THE EVALUTION OF SUSTAINABLE DEVELOPMENT POLICIES OF AZERBAIJAN SINCE INDEPENDENCE: A FOUR-CAPITAL MODEL THEORY APPROACH

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ABSTRACT

Sustainable development is recognized as an important benchmark against which the development of countries is assessed. Azerbaijan, a young Post-Soviet Republic has gone through important stages of state-building by transitioning from centralized economy to market economy, building new government institutions, in all of which the country's oil riches played an important role. This study aims to explore sustainable development achievements and shortcomings of Azerbaijan since independence by examining sustainability impacts of policies according to the Four Capital Model Theory. Exploratory research design is utilized to provide an overview of the country's developments in economic, social and environmental domains. Secondary data was collected by reviewing many sources including scholarly articles, reports from international organizations, pieces of legislation, policy papers and government publications recording progress on development goals. In addition, primary data was collected by conducting four in-depth interviews with policymakers and private sector representatives. Findings demonstrates that while Azerbaijan has fared relatively well in social aspects of sustainable development, economy and environment are areas where much progress remains to be achieved. Specifically, oil dependence of the economy needs to be diversified, domestic and foreign investment needs to be stimulated, and health care and social protection systems needs to be improved. Regarding sustainable energy, the study recommends Azerbaijan to utilize its available renewable energy sources and continue improving energy efficiency

Keywords: Sustainable development, sustainable energy, Four Capital Model, Azerbaijan, qualitative research

To My Beloved Family

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GLOSSARY

ABAD – Asan Support to the Business Family
ADB – Asian Development Bank
BTC – Baku-Tbilisi-Ceyhan pipeline
GDP – Gross Domestic Product
OOP – Out of Pocket
FMSA – Financial Markets Supervisory Authority
IBAR – International Bank of Azerbaijan Republic
IDP – Internally Displaced Person
IMF – International Monetary Fund
MCGF – Mortgage and Credit Guarantee Fund
MDG – Millennium Development Goals
MENR – Ministry of Ecology and National Resources
NEAP – National Environmental Action Plan
NPL – Non-performing loans
PSA – Production Sharing Agreement
SAMHI – State Agency on Mandatory Health Insurance
SDG – Sustainable Development Goals
SHDA – State Housing Development Agency
SME – Small & Medium Enterprises
SOE – State-owned enterprises
SOFAZ – State Oil Fund of Azerbaijan Republic
SPPRED – State Program on Poverty Reduction and Economic Development
SPPRSD – State Program on Poverty Reduction and Sustainable Development
SPESSD – State Program on Environmentally Sustainable Socio-economic Development
SPSPRI - State Program on the Solution of Problems of Refugees and IDPs
SPUARES – State Program on the Use of Alternative and Renewable Energy Sources
TPES – Total Primary Energy Supply
TSA – Targeted Social Assistance
UNDP – United Nations Development Program

VITA

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Chapter 1.
INTRODUCTION

Sustainable development has received considerable attention from scholars and policymakers over the last decades. Along with the rest of the international community, as a young developing nation, sustainable development stands an important target for the Republic of Azerbaijan. Azerbaijan, which was a former Soviet nation, gained its independence about a quarter century ago and went through a turbulent process of development. After losing most of its industrial production capacity upon the break-up of the Union of Soviet Republics and living through a brutal war, Azerbaijan had to build new institutions, and an economic system considerably directed by the country's oil riches. Today's Azerbaijan is, thus, a country with an economy significantly depending on the oil exports, which bring volatile revenues as proved by the recent significant drop in prices starting from 2014. In summary, since independence, Azerbaijan has gone through a dynamic period of economic and political transition. While these changes have received scholarly attention (e.g., Aras, Suleymanov, & Zeynalov, 2012; Petri, Taube and & Tsyvinski, 2002), there is a literature gap on the contribution of these changes in the pursuit of sustainable development. In other words, to what extent state policies have complied with the framework of sustainable development needs to be investigated. Therefore, this study aims to explore sustainable development achievements and shortcomings of Azerbaijan since independence by examining sustainability impacts of policies according to the Four Capital Model (Ekins & Medhurst, 2006). More specifically, the following research questions are addressed:

- To what extend do post-Soviet Azerbaijan policies contribute to the country's sustainable development achievements in terms of manufactured, social, human and natural capitals?
- What are the pillars of the sustainable development for Azerbaijan?

Next section of the study presents the literature review on the sustainable development, its conceptualization, economic, social, environmental dimensions of Azerbaijan's development path after regaining independence. The conceptual framework section elaborates on the theoretical foundation upon which the study is anchored. The following section offers a comprehensive, in-depth review of the Azerbaijan's development history since independence dividing it in to economic, social, and environmental domains. The methodology section throws light on the methods with which the study conducts. The analysis section revisits the research conducted so far and makes a critical analysis of the gathered data to answer research questions. The final section concludes the study and offers policy recommendations on how to ensure sustainable development in Azerbaijan.

Chapter 2.

THEORETICAL FRAMEWORK

2.1. Concept of Sustainable Development

Sustainable development became a ubiquitous concept in the last decades of the 20th century especially following the publication of *"Our Common Future",* a report published by the United Nations World Commission on Environment and Development (Brundtland Commission, 1987). However, the roots of the concept go far earlier. The British scholar Thomas Malthus of the 18th century was one of the first to write on how with the increase in the population the pressure on the resources of the world to meet people's demand rises. In "An Essay on the Principle of Population", he was stating his thesis that the population growth is geometrical unlike the arithmetical growth of the food supply, which highlighted the need for the population check (Malthus, 1798).

As the industrialization picked up steam in the 19th century, its effects started attracting academic attention. At this period, William Stanley (1865) in his "The Coal Question" in 1866 focused on the dependence of the UK's industrialization on its reserves of coal, a resource which he identifies as "the material energy of the country — the universal aid — the factor in everything we do". According to Stanley (1865), the non-renewable, exhaustible nature of this resource makes it important to use "every means of sparing the fuel which makes our welfare". Stanley's fellow countryman, Mill (1848) in "Principles of Political Economy" (1848) in Chapter VI titled "Of the Stationary State" about the world population wrote that he would "sincerely hope for the sake of posterity, that they will be content to be stationary, long before necessity compels them to it" implying that the is a limit to how much nature can meet people's

consumption. These views made Mill a prominent figure in the founding and development of the concept of the "steady-state economy", a theme central to theoretical disscussions around the sustainable development. Romanian mathematician Nicholas Georgescu-Roegen, who focused on the link between the laws of thermodynamics and economics and his student Herman Daly from mid-20th century, who integrated physics, ecology, economics etc into the development of his model of the steady state economy were both prominent names in the evolution of the concept of the steady state economy, an economy without growth (The Berkshire Encyclopedia of Sustainability, 2012). Mill's contemporary George Perkins Marsh (1864) in "Man and Nature" emphasized people's growing influence on the nature, ability to change it stating that people since the beginning of the mankind have launched a "warfare" on nature and has been in a constant pursuit of changing the nature and its products. With this, Marsh advocated for the environmental protection and became one of the pioneers of the conservationism.

From the second half of the 20th century, sustainable development came under more intense discussion, and importantly attempts to translate it into policy and as such into action emerged. In 1972, the Club of Rome, a think tank bringing light on important international questions including global environmental concerns published its famous and also controversial report "The Limits to Growth" (Meadows, Meadows, Randers & Behrens III, 1972). The report contained simulations conducted to show a finite capacity of the world to provide for the growing demand of humans. In the model, population, pollution, industrialization, food production and consumption of exhaustible resources were taken as variables and were assumed to have an exponential growth with the supply of food and non-

renewable resources being finite. Running the simulation, the report concluded that if the industrialization, world population, food production, pollution, resource exploitation is going to be increase at the rates existent then, the planet in the following 100 years will hit the limits to its growth (Meadows, Meadows, Randers & Behrens III, 1972). The report stirred a lot of debate and met with criticism. Science Policy Research Unit of Sussex University and William Nordhouse were among critics. They changed the model by introducing technical progress and substitutability of resources. The model produced a more optimistic outcome (Ekins, 2009). Additionally, the World Bank in its report issued in 1992 also disagreed with the conclusion of "The Limits to Growth" stating that the hypothesis that minerals, metals and other types exhaustible resources are getting scarce is not backed by evidence. The reason for this is that scarcity of these resources impacts on their prices in markets, which in turn boosts the search efforts for "The evidence…. gives no support to the hypothesis that marketable non-renewable resources such as metals, minerals, and energy are become scarce in an economic sense. This is because potential or actual shortages are reflected in rising market prices, which in turn have induced new discoveries, improvements in efficiency, possibilities for substitution and technological innovation" (Beckerman, 2007).

The same year "The Limits to Growth" was published, another important development took place. In Sweden's capital, Stockholm, the United Nations Conference on the Human Environment was held, which is famously known as the Stockholm Conference. The conference held under the auspices of the United Nations is considered a milestone as for the first time the environmental concerns were paid this much significant international attention (United Nations). The declaration of the conference

stated that natural rate at which the population keeps growing always creates challenges for the environmental conservation. The address these challenges, relevant policies and steps should be adopted and stressed the importance of international cooperation to address growing environmental concerns (UN Documents, 1972). The same year, the United Nations Environmental Programme was founded, a leading environmental authority in the world in charge of supervising UN-driven realization of sustainable environmental development (Australian Government DFAT, 2012). By mission it was decided "to provide leadership and encourage partnership in caring for the environment ... to improve ... quality of life without compromising that of future generations" (United Nations, 2013).

In 1983, the World Commission on Environment and Development was established by the UN General assembly. The Commission (1987) published "Our Common Future", a document reviewing international environmental issues, calling for concerted efforts to tackle them. The document known as the Brundtland report is famous as it has provided the most referred to definition of sustainable development, which is "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (Brundtland Commission, 1987, p.37).

With the growth in popularity of the concept, there have been multiple attempts to define sustainable development. Harwood (1990) defined the sustainable economyas a system that can endlessly develop towards greater benefit for people, greater efficiency of resource use, and balance with the environment that is friendly to people and other species" (Ciegis, Ramanauskiene, & Martinkus, 2009). Pearce, Markandya and Barbier (1989) provided a more detailed definition stating: "Creation of a

social and economic system that guarantees support for the following aims: increase in the real income, the improvement of the level of education, and the improvement in the populations' health and in the general quality of life" (Ciegis, Ramanauskiene, & Martinkus, 2009). Munasinghe (1994) focusing on human capital growth defines the sustainable development as" the process of increasing the spectrum of alternatives allowing individuals and communities to realize their aspirations and potential in the long perspective, at the same time maintaining the regeneration ability in economic, social, and ecological systems" (Ciegis, Ramanauskiene, & Martinkus, 2009).

In the dissertation, to define the sustainable development, the most commonly used definition provided in the report "Our Common Future" is utilized, which is: "Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (Brundtland Commission, 1987). The definition highlights two main concepts; people have needs, such as, food, clothing, and housin, and have the capacity to restrict the ability of the environment to meet their needs (Brundtland Commission, 1987). As seen from the definition, the focus has been put on the intergenerational equity, a concept stating that "every generation holds the Earth in common with members of the present generation and with other generations, past and future ... [highlighting] fairness among generations in the use and conservation of the environment and its natural resources" (Weiss, 2013). Preparing a sustainable development strategy for Azerbaijan requires policies to ensure economic growth and social welfare to meet present needs. However, as stated in the definition, policy implementations

devised in such a way that the exploitation of resources may not affect the ability of the future generations to meet their needs.

