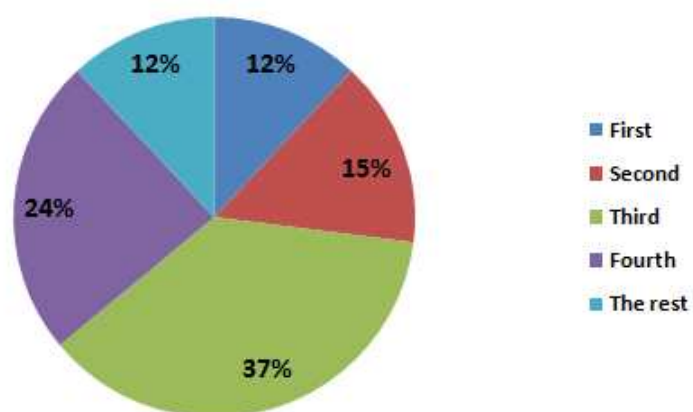


Figure A. 9: The total share of the location of environmental based Caspian Sea articles in Khalq newspaper during the years 1986-2008.

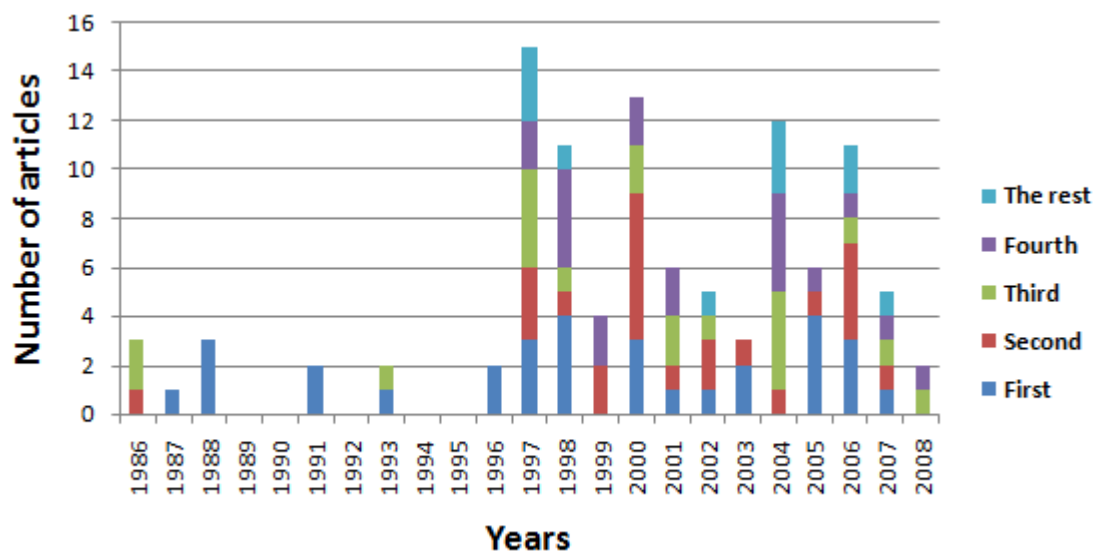


Figure A. 10: The number of economic based Caspian Sea articles by location during the years 1986-2008 in Khalq newspaper.

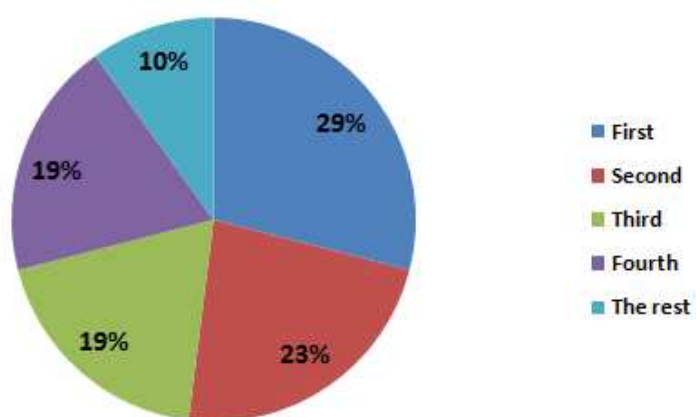


Figure A. 11: The total share of the location of economic based Caspian Sea articles Khalq newspaper during the years 1986-2008.

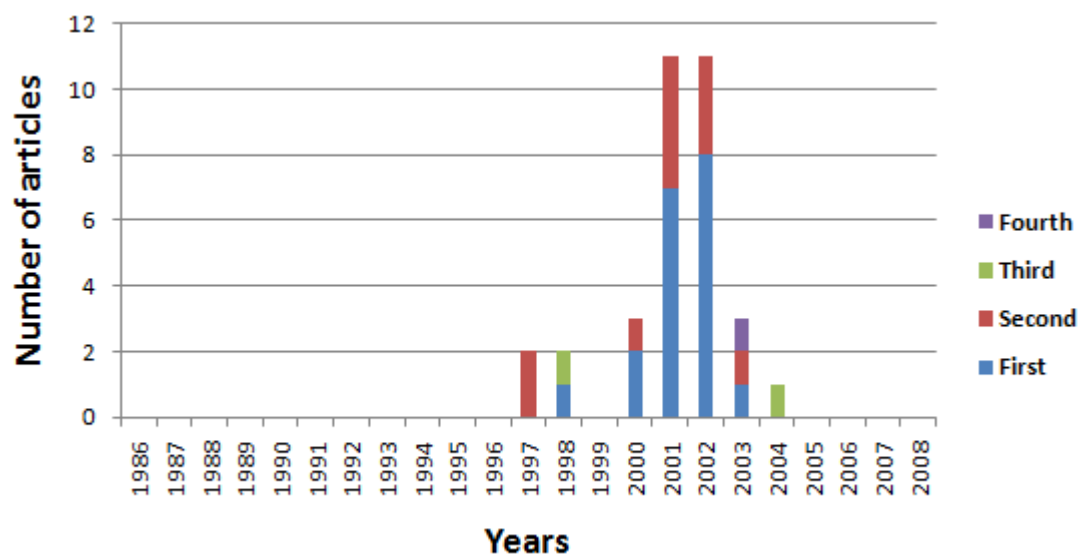


Figure A. 12: The number of political based Caspian Sea articles by location during the years 1986-2008 in Khalq newspaper.

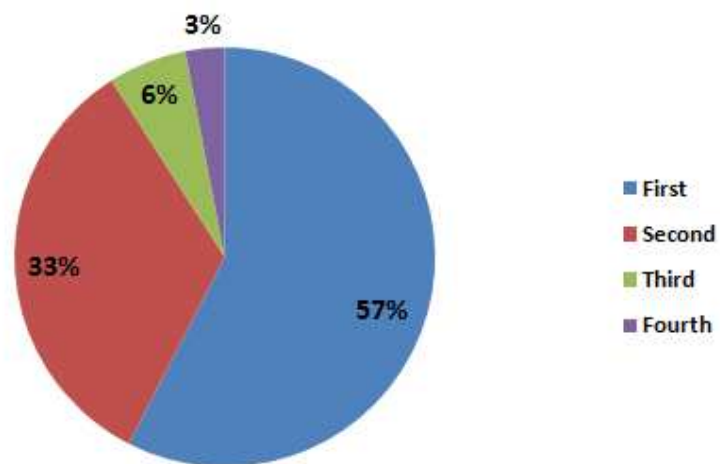


Figure A. 13: The total share of the location of political based Caspian Sea articles in Khalq newspaper during the years 1986-2008.