2.2. Four Capital Model Theory

Various theories have been developed to offer a conceptual framework for the sustainable energy. Many theories developed have been business-oriented. They have endeavored to explain how operation of businesses can be organized as such that besides profit-maximization they would contribute to sustainable development by contributing to the economic, social, environmental development. One of such theories is the "stakeholder theory". The theory was formulated by R. Edward Freeman (1984), who expounded on it in his book "Strategic Management: A Stakeholder Approach", where he stated: "'A stakeholder in an organisation is (by definition) any group or individual who can affect or is affected by the achievement of the organisation's objectives" (Freeman, 1984). The stakeholder theory states that for an organization to succeed, all stakeholders should be identified, and the operation of the organization should benefit all of them. Another theory is the Natural Capitalism, developed by Paul Hawken, Amory Lovins and Hunter Lovins (1999) in their book . The theory states that companies use the natural resources; however, they fail to state the inclusion of the resources when they report about their operation. The authors call for integration of natural capital and recognition of importance of the link between business operations and nature. Particularly, they focus on the significance of the recycling, productive use of natural resources etc (Hawken, Lovins, & Lovins, 1999). Given the business-focused approach of these theories, the theoretical foundation of this dissertation is going to be anchored in another theory - "Four Capital Model" theory.

The Four Capital Model Theory was developed by Ekins and James Medhurst (2006), who originally proposed the model as a way to measure the contribution of the European Structural Funds in terms of sustainable development. The theory is based on the classification of the capitals and assessment thereof. Through a broad focus by encompassing environment, economics and social development, the theory stands as a more relevant, explanatory theoretical framework given the study scope of this dissertation, which focuses on the assessment of Azerbaijan's development so far through the prism of sustainable development and preparation of a sustainable development strategy.

The model identifies four types of capital: 1) Manufactured capital 2) Social capital 3) Human capital 4) Environmental capital. Explaining the concept of capital, Ekins and Medhurst (2008), with a reference to economics, state "capital stocks (assets) provide a flow of goods and services, which contribute to human well-being". They add that in the narrowest interpretation, the capital can be understood as "the manufactured goods that themselves produce, or facilitate the production of, other goods and services", which is referred to as the manufactured capital". However, for this flow of goods to happen, there is a need for labor, social institutions, and natural resources, which accordingly correspond to the human capital, social capital, and the natural capital.

Four forms of capital

2.2.1. Manufactured capital: Manufactured capital covers what is traditionally referred to the capital stock or assets. Manufactured capital is used to enable the production of other goods: such as, infrastructure, tools, and equipments.

2.2.2. Social capital: Similar to human capital, social capital also appertains to the well-being of humans; however, while the human capital has an individual focus, the social capital has a societal domain. It includes "the social networks that support an efficient, cohesive society, and facilitate social and intellectual interactions among its members [and] those stocks of social trust, norms and networks that people can draw upon to solve common problems and create social cohesion" (Elkins & Medhurst, 2008). Social capital includes, such as, civil society, government institutions, and law-enforcement system.

2.2.3. Human capital: Human capital is **"**the health, well-being, and productive potential of individual people" (Elkins & Medhurst, 2008). Physical and mental well-being, qualifications, education, and skills all qualify as the human capital. The human capital is central to the welfare of individuals and as a total for the economic development through qualified, highly-skilled workforce.

2.2.4. Natural capital: Natural capital predominantly refers to what is known as the natural resources, such as water, and sources of fossil fuel. However, the natural capital is not limited to that only. It encompasses "the components of nature that can be linked directly or indirectly with human welfare", thus including also biodiversity, ecosystems etc as without their presence, our lives would be impacted negatively. In "Economic Growth and Environmental Sustainability: The Prospects for Green Growth", Ekins (2000) states that the natural capitals have three environmental functions. Two of these functions are directly related to the production process. The first of these functions is the environmental capital providing necessary raw materials for the production. The second function of the natural capital is the "absorption of wastes from production, both

from the production process and from the disposal of consumption goods".

Ekins (2000) states that the economic production process can have two types of outputs: goods and bads. The goods can be categorized as "consumption, investment and intermediate goods and services. Meanwhile, the bads can be the pollution, waste disposal and other negative externalities of the production on the environment, human health etc. He adds that what enters the production system as the inputs must also come out as outputs having one of these types of effects: positive, negative, neutral. Changes in one type of capital affects the other. Pollution, improper waste disposition through its impact on the nature, human health and the production process respectively affect the environmental capital, the human capital, and the manufactured capital. Social changes, political upheavals, that is, changes in the social capital, will exhibit a detrimenal influence on the production process affecting the manufactured capital.

According to the model, sustainable development is guaranteed when people are provided with education, medical services, good social institutions, and environment is protected, all of which come from the interplay between the types of capitals mentioned above. Guaranteeing the sustainability of this flow demands that "these capital stocks are maintained or increased over time" (Elkins & Medhurst, 2008).

The theory raises the issue of the substitutability of the capital, which is a matter long discussed in the context of the sustainable development. Based on the substitutability of the capital, weak and strong types of sustainability are distinguished. The foundation of the concept was laid by Solow and Hartwick, whose approach to sustainability prioritized by the

maintenance of the total stock of the capital (Ayres, Van Den Bergh, & Gowdy, 1998). According to the concept of the *weak sustainability*, the natural capital can be substituted with the manufactured capital. The weak sustainability puts focus on the preservation of the total stock of capital and assumes that technological progress can always generate solutions to the reduction of the natural capital through its subsititution with the manufactured capital. However, the *strong sustainability* stipulates that the natural capital is not simply a stock of resources, and its specialness should be recognized. Natural capital includes resources such as eco-systems, which cannot be substituted (Pelenc & Dedeurwaerdere, 2015). On this issue, Ekins and Medhurst state that how subsitutability of the capital affects sustainable development is dependent on the decline in the stock of one capital or more and the trade-offs involving various types of capital and the extent to which

- "any decline represents a breach of some critical threshold, and if not whether" (Elkins & Medhurst, 2008)
- "any decline in one form is compensated by increases in other forms" (Elkins & Medhurst, 2008)

The scholars conclude that whether there are trade-offs and their character should be analyzed empirically. Some thresholds can be product of scientific determination, while in the case of other thresholds, there can simply be normative statements over whether there is actually a threshold or not, it can be breached or not. All these should be understood empirically (Elkins & Medhurst, 2008).

Chapter 3.

STATE OF SUSTAINABLE DEVELOPMENT IN AZERBAIJAN

3.1. Overview

Azerbaijan gained its independence in 1991 after being under the Soviet rule for 7 decades. Upon reclaiming its sovereignty, the young country inherited from the USSR communist-era political institutions and a centralized market economy, whose links with economy of the Soviet Union overall and of other Union nations had been torn down. This left the country confronted with a lot of challenges of state-building. The whole situation was further exacerbated by the fact that already over the last few years before independence, Azerbaijan was getting involved in a growing conflict with Armenia, which would last until 1994. The first years of the independence were marked with political turbulence. The country experienced a coup d'état two times - in 1992 and 1993 – and overall the political administration of the state four times changed hands. The political instability was set against the background of a devastating war with Armenia. The war escalated in 1992 and 1993 resulting in the occupation of about Nagorno-Karabakh region of Azerbaijan and 7 adjacent districts, which make up 15% of Azerbaijan's territories. As a result, the country received an inflow of about of a million of internally displaced persons (IDPs) and refugees from occupied areas and Armenia. In 1994, first signs of long-expected stability started emerging. In May, Azerbaijan and Armenia signed an agreement on ceasefire (BBC Editorial, 2018). In September, another important event happened, one which would

significantly contribute to the determination of the trajectory of economic development of the country: On 20th September, 1994, "the Agreement on the Joint Development and Production Sharing for the Azeri and Chirag Fields and the Deep Water Portion of the Gunashli Field in the Azerbaijan Sector of the Caspian Sea "was signed among the State Oil Company of Azerbaijan and 8 international companies among them leading ones such as BP, Amoco etc (President of the Republic of Azerbaijan, 2018). The agreement was to enable the extraction of oil from three major off-shore oil reserves of Azerbaijan, an important step for a young country running short of financial resources. From this time on, the economic development of the country increasingly became interlinked with the oil, and the economy came to be increasingly dependent on oil revenues. From the mid-90s, the economic situation started stabilizing gradually (United Nations, 2018).

Azerbaijan entered the 2000s with high GDP growth rates around 10%. The rates started skyrocketing after 2005 before they were cut by the Global Recession. The increase in the growth rates came with the opening of the Baku-Tbilisi-Ceyhan oil pipeline. The 1768 km long pipeline trespassing Azerbaijan, Georgia and Turkey to carry the Azerbaijani oil from the Caspian Sea to the Mediterranean Sea for it to be exported later to the world markets started operating in 2006. The pipeline exporting 1 to 1.2 million barrels per day enabled Azerbaijan to expand oil production and export significantly. All these coincided with the increase in the global oil prices resulting in a dramatic increase in oil revenues for Azerbaijan and other oil-exporting nations. The increase in the state revenues enabled the government to increase public expenditure, thus, as part of it, social, infrastructure spending etc.

In 2000s, the United Nations after a three-day long Millennium Summit announced the United Nations Millennium Declaration, which contained 8 Millennium Development Goals. As a member of the United Nations since 1992, along with the world community, Azerbaijan also committed itself to supporting the achievement of MDGs. MDGs ranged from poverty eradication, promotion of gender equality to infant mortality reduction and ensuring environmental sustainability. Out of these goals, which were to be achieved by 2015, Azerbaijan achieved reduction in poverty and hungry, for which it even received a prize from FAO. Azerbaijan also reached goals of female empowerment, reduction in child death. Regarding decrease in maternal mortality also, Azerbaijan achieved a significant progress. Azerbaijan had already achieved provision of primary education for all already when MDGs were announced in 2000 (Scholz, 2017).

Figure 1. Millennium Development Goals

Source: (United Nations, 2000)

After 2015 by when the MDGs were to be achieved, there was a need for establishment of another development framework. In 2015, for this purpose, the UN General Assembly adopted the agenda "Transforming

our world: the 2030 Agenda for Sustainable Development". The agenda formulated the Sustainable Development Goals (SDGs), which were to be achieved both by developing and developed nations. There are 8 SDGs with 169 targets in total to be achieved (United Nations, 2015). As with the MDGs, Azerbaijan has committed itself to taking part in the implementations of the SDGs, which are to be achieved by 2030. The SDGs provide a framework for Azerbaijan to anchor its development goals into sustainable development. To support the achievement of the SDGs by Azerbaijan, the National Coordination Council for Sustainable Development was established in 2016. The National Coordination Council headed by the top government officials has been authorized to involve the civil society, technical assistance missions to facilitate Azerbaijan's accomplishment of the SDGs (Abbasova, 2016).

Figure 2. Sustainable Development Goals (SDGs)

Source: (United Nations, 2015)

3.2. Economic policies since independence

3.2.1. 1991-2005

Upon gaining independence, Azerbaijan had a centralized market economy, which used to be integrated into the economy of the Soviet Union. As part of the Soviet Union, Azerbaijan had a diversified economy,

which the Soviet authorities had aggressively for years pushed in the direction of the industrialization. As a result, the country possessed both a large industrial production capacity and an agricultural sector. However, the economy underwent a collapse following the achievement of independence in 1991. This was a result of a number of factors. The independence put an end to the financial transfer from the central Soviet government in Moscow. Additionally, since the economies of all Soviet nations had been integrated and united in the centralized market economy of the Soviet Union overall, the independence tore down the economic-trade relations between the former Soviet nations. These factors in addition to the consequences of the war with Armenia provided a difficult platform for Azerbaijan to transition from the centralized market economy to the free market economy. The lack of political stability with the heads of state changing 4 times in only 2 years made it almost impossible focus on the economic transition. As a result, the economic production in the early 90s significantly declined. Until 1996, the Gross Domestic Product of the country showed only a downward trend. Immediately after independence, GDP declined from about $ 8.8 billion in 1991 to 5 billion in 1992, reaching the lowest point in 1995, when it was $3.05 billion. Agricultural production and manufacturing in 1995 had decreased as much as to constituting 32.7% and 77.5% of how much they were in 1990. Hyperinflation was another problem. As part of the transition to the market economy, it was important to set off the price liberalization. However, it carried the risk of the hyperinflation. While, the rate of inflation in 1992 was 46.2%, it started skyrocketing to 1128% and 1662% in 1993 and 1994 respectively. The 4-digit inflation figure in 1994 was related to the decision of the money-printing to cover the budget deficit.