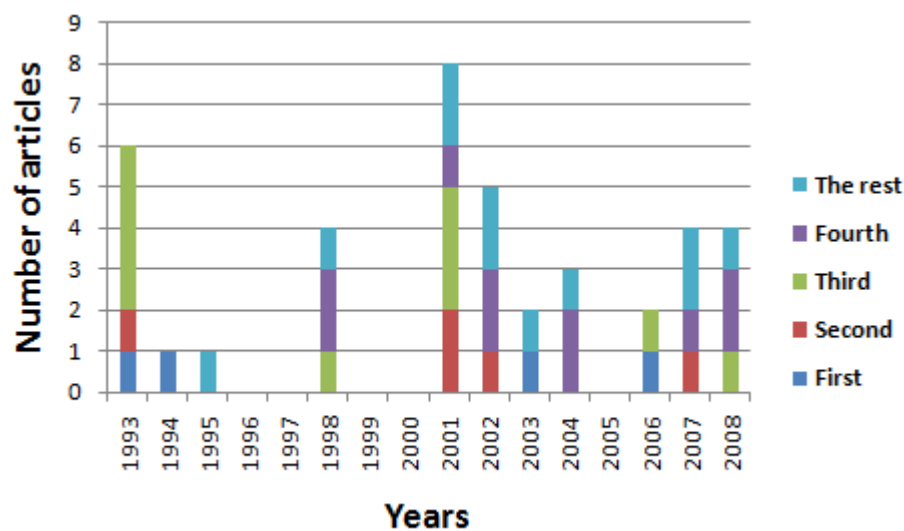


Figure A. 14: The number of environmental based Caspian Sea articles by location during the years 1993-2008 in Azerbaijan newspaper.

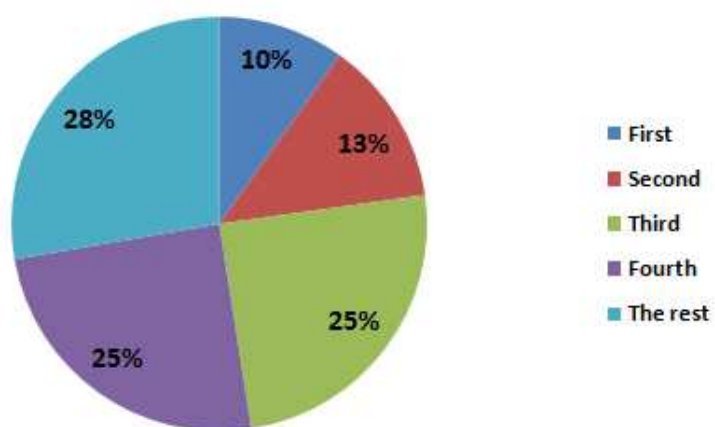


Figure A. 15: The total share of the location of environmental based Caspian Sea articles in Azerbaijan newspaper during the years 1993-2008.

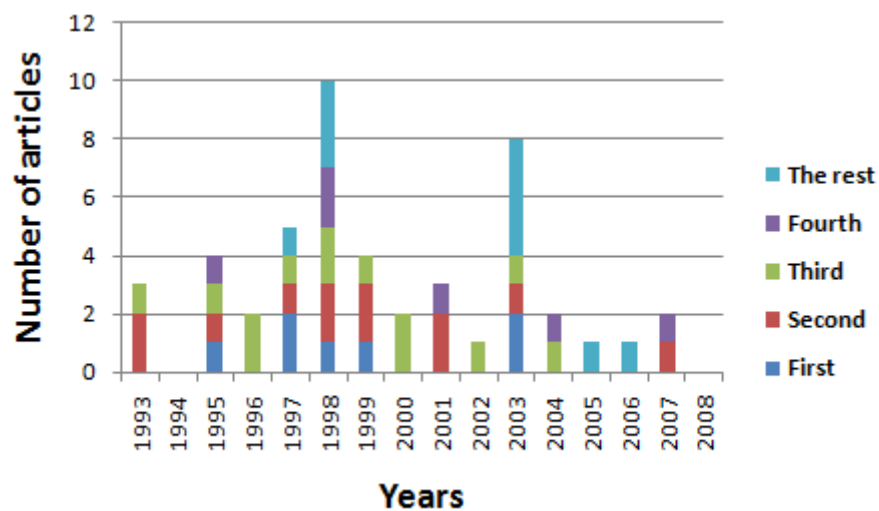


Figure A. 16: The number of economic based Caspian Sea articles by location during the years 1993-2008 in Azerbaijan newspaper.