Table 1. Macroeconomic parameters for the economy of Azerbaijan (1990-1999)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
GDP (in $ million	8.858	8.792	4.991	3.973	3.314	3.052	3.177	3.963	4.446	4.581
GDP growth (%)	-	-0.7	-22.6	-23.1	-19.7	-11.8	1.3	5.8	10	7.4
Inflation (%)	-	-	-10.63	1128	1662	411.8	19.8	3.67	-0.77	-8.5%

Source: World Bank Data Bank (World Bank, 2018)

The most landmark event of 1994 for the economy of the country was the signing of "the Agreement on the Joint Development and Production Sharing for the Azeri and Chirag Fields and the Deep Water Portion of the Gunashli Field in the Azerbaijan Sector of the Caspian Sea "as mentioned above. Nicknamed as the Contract of the Century for its economic and political importance for Azerbaijan, the value of the deal was estimated to be $60 billion. The agreement was critical for Azerbaijan as the country desperately needed financial resources. However, to use its oil reserves, it lacked the necessary expertise and investment, which only global oil extraction companies possessed. By inviting these companies, the leadership of Azerbaijan also endeavored to send assuring messages to the world community about the stability of the country.

Starting from 1995, the government started realizing its ambitious economic program. The program entailed macroeconomic stabilization, structural, social reforms etc (International Monetary Fund, 1997). To realize implement the reforms, the government started cooperating with the International Monetary Fund to utilize both the technical and the financial assistance of the latter. The intended purposes of the reforms implemented initially especially were the price liberalization, privatization, bringing down inflation, fiscal deficit, social support to the most vulnerable (International Monetary Fund, 1995). Medium-term targets

included the acceleration of the transition to the market economy, development of the country's oil reserves, increasing economic growth (International Monetary Fund, 1997). In support to the reforms, Azerbaijan received about $577 million worth loans from the IMF in 1995-2005 (CBC, 2017). The steps brought fruit already in 1995 when the inflation rate declined within a very short period replaced even with a deflation in 1998 and 1999 (Suleymanov & Aliyev, 2015). The government made efforts of restructuring different sectors of the economy. As one of the most important pillars of the transition to the market economy, privatization received a lot of attention. The land once fully under the administration of the state was distributed among citizens (Suleymanov & Aliyev, 2015). The Contract of the Century was used to restructure the oil sector. Also, the parliament in 1995 adopted a program which envisioned to carry out privatization of 70% of the state enterprises. Thanks to all these steps, the second half of the 90s was marked as the recovery period for the economy, which for the first time since independence recorded a positive GDP growth in 1996. Towards the end of the decade, the economy was growing very fast. Overall till 2006, GDP grew on average by 10%(ADB, 2014). This enabled Azerbaijan to significantly bring down the poverty rate. The poverty rate came down from 68% to 29% over a period spanning 1995 and 2006. Fast rises in wages, minimum wage, remittances from Russia etc. were factors behind the astounding decline in poverty rate in the country (ADB, 2014). However, in the external trade, till 2005, Azerbaijan maintained a current account deficit as imports all the time exceeded the amount of exports. The highest current account deficits were recorded in 1998 and 2003, when they were respectively -30.69% and 29.82% of GDP (Islamic Development Bank, 2017).

The current account till 1998 was in a deficit mainly because Azerbaijan could gain its first revenues based on the Contract of the Century only in 1998. The decrease in oil prices in the early 2000s also worsened the current account balance of the country.

By 2005, following the implementation of the economic program of the Azerbaijani government, the poverty rate was brought down to 40% from 60% in 1994. According to the assessment by the IMF of the programs realized with the support of the Fund, the inflation rates had declined from the hyperinflation to single-digit figures, and the fiscal and external positions of the country could be considered sustainable. Also, significant progress had been recorded in the spheres of privatization of the SMEs, the price liberalization, fiscal management. However, as the Executive Board of the IMF concluded, challenges lied ahead in the areas of the business environment improvement, oil wealth management, banking sector etc. (International Monetary Fund, 2005).

As all these showed, starting from the 90s, Azerbaijan was increasingly becoming an oil-dependent economy. The inflow of the oil revenues made the government take an action to regulate the income from this resource. In December of 1999, a Presidential decree was issued on the establishment of the State Oil Fund of the Republic of Azerbaijan (SOFAZ). Established as a Sovereign Wealth Fund, SOFAZ was missioned with the transformation of revenues from exhaustible hydrocarbon resourcs into financial "to transform depletable hydrocarbon reserves into financial assets, which can continuously benefit both current and future generation. As such, it had three objectives: 1) Maintaining macroeconomic stability through fiscal-tax discipline, reduced reliance on hydrocarbon revenues ensuring fiscal-tax discipline, decreasing dependence on oil revenues; 2)

Accumulation and preservation of revenues for use of future generation 3) Funding large scale projects to contribute to social and economic development of the country (SOFAZ, 2018). Thus, the Fund was to act as a stabilization fund to ensure macroeconomic stability and also accumulate wealth from the oil-related earning for intergenerational equity. The establishment of the SOFAZ was a major step in ensuring the transparency of the financial transactions around inflow of oil revenues. All the earning from oil would directly enter SOFAZ, and only subsequently it could be transferred to the state budget.

In 2003, with a Presidential Decree, a State Program on Poverty Reduction and Economic Development (SPPRED) was approved. The program was the result of the work of the state authorities of Azerbaijan for two years and was a response to the high poverty rate and other rampant social problems of the country (International Monetary Fund, 2004). As of 2001, according to the data from the State Statistical Committee of Azerbaijan, about 49% of the population was living below the poverty line, with the urban poverty exceeding the rural poverty in the country (International Monetary Fund, 2003). To address these and other issues, SPPRED identified 6 strategic directions: 1) Establishing an environment conducive to the growth of the income-generating opportunities 2) Retaining a stable macroeconomic environment 3) Improving both the quality of and access to the basic education and health services 4) Improving infrastructure 5) Improving the existent social protection system 6) Improvement of the living standards of the IDPs and refugees (International Monetary Fund, 2004). The strategy was assessed by the IMF and the World Bank as "a credible poverty reduction strategy that provides a sound basis for Bank and Fund concessional assistance".

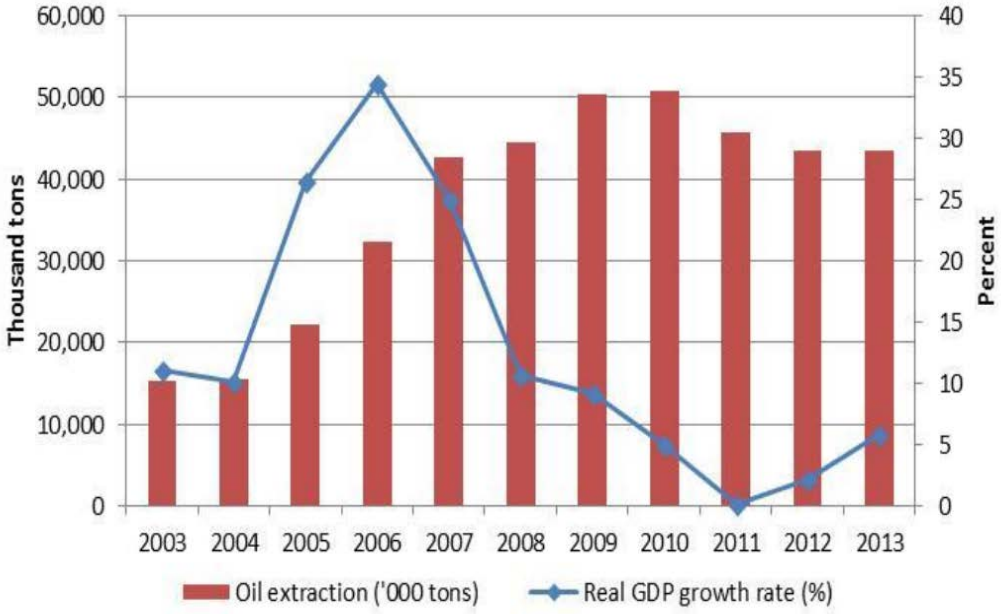
The SPPRED was developed as such to be in line with the MDGs. As a national poverty reduction strategy, it shared one of the most important goals with the MDGs (International Monetary Fund, 2004).

In the period spanning the years of the implementation of the SPPRED, following results were achieved: 1) average yearly GDP growth rate was 26.4% 2) per capita GDP growth rate doubled 3) there was a 5.5 times increase in minimum salaries 4) pensions rose 2.2 times 5) social support system was introduced 6) over 340 thousand new jobs were added to the labor market 7) poverty rate fell from over 46% to below 30% (UNICEF, 2006).

3.2.2. 2006-2014

Starting from 2006, the Azerbaijani economy, more generally, the country itself entered a new era – one characterized with the windfall of oil revenues. The abundance of revenues was brought by the increased volumes of oil exported thanks to the opening of the Baku-Tbilisi-Ceyhan (BTC) oil pipeline, which coincided with the rising oil prices. The BTC with the capacity of exporting 1 million barrel per day delivered first oil volumes in May of 2016 (European Union, 2006).

Figure 3. Oil Production and real GDP growth rate



Source: ADB (ADB, 2014)

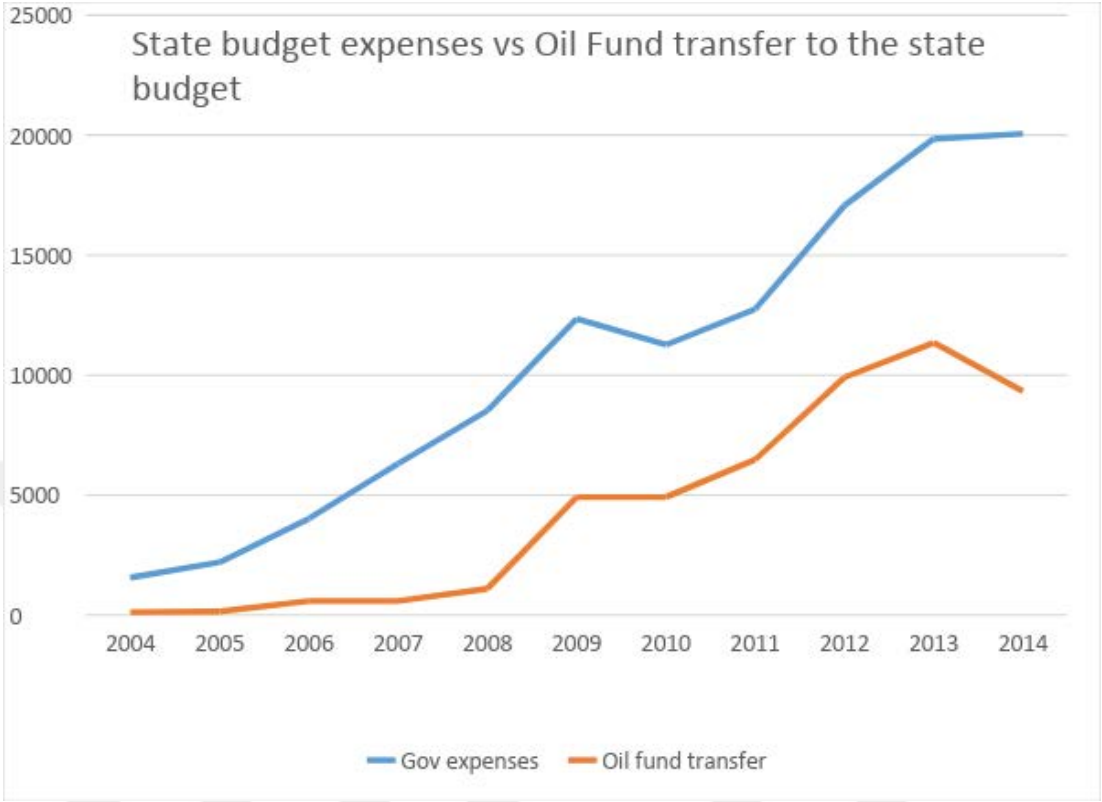
Following the opening of the BTC, the oil production increased significantly, doubling to over 40 million tons in 2007 from over 20000 million tons in 2005. Meanwhile the oil prices also had an upward trend, continuing on from the start of the decade. The prices increased from a bit above $20 up peaking at at over $140 in 2008 before sharply declining due to the Global Recession (U.S. Energy Information Administration, 2018). Together with the oil prices, the state revenues were boosted.

Figure 4. Brent oil prices (2004-2014)

Source: (U.S. Energy Information Administration, 2018)

As a result, GDP started growing exponentially. With 26.4%, 34.5%, 25% GDP growth rates respectively in 2005, 2006 and 2007 (ADB, 2014), Azerbaijan topped the list of the countries in the world in terms of the growth rates. The boost in the oil revenues facilitated the payment to the companies involved in the development of the oil fields based on the Contract of the Century. This allowed the government to earn a greater share out of the total revenues. As a result, transfers to the SOFAZ and from there to the state budget increased with a significant rise in the government expenses.

Figure 5. State budget expenses and transfers from SOFAZ to the state budget in millions of AZNs



Source: Ministry of Finance (2015)

The obtained revenues allowed the government to invest in socio-economic policies, infrastructure etc. As part of them, the authorities to continue the SPPRED developed another program – the State Program on Poverty Reduction and Sustainable Development, which was established in 2006. Building on the goals of the SPPRED, the SPPRSD had the following the aims set: 1) Improving governance 2) Establishing an environment conducive to the emergence of income-generation opportunities 3) Maintaining macro-economic stability 4) Advancing the quality of education and basic health services and enhancing the access to them 5) Improving infrastructure 6) Improving the social protection system

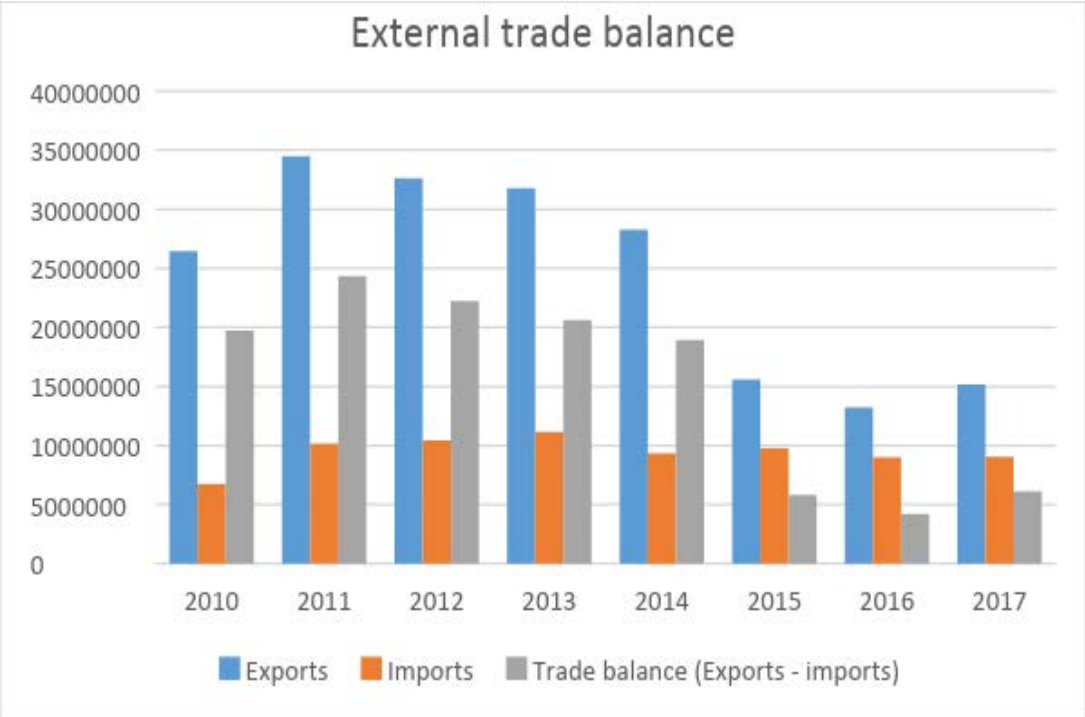
7) Improving the IDPs and refugees' living conditions 8) Promoting the gender equality 9) Achieving compliance of all the government programs with the environmental sustainability. The program covering the period of 2006-2015 overall aimed at supporting economic development, achieving sustainable development, gaining 10% decrease in poverty rate (UNICEF, 2006). The SPPRSD as in the case of the SPPRED was to be aligned with the Medium-term Economic Framework of the country and was to complement Azerbaijan's achievement of the MDGs. The implementation of the SPPRSD coincided with the period of the large oil revenues, which were directed to the achievement of the goals of the program. Therefore, at the end of the realization of the program, in economic and other areas, large achievements had been recorded. For example, there had been a fall in poverty rate from 49% to 4.9%. Youth unemployment had decreased to 13.4% from 22% (Ahmadov, 2017).

3.2.3. The crisis period: 2015 – Present

The end of 2014 gave a foreboding about the upcoming tense times for the economy of the oil revenues-dependent nations. The oil markets entered the year with the brent prices over 100 dollars per barrel, which persisted until July before it took a dramatic downward turn in the second half of the year declining by half by the end of the year. The plunge continued throughout 2015 hitting the low of $28 per barrel in January of 2016. The decline in prices caused by a variety of factors such as the slowdown in the economic growth in China, the monetary tightening in the US etc. was a phenomenon characteristic of all the oil markets. These markets have always been known to trade a commodity with a price of high volatility. Before the drop in prices, there had long been warning

about possible decline and calls by international development institutions for the diversification of the economy (Reuters Editorial, 2014). Nevertheless, many nations had not done enough to decrease their dependence. Therefore, when the prices declined, it hit worst the most oil dependent countries – Russia, Kazakhstan, Venezuela and Azerbaijan. In 2014, oil accounted for 50% of the budget revenues, 39% of GDP, over 90% of the exports (with both oil and oil products exports) (State Oil Fund of Azerbaijan, 2015). Russia and Kazakhstan first revealed the impact of decreased oil revenues on their exports with the loss in value of their national currencies and announced the transition to the floating exchange rate. As in Russia and Kazakhstan, in Azerbaijan also, the exchange rate of the national currency emerged as the transmission channel of the crisis. By 2014, Azerbaijan's national currency – manat had already been pegged against the dollar for many years. However, as stated by Toghrul Novruzlu, the specialist of the Ministry of Finance of Azerbaijan, the fixed exchange rate of manat came under increasing pressure with the decrease in oil prices. The lower prices meant lower returns from the oil exports. Over many years preceding the crisis, the Azerbaijani economy had had a large current account surplus. However, following the decreased export revenues, in 2015, Azerbaijan had for the first time a current account deficit, while a year ago it had a $10 billion worth surplus. The balance of payment deteriorated as a result, and according

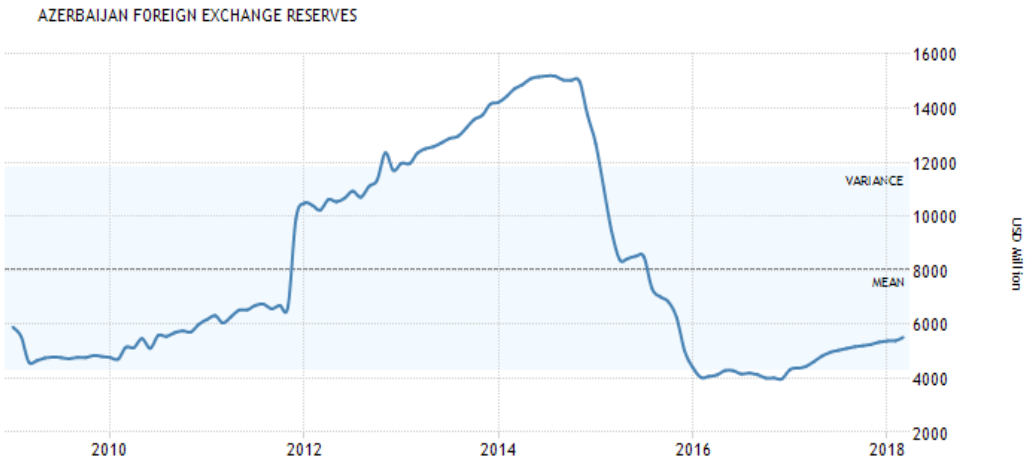
Figure 6. External Trade Balance of Azerbaijan (2010-2017)



Source: Ministry of Finance (2018)

to T. Novruzlu, consequently, supplying foreign currency to meet the demand in the foreign exchange markets became more difficult. This forced the Central Bank (CBAR) to turn to its foreign exchange reserves to meet the growing demand. Over the years till the crisis, the reserves of the CBAR had been growing, reaching its peak in July of 2014 with over $15 billion. The presence of the CBAR reserves along with the assets of the State Oil Fund (SOFAZ) allowed the government initially to give an optimistic impression that it has the ability to sustain the currency peg. However, over time, the CBAR reserves started melting fast. In response to this, the CBAR was forced to

Figure 7. Foreign Exchange Reserves of Azerbaijan (2009-2018)



Source: Central Bank of Azerbaijan (Tradingeconomics, 2018)

devalue manat by 33.2% but still it kept on pegging the exchange. Through the devaluation, the CBAR aimed at achieving a slowdown in the melting of its reserves. However, the devaluation deepened the mistrust in manat by the public and increased further the pressure on this. The reserves melted very fast, declining by more than a half in a year. As a result, the CBAR had to switch to the managed floating exchange rate in December of 2015. On the day of the announcement, manat lost about 47% in value against the dollar. Azerbaijan finished 2015 with the worst performing currency of the world (Hasanov, Assessment on Real Effective Exchange Rate in Azerbaijan: 2017 Outlook, 2017). The loss in the exchange rate of manat continued in 2016 as well.

Figure 8. The Exchange rate of manat (2008-2018)

Source: OTC Interbank (Tradingeconomics, 2018)

This forced the SOFAZ to intervene in the foreign exchange markets. In auctions, SOFAZ in 2016 only $4.9 billion to prevent the slump in the value of manat. Besides this, after the outbreak of the crisis, CBAR pursued a tight monetary policy. It issued short-term bonds. By borrowing, CBAR aimed at decreasing the monetary base in the country. This was meant to decrease the amount of manats in the circulation in the economy and consequently strengthen the position of manat in the foreign exchange market where the demand for the foreign currency was high (CESD Editorial, 2017). The exchange rate of manat continued weakening nevertheless. Only in 2017, the stability was restored, and the CBAR has since then largely pegged the exchange rate of manat at 1.7 manat per dollar (Azvision.az editorial, 2017).

The weakening of manat was an important development in a country which had pegged the exchange rate of its local currency to the dollar for

years, accustoming the economy, businesses to the fixed exchange rate (CESD Research team, 2016). For the supply of a lot of goods, the country relied on imports. The depreciation of manat, therefore, meant a rise in the inflation rate, which reached a double-digit figure in 2016 being over 12%. The weakening of the exchange rate of manat brought down the GDP per capita in US dollars, decreasing the income of the population in the foreign currency.