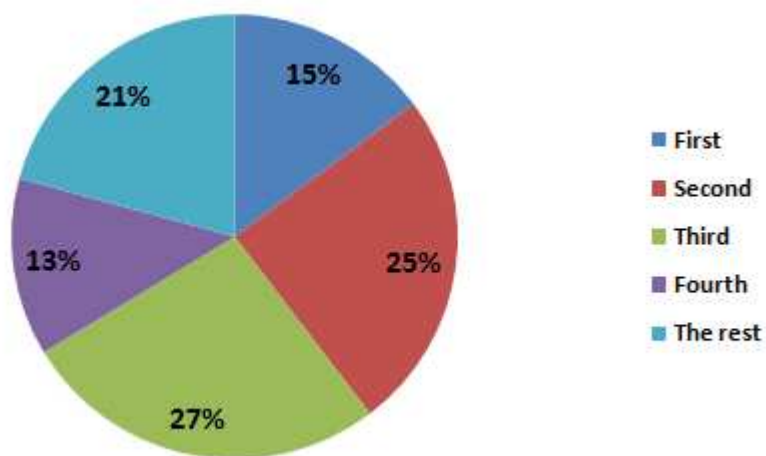


Figure A. 17: The total share of the location of economic based Caspian Sea articles in Azerbaijan newspaper during the years 1993-2008.

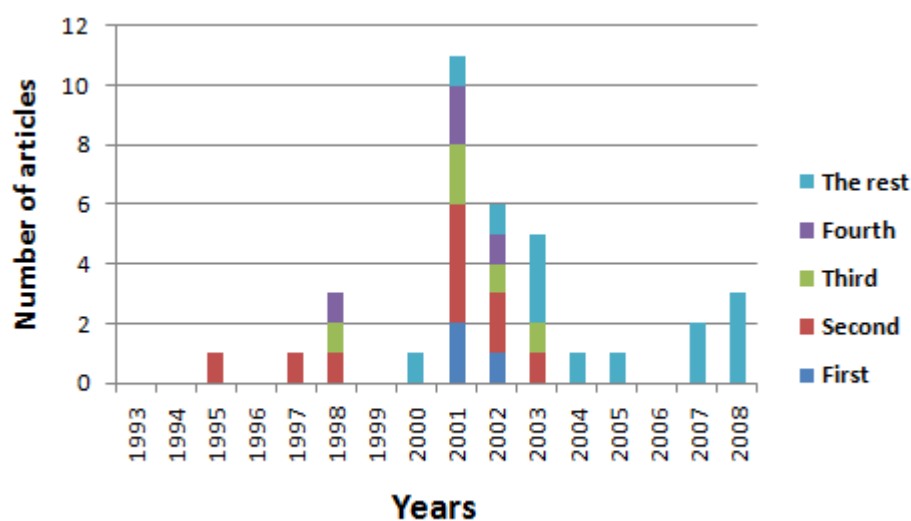


Figure A. 18: The number of political based Caspian Sea articles by location during the years 1993-2008 in Azerbaijan newspaper.

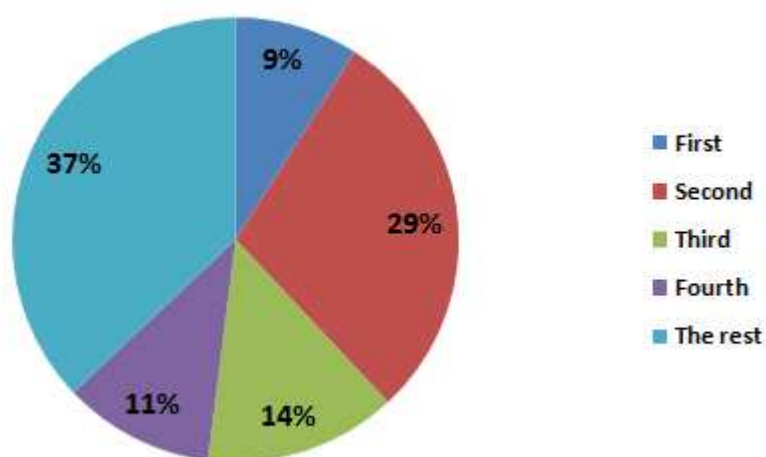


Figure A. 19: The total share of the location of political based Caspian Sea articles in Azerbaijan newspaper during the years 1986-2008.