Figure 9. Inflation rate in Azerbaijan (2012-2017)

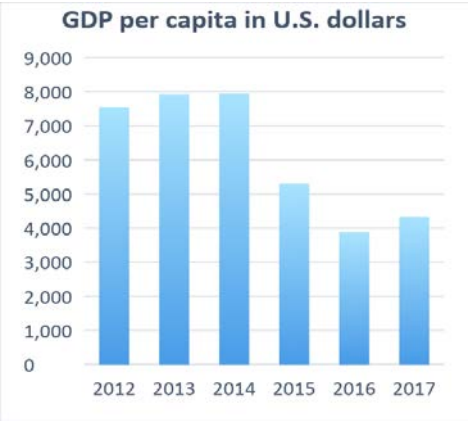
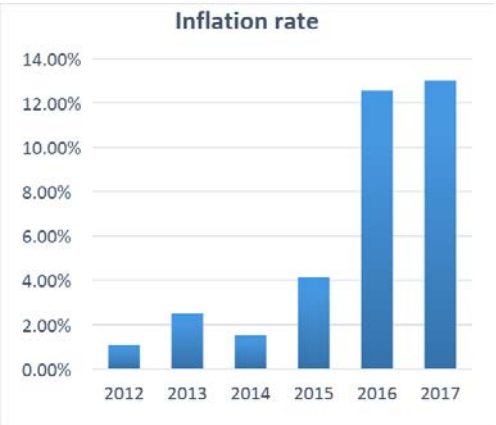


Figure 10. GDP per capita of Azerbaijan in $

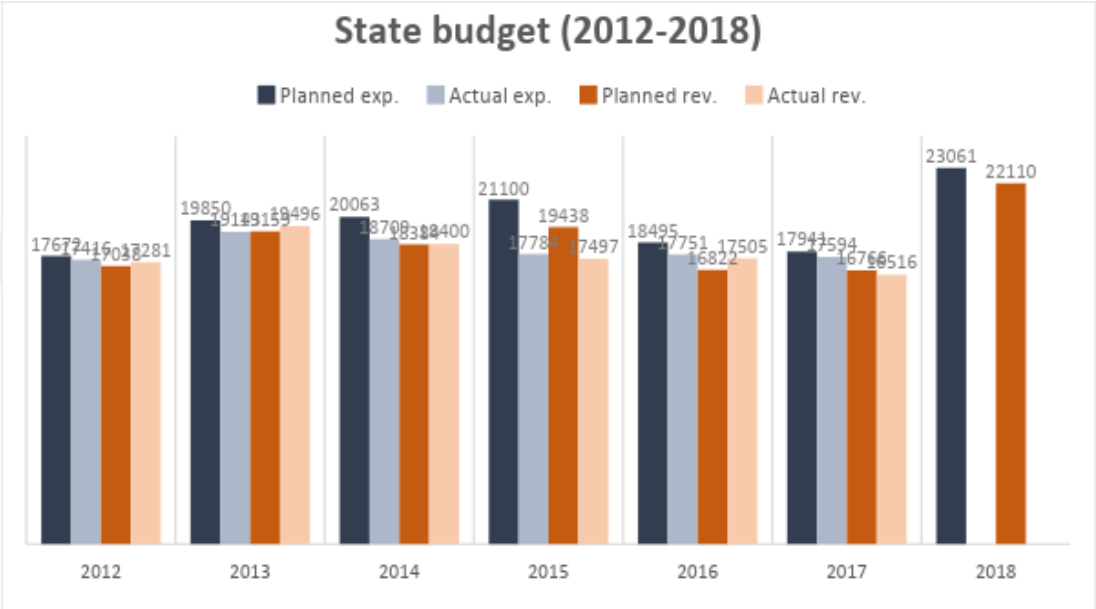


Source: Statista (Statista, 2018)

Besides the inflation, another channel transmitting the crisis was the decrease in the government expenditure. After the weakening of manat, the share of the non-oil sector in GDP declined from 39% in 2014 to 30.7% in 2015. The shrinkage of the non-oil sector revealed the association of the non-oil sector too to the oil-sector. The share of the non-oil sector in the economy had increased in the years of the oil boom being continously above 40% approximately. However, this high share of the non-oil sector had been achieved mainly thanks to the government expenditure, which itself largely came from the oil revenues. According to T. Novruzlu, the decrease in the revenues made the government reconsider its expansionary fiscal policy, which it had implemented for years and choose a

contractionary one by decreasing the government expenditure. In comparsion to the large slump in the oil revenues in dollars, both state budget revenues and expenses did not decline significantly. The reason for this is the compilation of the

Figure 11. State Budget (Planned and executed) (2012-2018)



Source: Ministry of Finance (2018)

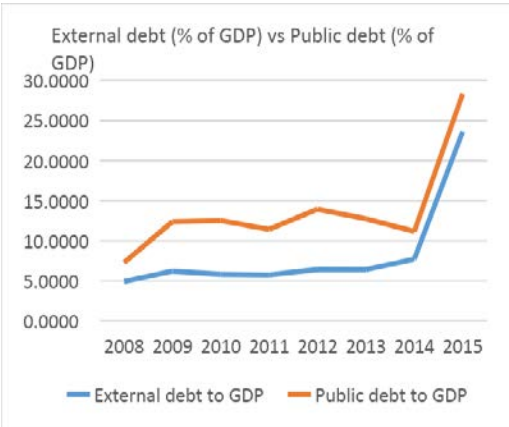
state budget of Azerbaijan in manats, not dollars. Thus, the increase in the exchange rate of dollar against manat compensated the decrease in the transfers from the SOFAZ in dollars to the state budget. However, even this was not enough for the government not to pursue a contractionary fiscal policy after the outbreak of the crisis (Aliyev & Nadirov, 2016). While in 2014, the state budget expenses had been planned to be 20 billion AZN but had been executed at 18.7 billion AZN, in 2015, from the planned state budget expenses of 21 billion AZN, only about 17.8 billion could be executed. This meant a gap of 3.3 billion AZN. The actual revenues for 2015 also fell short of the planned revenues by 1.9 billion AZN. The reason for this large difference was the inaccuracy

in the budget revenue estimates. When the state budget of 2015 was prepared, the amount of the transfers from the State Oil Fund – the biggest source of revenue to the state budget had been calculated with $90 per barrel and the exchange rate of 0.78 dollar per manat. However, as the average Brend crude oil price per barrel turned out to be about $52 per barrel. As a result, SOFAZ transfers were about 22% lower than planned in the state budget in spite of the appreciation of dollar against manat (Aslanli, 2016). Of all the areas, the biggest cut was in the investment projects. The current expenditure exceeded the capital expenditure (Aslanli, 2016). In the state budget of 2016 as well, public investment expenses were reduced through the cancellation of the investment projects as were the defense expenses (Budget.az, 2016). To deal with the large deficits, the government had to turn to both domestic and external borrowing. From 2014 to 2015, the public debt to GDP ratio rose from 11% to 28%, while the external debt to GDP ratio went up to 21% from 16% (Asian Development Bank).

Figure 12: Average salary in Azerbaijan (1995-2015)

Source: IMF (IMF) **& FERD** (FERD) **(2015)**

Figure 13: External debt and public debt (2008-2015)



Source: Statistical Committee of Az. (SSCRA) (2015)

All these developments significantly affected people's living standards. The average nominal wages in US dollars declined by half. The

rise in the inflation rate because of the depreciation of the exchange rate of manat and its impact on imports significantly brought down people's purchase power. Azerbaijan relies on imports for 70% of food consumed in the country and almost 100% of textile, cars, medicine etc (Jafarli, 2016). The worsening economic circumstances, fall in the population's income affected businesses too forcing many of them to go bankrupt or limit the size of their operation. The uncertainty around the exchange rate, overall about the future of the economy caused a decline in both foreign and domestic investment, which declined respectively 14.5% and 38.3% (CESD Research team, 2016). The decline in people's income and living standards became one of direct reasons why the banking sector plunged into a crisis and the other round of the crisis – the financial part started.

Azerbaijan's financial system is mainly comprised of the banks. Before the outbreak of the crisis in 2015, there 45 banks operating in Azerbaijan (Əmrahsoy, 2017). The devaluation and its consequences affected the banks as well. Before the crisis, banks had taken foreign currency loans and had also issued same type of loans to their customers. Therefore, when the exchange rate of manat fell significantly, many customers faced a difficulty making the repayments for the loans which had been issued in the foreign currency by the banks. The decrease in the repayments put the operation of the banks which had foreign denominated liabilities. As a result, many assets of banks became non-performing loans (NPL) as customers failed on their repayments. The share of the non-performing loans in the credit portfolio of some banks jumped to 30-50% in some banks, to 70% in others (Əmrahsoy, 2017). For the failure on the repayment of debt, banks filed a lawsuit against more 200 thousand people (Səfərova, 2017). In March of 2017, the credit rating agency, Fitch stated

that of all the loans in the credit portfolio of all banks in the country, 21% were non-performing loans. Observing the deterioration in the financial system of the country, Standard&Poor, Fitch and Moody's all downgraded the credit rating of Azerbaijan to the lowest level – junk in 2016 (Ann.az, 2016). Unable to receive the repayments and consequently keep the operation ongoing, 14 banks left the financial system (Əmrahsoy, 2017). At the heart of the banking crisis, there was the International Bank of Azerbaijan (IBAR), a state-owned commercial bank. IBAR, holds about 40% of all the assets of the entire banking sector in Azerbaijan. This share in the banking sector made the IBAR a critical actor for the financial system of the country. However, as many banks, the IBAR too faced a difficulty weathering the pressure from the deterioration of the economic situation in the country. As many of its customers also failed to make the repayments, the share of the NPLs in the credit portfolio of the bank increased. This was an alarming development given the size of the bank. In November of 2016, Fitch downgraded the viability rating of the bank "from 'b-' to 'f', a sign that the bank had "failed" and was now dependent on state support" (Bne Intellinews, 2017). Since the bank was state-owned, the government was forced to take steps to save the bank. To do this, the NPLs of the IBAR worthy 10 billion manats were transferred from the bank to another government-owned entity (Əmrahsoy, 2017). This way, IBAR's balance sheet was cleaned, and financial support was provided to the bank. In 2017, the bank failed to make the repayments on its foreign loans, which amounted to $ 3.3 billion. Defaulting on payments, the government offered the restructuring of the loans which meant that loaners would have to compromise in payments from the IBAR. The holders of the loans had to accept the offer from the Azerbaijani government (Runey, 2017). The bank

was saved from the bankruptcy. In spite of the the Presidential Decree "International Bank of Azerbaijan" Open Join – Stock Company on the privatization of state-owned shares for the implementation of rehabilitation measures" and recommendations from international experts, the bank has not yet been privatized, and the government still owns majority of the shares of the bank (Hasanov, International Bank of Azerbaijan: Why the South Caucasus's largest bank has requested restructuring? 2017).

The seriousness and the vast scope of the consequences of the crisis made the government take a range of measures. The measures included short-term steps to address the immediate consequences of the crisis and long-term strategies. The measures for the short term included changes in the monetary and fiscal policies. These had been designed to limit the influence of the exchange rate crisis in the country. The adjustment of the policies included the abovementioned macroeconomic measures such as use of reserves to ease pressure on manat, the transition to the floating exchange rate, tightening of both fiscal and monetary policies, bailing out the IBAR etc.

However, as the crisis was the result of deeper structural issues related to the economy and revealed the problems with the low diversification of the economy and other sectors, the government decided to prepare long-term development strategies. Given these, the government hired McKinsey, a well-known multinational consulting company to prepared the "Strategic road maps for the national economy and main economic sectors", which were approved with a Presidential decree in December of 2016 (Deloitte Azerbaijan, 2016) (Consultancy UK, 2016). The Roadmaps serve as the economic development strategy till 2020, long-term

outlook till 2025 and a target vision for the period succeeding 2025 (Azərbaycan Respublikasının Prezident, 2016). Covering overall 11 different areas of the economy, 12 Strategic Roadmaps were prepared, which are the following:

1) Strategic Roadmap on the prospects of the national economy;
2) Strategic Roadmap on the development of the oil and gas industry;
3) Strategic Roadmap on the manufacture and processing of agricultural products;
4) Strategic Roadmap on the manufacture of small and medium entrepreneurship-level consumer goods;
5) Strategic Roadmap on the development of heavy industry and machinery;
6) Strategic Roadmap on the development of specialized tourism industry;
7) Strategic Roadmap on the development of logistics and trade;
8) Strategic Roadmap on the development of housing provision at a reasonable price;
9) Strategic Roadmap on the development of vocational education and training;
10) Strategic Roadmap on the development of financial services;
11) Strategic Roadmap on the development of communication and information technologies;
12) Strategic Roadmap on the development of utilities (electricity and thermal energy, water and gas supply) in the Republic of Azerbaijan (Azərbaycan Respublikasının Prezident, 2016).

Of these abovementioned roadmaps, the "Strategic Roadmap on the prospects of the national economy" lays out the framework for the management and development of the economy of Azerbaijan. Initially, the roadmap offers the overview of different stages of the economic

development in the country and analyzes the key features of all these eras, achievements, and importantly challenges such as non-diversification of the exports, low production of investments and their focus on non-tradable sectors, improvement of the human capital. The roadmap determines the institutional reforms which in the long term will adjust the economy to the lower oil prices and in the mid and long term raise its productivity, which are judicial reforms, strengthening rule of law, improvement of the business environment, financial support from the state, directing revenues from private sources to investments, improving fiscal and monetary policies, foracastable economic model etc. According to the Roadmap, by 2020 the strategic outlook is the achievement of the recovery of the economy from the shock of low oil prices. This has to be followed with the improvement of the infrastructure, business environment, support of trade, decrease in the dependence on oil revenues for the budget expenses etc. The long term outlook by 2025 entails increasing the competitiveness of the sustainable Azerbaijani economy. This has to be achieved through macroeconomic stability, improved business environment, support from the state sector. The post 2025 target vision is the improvement of social welfare, Human Development Index, achievements in R&D. Also, in the roadmap, four strategic goals have been stated: 1) Strengthening of the fiscal sustainability and adoption of sustainable monetary policy 2) Privatization and reforms on state-owned enterprises 3) Advancing the human capital 4) Improvement of the business environment.

The government has been implementing measures in accordance with the strategic goals of the aforementioned Roadmap. The official of the Ministry of Finance of Azerbaijan, Toghrul Novruzlu states that the government has been working on ensuring the fiscal discipline and

sustainability following the strategic goal of the reinforcement of the fiscal sustainability and achievement of the sustainable monetary policy. Already before the Strategic Roadmaps were adopted, in July of 2016, a Presidential decree was issued on the establishment of the Financial Stability Council, which was to "strengthen the macroeconomic stability further and ensure the fiscal sustainability, implement a coordinated policy in this sphere" (Azərbaycan Respublikasının Prezidenti, 2016). The Council, which brought together heads of all major public finance administration institutions and acted as a coordinating body, was given a key role in implementation of the Roadmap. One of the important measures was the preparation of the "golden rule" mentioned in the Roadmap, which was to do away with "dependence of major macroeconomic indicators, in special, the state budget on the volatility of the oil revenues", through which "fair inter-generational distribution of the accumulated oil revenues will be provided and the volume of the transfers from the SOFAZ would be aligned with the needs of the sustainable economic development". Working on this target, the government has prepared its proposals on the budget rules. The rules aim to regulate the transfers from SOFAZ to the budget by decreasing the procyclicality of the budget expenses. In the past, the budget expenses were increasing in years of growth and vice versa. The proposed budget rules make sure the transfers from the SOFAZ will not increase a lot in years of high growth and will not decline significantly in years of low economic growth. Additionally, the Ministry of Finance has prepared its suggestions on the Medium Term Expenditure Framework and result-based budgeting mechanism as indicated in the Roadmap. The framework and the budget mechanism aim at ensuring fiscal transparency, link spending to the

priorities more effectively. Both the budget rules and the medium-term expenditure framework are to be approved of by the parliament before being applied.

As one of the important directions of the achievement of the diversification of the economy, the government looked at the small and medium enterprises (SMEs). Therefore, for "the diversification of the economy, enhancement of its competitiveness, increase employment, meeting the demand for the manufactured goods through local production and the achievement of economic development", the government adopted "the Strategic Roadmap on the manufacture of small and medium entrepreneurship-level consumer goods". The roadmap determined the following targets as Strategic Goals: 1) Improving the business environment in order to increase the share of the SMEs in the long run 2) Establishing efficient and cost-effective access to funds in order to establish a sustainable network of the SMEs 3) Internationalization of the SME activities and enhancing their access to foreign markets to broaden currency stocks of the country and to ensure alignment of the goods manufactured with international standards 4) Offering goods and services of quality in the regional markets through capacity building of the SMEs and their workforce 5) Promoting innovation, R&D to enhance competitiveness of the SMEs. In line with the strategic goals of the improvement of the business environment for the SMEs, broadening their access to funds, with a Presidential decree dated 28 December, 2018, the Small and Medium Enterpreneurship Development Agency was established under the auspices of the Ministry of Economy of Azerbaijan. The agency is supposed to provide various services to the SMEs, coordinate the work of the state institutions in this sphere. The agency is

expected to provide consultance on legal affairs, sales etc (İqtisadi İslahatların Təhlili və Kommunikasiyası Mərkəzi, 2017).

In accordance with the Strategic goal of broadening access to funds from the Strategic Roadmap stated above and other goals of improving welfare, social defense, providing guarantees to loans to support the SMEs, with a Presidential Decree, the Credit Guarantee Fund was established in September of 2017. The need for the establishment of the credit guarantee funds had been recognized in the the Strategic Roadmap on the manufacture of small and medium entrepreneurship-level consumer goods. In the Roadmap, it was stated that the SMEs faces a difficulty gaining access to funds in Azerbaijan. The main access to funds is provided in Azerbaijan by banks. However, the banks hesitate to issue loans to the SMEs viewing them as risky credits. This necessitated the guarantees for the credits issued by the state, and the fund was established (Azərbaycan Respublikasının Prezidenti, 2016). In December of 2017, the Credit Guarantee Fund with another decree was merged with the Mortgage Fund, and the Mortgage and Credit Guarantee Fund (MCGF) was established. According to the Charter of the Fund, the MCGF is to issue guarantees for loans taken by businesses from banks in manats and subsidize part of the interest rate payments of these loans, to monitor the underwriting of the loans, use of the loans in line with the stated purpose etc (Azərbaycan Respublikasının Prezidenti, 2017).

On June 26, with a Presidential Decree, the "Agency for the Development of Small and Medium Businesses" (ADSMB) was established. According to the charter of the agency, the ADSMB is to increase the contribution of the SMEs to the state economy, enhance their competitiveness, broaden access to funds, strengthen the links between the

private sector and the government. As such, the ADSMB aims at ensuring protection of the rights of the SMEs, organization of the effective, innovatives services by the government bodies to the SMEs (Azərbaycan Respublikasının Prezidenti, 2018).

In September, 2016, ASAN Support to Family Business (ABAD) public legal person was established. ABAD aims at stimulating the family businesses on agriculture, crafts etc by providing counselling on various areas such as business planning, marketing, design, branding and also support on sale etc (ABAD, 2018).

Other reforms captured changes in the tax legislation. The tax reforms in 2016 included tax incentives such exemption from income tax for the agencies working on the mandatory health insurance and dividents and interest rate payments by banks, from VAT for the banks presenting their toxic assets during restructuring and for persons exporting products, application of electronic invoices to prevent fraud and ensure transparency, the rule of the pre-calculation of tax liabilities, incentivizing cashless payments etc (Musayev, Amendments and Additions on the Tax Code, 2017). Also, a "digital trade hub", a portal enabling the signing of the documents, preparation of the contracts between local businessmen and their foreign partners was established in 2017 (Musayev, Azərbaycan Rəqəmsal Ticarət Qovşağı, 2017).

Already, in December of 2015, the President signed a decree abolishing 22 types of licenses bringing their number down to 37. The measure was meant to stimulate the non-oil sector especially when already from 2015 the signs of the upcoming crisis were seeming clearer. The areas where businessmen did not need licenses anymore to operate included turism, audit, alcoholic drinks production, passenger transportation

through airways, non-state pension funds, sale of oil products, sale, produce of tobacco products etc (Həsənli, 2015).

The customs were also the focus of the reforms for the government. In March of 2016, the President signed a decree on measure to minimize official-citizen contact, facilitate processing of goods, decrease the time spent etc (APA Editorial, 2016). In May of the same year, another Presidential decree was issued which established different corridor regimes for the processing of goods such as green, blue etc. Various corridors used for depending on types of goods depending on their risk category aimed at facilitating the operations in the customs offices (Lent.az editorial, 2016).

In 2016, the "investment promotion document" was established. The document to be given to both legal and physical persons aimed at promoting investment. Those obtaining the investment promotion document would be entitled to benefit from customs and tax incentives such as exemption from tariffs for importing certain goods, 50% lower income tax, exemption from VAT for certain equipments, facilities upon their import in return to investing in different areas of the non-oil sector (Musayev, İqtisadi İslahatlar - 2016, 2016).

Also, for the export of certain non-oil products, the businessmen would get payment from the government, namely, the "export promotion". The export promotion covered the payment of 3% of the value of the exported goods as stated in the customs declaration. The measure was meant to stimulate the non-oil sector and the increase of its share in the export portfolio of the country (Azərbaycan Respublikasının Prezidenti, 2016).

With a Presidential decree in December of 2016, the rules about the application of "Build-Operate-Transfer" (BOT) model in Azerbaijan were approved. The BOT model was to draw the private sector to participate more actively in infrastructure projects in which so far the government is the dominant investor. The BOT model thus is to serve as an incentive for the private investors through different priveleges offered by the model (Musayev, İqtisadi İslahatlar - 2016, 2016).

Also, a unified register of the goods producted in the country. Azexport.az was the portal where the register was placed. The purpose of establishment of the register was to facilitate the access of the produced goods into the international markets by making it easier for potential foreign customers to get acquainted with the Azerbaijani products (Musayev, İqtisadi İslahatlar - 2016, 2016).

In July of 2016, the State Commission on Improvement of the Business Climate and of the Position of Azerbaijan in the International Ratings was set up. The Commission is to increase the attractiveness of the country's business environment for the international investors, combat obstacles before the further improvement of the business climate in the country by addressing the areas of concern for the entrepeneurs (Musayev, İqtisadi İslahatlar - 2016, 2016).

Tourism has been another area under the spotlight of the government in its attempt to diversify the economy by enlarging the share of the non-oil sector. The government policy in this area is guided by the Strategic Roadmap for Development of Specialized Tourism Industry. The strategic goals stated in the Roadmap include realization of Baku's full tourism potential, establishment of all institutions and other enablers to develop tourism, developing regional tourism, preparing tourist quality system of

the country to ensure tourist satisfaction (Centre for Analysis of Economic Reforms and Communication, 2017). The roadmap overall aimed at achievement of attraction of more tourists, provision of more, better quality services to them etc. Before the roadmap was approved of, the Tourism council was set up, which was to analyze the situation in the country, challenges before tourism, ways of improvement etc. Also, with an aim at enlarging the tourism potential of the country and promote it, the National Tourism Promotion Bureau was also established (Musayev, İqtisadi İslahatlar - 2016, 2016). To attract more tourists to the country, the e-visa regime was established for citizens of over 90 countries in 2017. Thanks to this change, the citizens of these could obtain an electronic visa issued in only 3 days (Embassy of the Republic of Azerbaijan to the USA, 2017).

As the economic crisis was followed by the unfolding of the financial crisis, the government had to take a number of measures to address the consequences of the financial crisis and also to improve the soundness of the financial system of the country. One of the first measures of the government was the establishment of the Financial Markets Supervisory Authority (FMSA) in February of 2016. The FMSA according to its charter aims at "licensing, regulation and supervision of the operations in the fields of the securities market, investment funds, insurance, credit organizations (bank, non-bank credit organizations and postal communication operator) and payment systems and preventing the legalization of the financial resources and other properties obtained illegally and financing of the terrorism" (Financial Markets Supervisory Authority, 2016). The need for the establishment of the FMSA had become clear after the outbreak of the banking crisis i.e. closure of several banks,

the problems with the IBAR, which had exposed shortcomings in the regulation of the financial markets in the country. In this regard, the FMSA was to be what function the Securities and Exchange Commission (SEC) in the US has. The FMSA inherited the functions of several state bodies, which used to supervise the financial markets until the establishment of the FMSA i.e. the State Committee for Securities, the State Insurance Supervision Service of the Ministry of Finance and the Financial Monitoring Service under the CBAR. The establishment of the FMSA reduced significantly the functions of the CBAR which is now only responsible for the maintenance of the interbank payment systems, overall stability of the banking system etc (Mustafayev & Alizade, 2016). Already when the FMSA was established, the new minimum aggregate capital requirement for banks, approved in 2012 to be , which went up from 10 million AZN to 50 million AZN was binding (Baker McKenzie, 2018). With the FMSA enforcing this requirement, over 10 banks had their licenses revoked (European External Action Service, 2017).