Table A. 1: The number of economic articles by location during the years 1986-1991 in Izvestiia newspaper.

Izvestiya				
Years	Pages			
	First page	Second page	Third page	Fourth page
1986				
1987				
1988	x			
1989		x		
1990		x		
1991				

Table A. 2: The number of environmental articles by location during the years 1986-1991 in Izvestiia newspaper.

Izvestiya				
Years	Pages			
	First page	Second page	Third page	Fourth page
1986				
1987				
1988		x		
1989				
1990				
1991				x

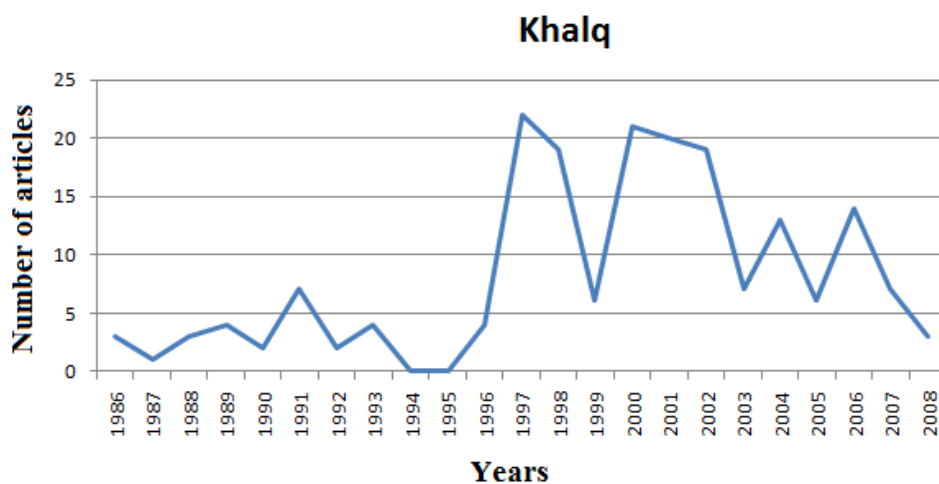


Figure A. 20: Number of articles of Caspian Sea issues in Khalq (Kommunist) newspaper.

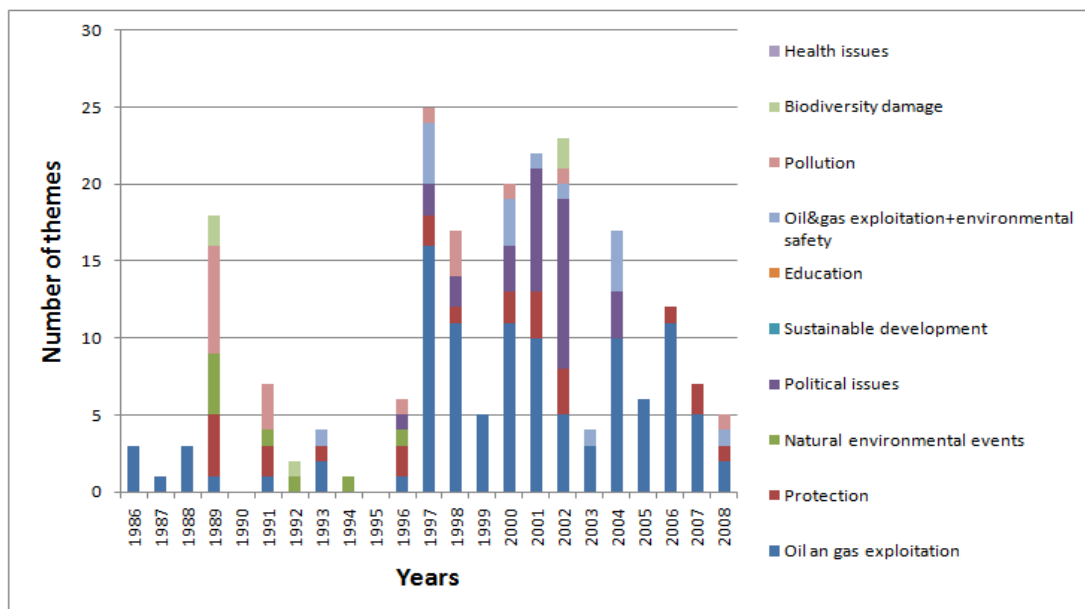


Figure A. 21: Total number of themes per each year in Khalq newspaper from 1986-2008.