Following the establishment of the FIMSA, a lot of legislative changes were made to improve the regulation of the financial system under the supervision of the FIMSA. The banking crisis had exposed the need for improvement in legislation on the banks to address issues related to the banks experiencing a difficulting in meeting solvency and other requirements to operate. These included, for example, the change on legislation on the establishment of bridge banks and other measures to regulate the closure of the insolvent banks (PWC Azerbaijan, 2017). Other changes covered the sale of distressed banks and merging them with healthy banks, voluntary debt restructuring, rehabilitation of banks of

systemic significant through state participation etc (Musayev, İqtisadi İslahatlar - 2016, 2016).

The outbreak of the crisis in the banking sector was a concerning development for all the holders of the deposits especially for those with the deposit account in the banks whose licenses were revoked. To ease the concerns of the deposit holders, in 2016, a decision was made about the insurance of the deposit accounts in manat withan annual interest rate of 15% (3% for accounts in dollar) would be fully insured for 3 years by the State Fund for the Insurance of Deposits (Baker McKenzie, 2018). The decision was also made to bring down dollarization of deposit accounts. However, by the end of 2016, the dollarization in deposit accounts remained as high as 75% (European External Action Service, 2017).

In December of 2016, the law was adopted on the credit bureau to regulate the establishment, functioning of the credit bureaus. The credit bureaus are agencies collecting information on the credit history of borrowers, which is later given to the creditors to guide their decisions on loaning. The law aims at "improving access to financial services through the formulation of a long term database about the execution of the financial liabilities for the physcial and legal persons, strengthening of the financial discipline in the debt relations and supporting the establishment of the stability in the financial system" (Azərbaycan Respublikasının Prezidenti, 2016). As such, the credit bureaus collect the data encompassing the credit history of the borrower, maintain, analyze it and prepare credit reports (Musayev, İqtisadi İslahatlar - 2016, 2016).

The government policies for the future on the financial systems are to be guided by the "Strategic Roadmap on Development of Financial Services in the Republic of Azerbaijan". The roadmap considering

challenges of the financial markets in the country contains 5 strategic goals: 1) Formulation of a financial system composed of dynamic and healthy insitutions i.e. increasing liquidity, capitalizing banks, developing the insurance market etc. 2) Developing financial markets i.e. improving access of investors, galvanizing interbank transactions 3) Strengthening infrastructure i.e. improving exchange of credit data, addressing juridical issues 4) Improving the regulatory and monitoring framework i.e. improving risk management in banks, applying the risk-based monitoring model in the financial services sector, improving transparency in the accountability of the banking system, regulating the insurance sector etc. 5) capacity-building among the financial sector participants i.e. improving knowledge and skills of the financial sector specialists, financial knowledge of the customers, raising awareness of their rights (Azərbaycan Respublikasının Prezidenti, 2016).

3.3. Social policies since independence

3.3.1. 1991-2005

After gaining independence in 1991, the collapse of the centralized economy and difficulties in transition to the market economy led to a significant deterioriation in the living standards. In addition to these, the occupation of Nagorno-Karabakh and 7 districts around Nagorno-Karabakh resulted in hundreds of thousands of internally displaced persons (IDPs). All these left the country hampered by scarcity of financial resources with huge social challenges to be addressed in the first years of independence. The worsening of the economic situation led to the rise in the unemployment rate and the number of those living below the poverty line. In 1989, when Azerbaijan was still part of the USSR, 33.6% of the

population was deemed to live in poverty, a rate three times higher than the USSR average (Japan Bank for International Development, 2001). The poverty rate in 1995 was 68.1% (World Bank, 2009). In 1997, the Poverty Assessment by the World Bank found that 60% of the population lived below the poverty line which at that time was 121.960 manats, equal to about $27 by the exchange rate then. The poverty rate fluctuated across regions being highest in Nakhchevan, an exclave region of Azerbaijan. In Nakhchevan cut out from mainland following the break-up of the USSR and the Nagorno-Karabakh war, 90% of individuals lived below the poverty line according to the results of the assessment of the World Bank (Japan Bank for International Development, 2001). As the government had limited revenues in the 90s, it was restricted in its ability to bring down the poverty rate, address it overall. However, the poverty rate also started falling starting from the mid 1990s following the gradual improvement in the economic situation triggered by the achievement of the macroeconomic stability and the production sharing agreements to exploit the country's oil wealth (The World Bank Group, 2001). Starting from the 2nd half of the 90s, the poverty rate, thus, declined falling to 49% in 2001 (Asian Development Bank, 2012). The urban poverty rate slightly exceeded the rural poverty rate, the two respectively being 47.8% and 45.4% (IMF, 2004).

Among the priorities of the social policies of the government after independence, the IDPs occupied a special place in the 1990s. From 1988, the conflict between Azerbaijan and Armenia when still both countries were part of the USSR started enflaming over the Nagorno-Karabakh region of Azerbaijan. The conflict erupted into a full-fledged war between Azerbaijan and Armenia immediately after both countries gained their independence. Already from the first years of the conflict when the USSR

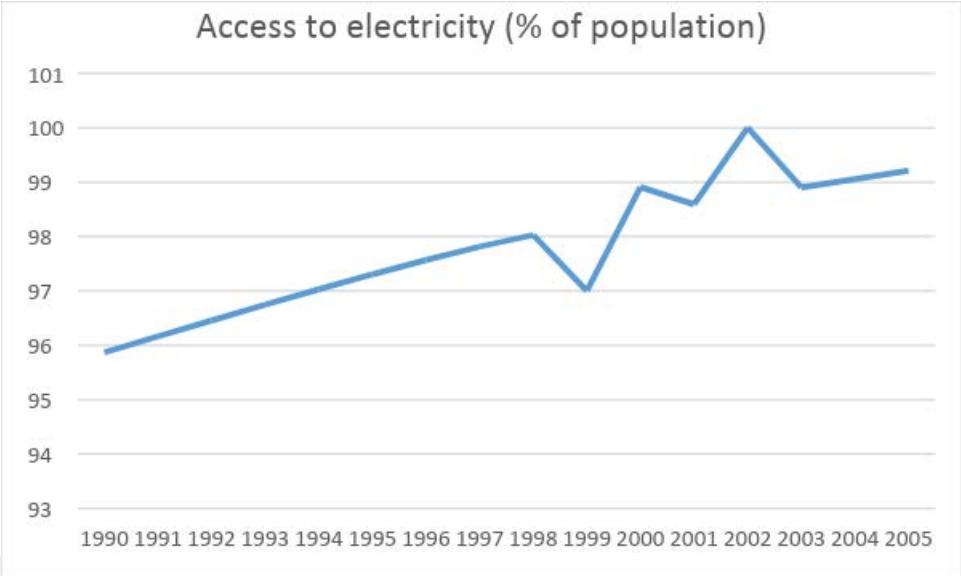
had not yet collapsed, Azerbaijan started receiving ethnically Azerbaijani refugees from Armenia. Following the outbreak of the war in 1991, which lasted until the ceasefire agreement between Armenia and Azerbaijan in 1994, Nagorno Karabakh region of Azerbaijan and 7 adjacent districts came under occupation of the armed forces of Armenia. As a result, hundreds of thousands of people became internally displaced, losing their homes. By the ceasefire, there were about 250 thousand ethnically Azerbaijani refugees from Armenia, over half a million IDPs from occupied Nagorno-Karabakh and 7 neighboring districts in Azerbaijan. Additionally, because of the ethnic clashes between the Meskhetian Turks and Uzbeks in Soviet Uzbekistan in the late 1980s, Azerbaijan had offered a shelter to about 50000 Meskhetian Turkish refugees (UNHCR, 2009). With over 800000 displaced people in total and about 8 million populations, Azerbaijan in the world had one of the largest per capita displaced populations. Given the large size of the displaced population and the limited resources at the disposal of the government in the 90s, the issue became a large burden for the state. The displaced population was placed in the refugee camps, makeshift settlements, different public buildings such as schools, hospitals etc across the whole country (Ministry of Foreign Affairs of the Republic of Azerbaijan, 2018). As of 2005, only 1/3 of the IDPs lived in Expectedly, most of the displaced population lived below the poverty line. In 1995, the 79.2% of the IDPs lived below the poverty line, a higher figure compared to the national average of 68.1% in 1995. The government's limited ability to address the situation forced it to turn to the aid of the international organizations such as UNHCR, UNICEF etc (Japan Bank for International Development, 2001). In 1998, the State Program on the Solution of Problems of Refugees and IDPs (SPSPRI)" was adopted. The SPSPRI

encompassed a wide range of measures concerning the improvement of living conditions of the refugees and the IDPs, their employment, housing, the de-mining of liberated territories, infrastructural projects, cooperation with the relevant international organizations of the relief of the problems of the displaced population etc (Azərbaycan Respublikasının Prezidenti, 1998). In accordance with the SPSPRI, in 1999, a law was adopted on "Status of the Refugees and the Forcibly Displaced (IDPs)". The law determines the status of the refugees and the IDPs and the privileges given to people of this status. The privileges include not paying a rent in the place of living until being provided with housing, provision with medical service and medicine for free, attendance of kindergartens, schools for free etc (Azərbaycan Respublikasının Milli Məclisi, 1999). Also, in 1990, a law on "the Social Protection of the Forcibly Displaced and Those of the Equal Status". The law determined what the social protection of the displaced entails, what privileges are provided by the government. According to the law, the displaced are entitled to the medical service, social support, free education, tax discounts etc (Azərbaycan Respublikasının Milli Məclisi, 1999). Also, the State Program on Poverty Reduction and Economic Development also prioritized the improvement of the living conditions of the displaced population. This was one of 7 Strategic Goals of the SPPRED. The program acknowledged different problems which the refugees and the IDPs face in the country particularly in regard to the housing and access to different services, the high rate of poverty, unemployment within this section of the population etc and stated the need for measures to improve their living standards (Azərbaycan Respublikasının Prezidenti, 2003). From 2001, the growth in the state revenues thanks to the exploitation of the oil reserves allowed the government to allocate more resources to address the

problems of the refugees and the IDPs through the transfers from the SOFAZ and other mechanisms of allocation. Particularly, the housing problem was prioritized giving the dire conditions in which people were living in so-called tent camps and other makeshift camps. From 2002, the government started building new settlements across the country to settle the refugees and the IDPs living in these camps and other areas with not appropriate conditions for living (UNHCR, 2009). In 2004, with a Presidential decree, State Programme for the Improvement of living standards and generation of employment for refugees and IDPs was adopted. The program included measures such as the construction of settlements to house the displaced population, steps to eliminate poverty, ensure employment, coordination of the work with international agencies etc (UNHCR, 2009).

In regard to other social issues, the access to utilities in the 90s according to the official statistics had largely been ensured. According to the government assessment conducted in 1995 in over 90 population points, about 90% of the areas had electricity, while 6% did not have at all. In 1997, the UNICEF stated that access to safe water was guaranteed for about 92% of the Azerbaijani population (Japan Bank for International Development, 2001). However, the access to electricity did not mean constant power supply with which there were significant problems at the time.

Figure 14: Access to electricity (1990-2005)



Source: World Bank (World Bank, 2018)

The health was another important domain of social policies. The independence left its impact on the healthcare sector of Azerbaijan and overall on the health condition of the population. Important developments unfolded in the 1990s. In the period spanning 1990 and 2002, the life expectancy at birth declined by 6 years in the country. This was the highest rate in the world excluding Sub-Saharan countries which were struggling at that time with the HIV. The drop in the life expectancy at birth was related to the increase in the maternal mortality (10 times higher than the EU average), infant mortality (16 times higher than the EU average) and child mortality rates in the country (World Bank, 2005). While in the Soviet Union, Azerbaijan had one of the lowest maternal mortality rates, after independence it had jumped to 43.8 per 100000 in 1994 from 9.3 per 100000, almost quadrupling (Japan Bank for International Development, 2001). The situation was made more serious by the lower rates of availability of hospitals per mother and child (one clinic per 900 children below 5 and 2200 women at childbearing age) (World Bank, 2005). The uneven access to

the healthcare exacerbated the situation. The drop in the life expectancy was also related to the rise in the adult mortality, which had been partly associated with the Nagorno-Karabakh war (Japan Bank for International Development, 2001). Impacted by emigration, the fertility rates continued the downward trend which had been contained for several decades already. According to the World Bank report from 2005, the non-communicable diseases accounted for 85% of all deaths in the country, while the communicable diseases were also spreading faster over the last years for example the TB contraction rate doubling and HIV infection rate increasing by 35 times (World Bank, 2005).