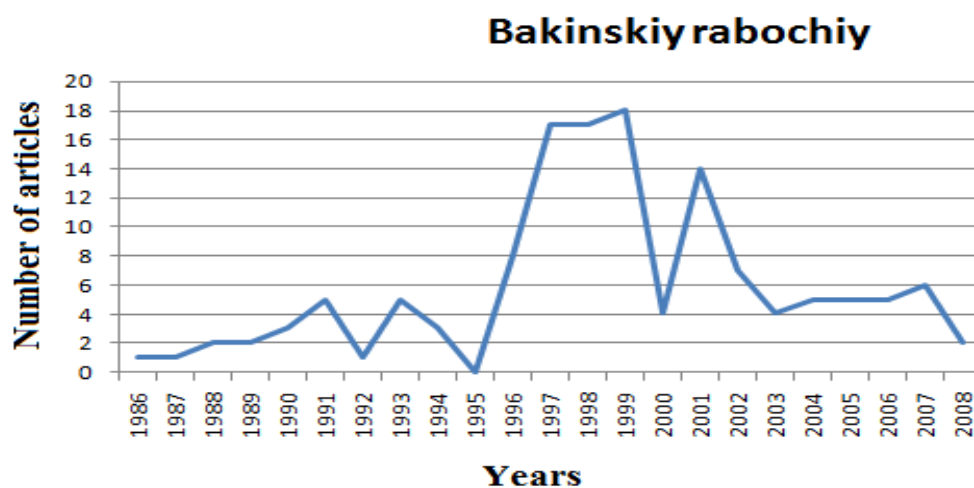


Figure A. 22: Time Number of articles of Caspian Sea issues in Bakinskiy Rabochiy newspaper.

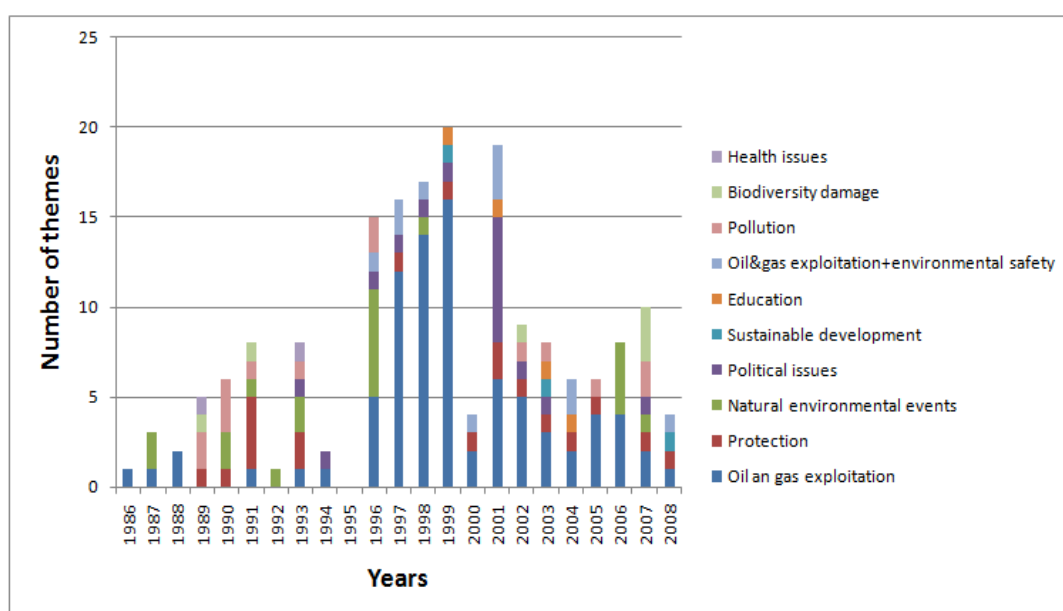


Figure A. 23: Total number of themes in Bakinskiy Rabochiy newspaper from 1986-2008.



Figure A. 24: Number of articles of Caspian Sea issues in Azerbaijan newspaper from 1993-2008.

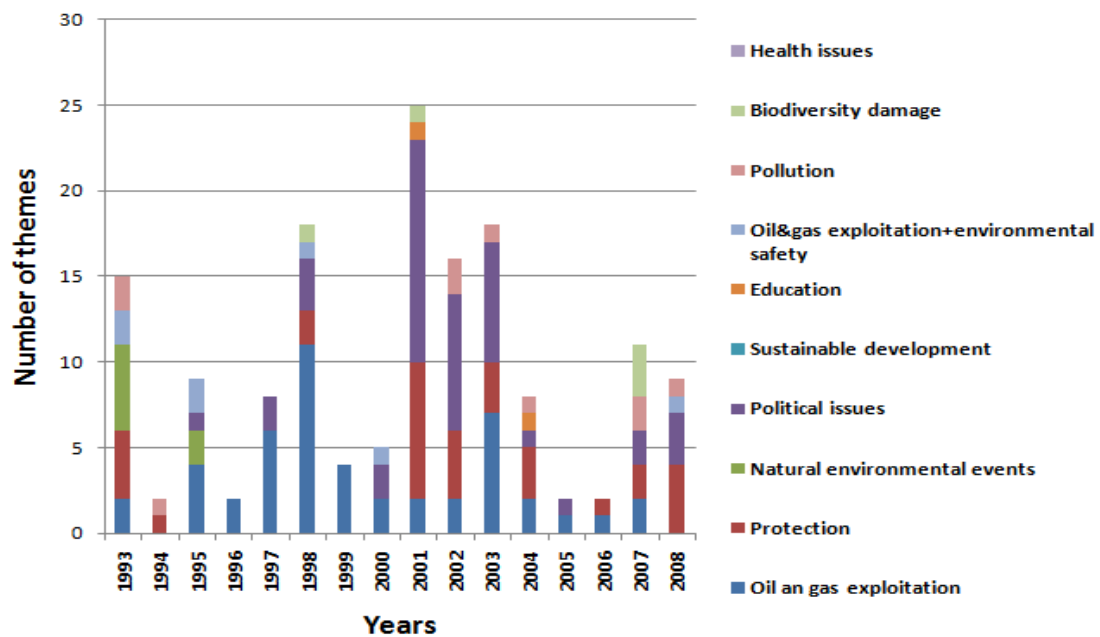


Figure A. 25: Total number of themes per year in Azerbaijan newspaper from 1993-2008.

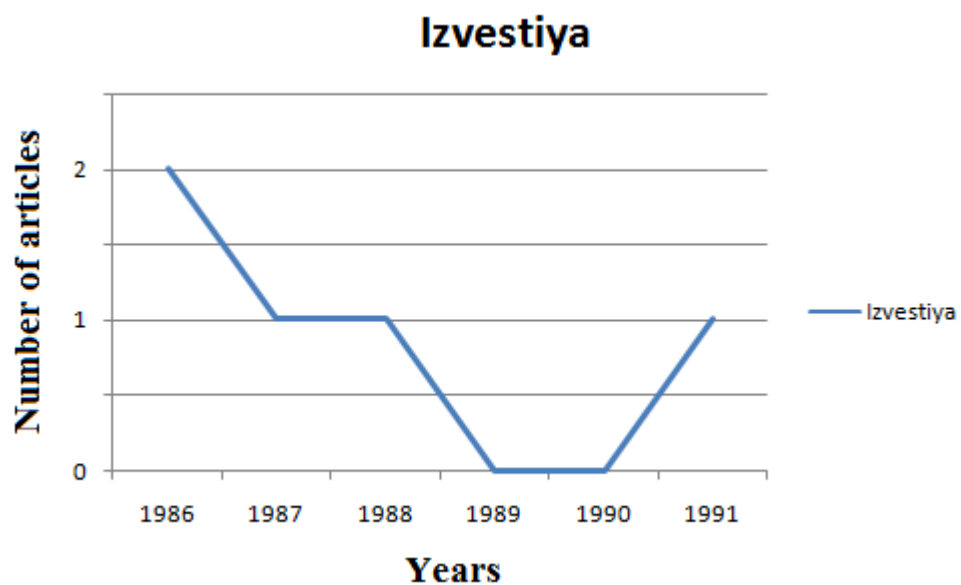


Figure A. 26: Total number of Caspian Sea articles in Izvestiia newspaper from 1986 – 1991.

Table A. 3: Total number of themes per year in Izvestiia newspaper from 1986-1991.

Years	Themes		
	Oil&gas exploitation	Pollution	Natural environmental events
1986	2		
1987	1		
1988			1
1989			
1990			
1991		2	1



Figure A. 27: Frequency of general environmental articles in Bakinskiy Rabochiy newspaper during 1986-2008.

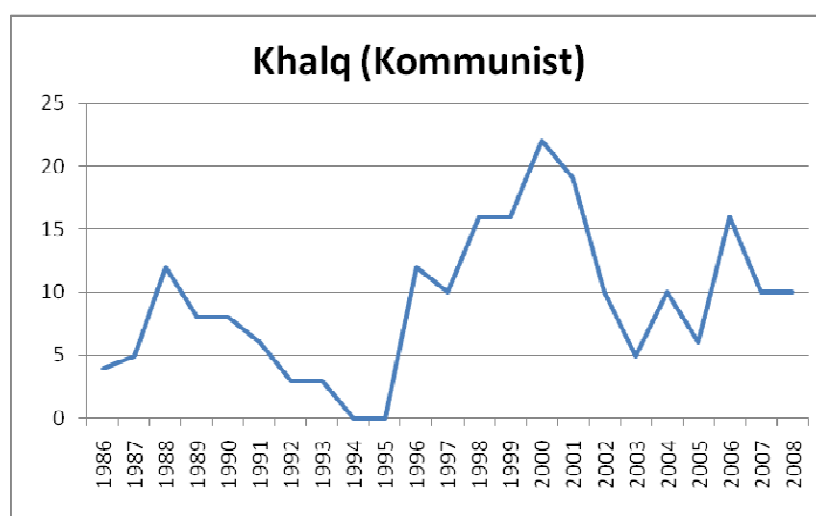


Figure A. 28: Frequency of general environmental articles in Khalq/Kommunist newspaper during 1986-2008.



Figure A. 29: Frequency of general environmental articles in Azerbaijan newspaper during 1993-2008.

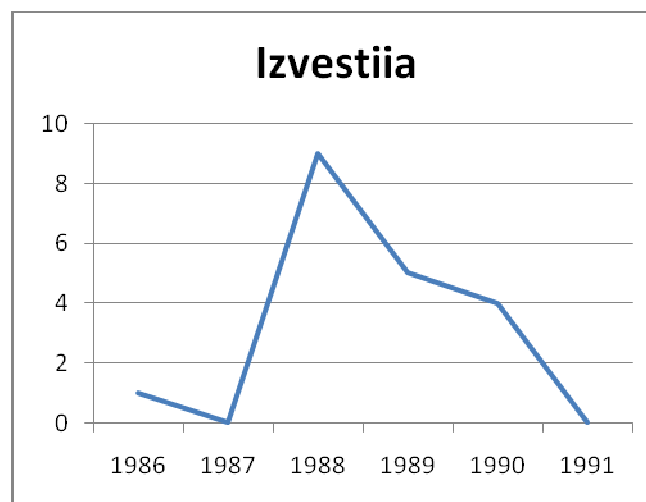


Figure A. 30: Frequency of general environmental articles in Izvestiia newspaper during 1986-1991.