Table 2. Mortality and health indicators, 1990–2007 (selected years)

	1990	1995	2000	2004
Life expectancy at birth, female (years)	75.3	73.4	74.4	75.1
Life expectancy at birth, male (years)	67.1	65.4	68.4	69.9
Life expectancy at birth, total (years)	71.4	69.5	71.6	72.5
Mortality rate, female (per 1000 female population)	7.6	8.6	8.8	8.6
Mortality rate, female < 65 years (per 1000 females < 65)	3.2	3.5	2.9	2.7
Mortality rate, male (per 100 male population)	12.9	14.4	12.7	12
Mortality rate, male < 65 years (per 1000 males < 65)	6.3	7.1	5.5	5
Infant deaths (per 1000 live births)	22.9	24.3	12.8	12
Probability of dying before 5 years of age (per 1000 live births)	41.1	39.6	24.4	19.6

Source: WHO (Ibrahimov, Ibrahimova, Kehler, & Richardson, 2010)

Deterioration in the health conditions at this time was largely led by the living and eating habits etc. However, another important reason was the fall in the quality of the healthcare services following the outbreak of the USSR. The poor quality of the medical services and non-official payments for these services emerging with the rise of corruption in the

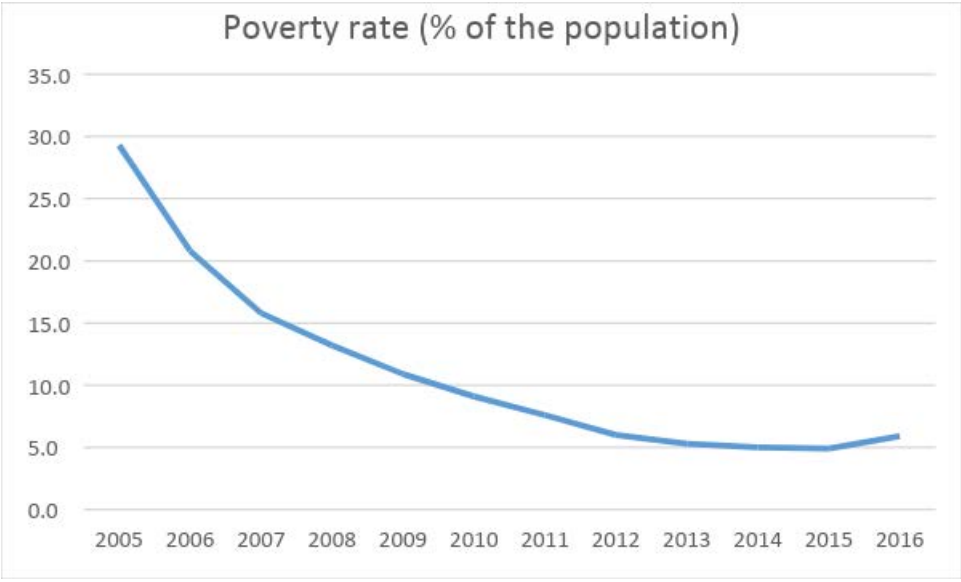
health care system discouraged many from going to the state hospitals. As all former Soviet Republics, Azerbaijan also inherited the Soviet Semashko healthcare model upon gaining independence in 1991 (World Bank, 2010). The Semashko model was a high centralized system, with the Ministry of Health formally staying at the top as the key decision-maker. After independence was regained, the key features of the Semashko model was still maintained. According to the Semashko healthcare model, people were entitled to free healthcare at the point of use. The system based on allocations from the state budget kept the focus on inpatients, therefore, offered weaker primary care. The small amount of allocations from the budget to the healthcare sector affected the quality of the services provided by the system. This led to the growth of the so-called out-of-pocket payments, that is, the unofficial payments by patients, which became an important component in the financing of the healthcare sector of the country (Ibrahimov, Ibrahimova, Kehler, & Richardson, 2010).

In the educational sphere, following the achievement of independence, Azerbaijan inherited a population with one of the highest literacy rates in the world. There was full enrollment in the primary schools across the country. The rate of enrollment in schools was not significantly different between the IDP and the non-IDP parts of the population. Following independence, the Soviet education model of education was largely retained as access to all tiers of school was guaranteed for free by the government (Japan Bank for International Development, 2001).

3.3.2. 2005-2014

When the country's revenues from the oil exports started growing exponentially thanks to the BTJ, the government had finally enough resources to invest in different programs including on social policies in particular. The restoration of the macroeconomic stability already in the mid 90s had guaranteed high growth rates for the economy from the second half of the 90s. With the oil revenues, the growth rate significantly went up making the Azerbaijani economy the fastest growing economy in the mid 2000s. From 2001 to 2009, the average annual GDP growth rate was 16.1%. Using the high growth rates, which continued until the Great Recession broke out, the government started investing newly-gained financial resources in public sector programs, social welfare projects. The investment contributed significantly to the poverty reduction. By 2007, the poverty rate had dropped down to 15.8% from 49% only 6 years ago in 2001 (ILO, 2016).

Figure 15. Poverty rate (% of the population)



Source: State Statistical Committee of Azerbaijan

This reduction in the poverty rate was achieved thanks to different policies by the government such as the increase in the wages, transfers etc. In 2000-2008, the minimum wage rose by about 6700%. In the same period, the average salary grew to 268 manats from 41 manats. The rate of decline in poverty was higher in the urban areas than the rural areas. Thus, the government policies were both redistributive and pro-growth (World Bank, 2010). According to the official statistics, in 2003-2015, about 1.5 million new jobs were added to the economy, which contributed to the poverty reduction efforts. The unemployment rate, thus, kept falling with the youth unemployment rate also falling in this period of economic growth (ILO, 2016).

In 2008, the government introduced its new national poverty reduction strategy for 2006-2015 – the State Program on Poverty Reduction and Sustainable Development (SPPRSD), which succeeded the SPPRED for 2003-2006. SPPRSD share similar strategic goals with the SPPRED emphasizing poverty reduction, improvement in living standards such as "creating enabling conditions to promote development of the non-oil sector, and increase income-generating opportunities of the population in the regions and rural areas", "improving the quality of and ensuring equal access to affordable basic health and education services", "develop an efficient and financially sustainable social protection system" etc. The program determined the list of the measures to achieve these goals such as improvement of the insurance-pension policy, the minimum wage policy, integrating the socially vulnerable etc.

Table 3. Increase on social spending (2008-2010)

Item	*2008*	*2009*	*2010*	*Increase in 2005-2010*
Total revenue and grants (million New Manats)	10,762.7	10,325.9	11,402.5	555%
As % of GDP	27%	29%	27%	
Total Expenditure (million New Manats)	10,774.2	10,503.9	11,766	550%
% Education	9%	11%	10%	317%
% Health	3%	4%	4%	372%
% Social security and welfare	8%	10%	10%	368%
Other	80%	75%	77%	670%
Total	100%	100%	100%	

Source: Statistical Committee of Azerbaijan (Asian Development Bank, 2012)

The strengthening of the social protection of the population was an important part of the social policies of the government in this period. The government instituted different social protection programs. By 2008, about 63.2% of the population had been in various ways recipients of the social transfers from the government. The same year, social transfers had been approximately 4.8% of the size of GDP. The poor had been covered effectively by these transfers (World Bank, 2010). In 2000s, the government started reforming its social protection system, retaining its structure inherited from the USSR. The social protection is supervised by the Ministry of Labour and Social Protection of the Population, while the pension and social insurance policy are under purview of the State Social Protection Fund (ILO, 2016). As part of the reform of the social protection system in line with the action plan of the SPPRSD in 2006, the government started its Targeted Social Assistance (TSA) program. The TSA extends financial support to the low-income families. By 2009, 164000 households

with 750000 people in total had been recipients of the monetary aid through the TSA (ILO, 2016). About 49% of the beneficiaries of the TSA were from the lowest strata of the population (World Bank, 2010).

Thanks to the economic growth and social policies of the government, the inequality declined in Azerbaijan where the situation in this regard was comparatively better than in other oil-rich post-Soviet countries. According to the World Bank, the inequality dropped by about 15% going down from 36.5% in 2001 to 31% in 2008 according to the Gini index. Gains have not been equal though as the rural inequality has been declining faster than the urban inequality (Asian Development Bank, 2012).

As part of the social spending, the health expenditures of the government increased as well in this period. From 2006 to 2010, the healthcare expenses of the state went up to 429 million manats from 115 million manats. A large part of the spending was allocated to the infrastructure projects such as the reconstruction, building of hospitals, their provision with equipment. In 2006-2010, the number of doctors increased even though their number per 10000 people declined. The wages of the medical personnel rose by 5 times. The improved healthcare was followed by the improvement in the life expectancy, drop in the maternal mortality and infant mortality rates.

Table 4: Health indicators (2002-2015)

Year	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004	2003	2002
Number of under-five deaths (thousands)	6	6	6	6	6	6	6	6	7	7	7	8	8	9
Infant mortality rate (probability of dying between birth and age 1 per 1000 live births)	28.2	29.1	30.2	31.4	32.6	34.1	35.7	37.5	39.5	41.7	44.1	46.9	49.9	53.3
Number of infant deaths (thousands)	5	5	5	5	5	5	6	6	6	6	6	6	7	7
Under-five mortality rate (probability of dying by age 5 per 1000 live births)	32	33.2	34.5	35.9	37.4	39.2	41.2	43.5	46	48.8	51.9	55.5	59.5	64
Maternal mortality ratio (per 100 000 live births)	25 [17 -													
Hospital beds (per 10 000 population)			47	46	46	51	75	77	79	79	82	82	83	84

Source: World Health Organization (WHO, 2015)

However, the access to the healthcare services was uneven among the richer and poorer parts of the population. In the survey, the respondents from the richest quintile 2.5 times were more likely to report that they were in good health compared to the respondents from the poorest quintile. Also, two third of the respondents from the poorest quintile reported that they faced a difficulty affording the healthcare expenses. What particularly hindered the access of the poor to the healthcare was the out of pocket payments (OOP). According to the estimate from 2008, the OOP accounted for about 73% of the total health expenses, making Azerbaijan rank 3rd among 53 European countries in terms of its highness (World Bank, 2010).

3.3.3. 2015-present

In 2015, following the steep decline in global oil prices, the economy of Azerbaijan slid into a crisis. The consequences for the living standards of the population were serious. People's income in dollars significantly went down with the devaluation of the local currency, and the rise in import prices brought the inflation rate up causing a shrinkage in the population's purchase power. While the inflation rate soared up, the wages could not keep with the same growth contributing further to the reduction in the purchase power (CESD, 2018). According to the estimates of the Centre for

Economic and Social Development (CESD), the inflation rate in 2016 was 18.6%, and the poverty rate had been 12.5% (CESD, 2017). Besides the inflation rate, people's income was directly impacted by the slowdown in the economic activities, which came through different mechanisms such as drop in the government investment in infrastructure projects. The construction sector was reported to have 27.6% decrease in 2016 according to the State Statistical Committee of Azerbaijan (CESD, 2017).

Table 5. Social spending in the state budget (2014-2018)

	2014	**2015**	**2016**	**2017**	**2018**
Healthcare	725	778	745	776	739
Education	1.653	1.711	1.714	1.859	2.043
Social protection	2.072	2.040	1.897	2.118	2.343
Construction	6.263	6.932	3.558	1.863	5.097

Source: Ministry of Finance (2018)

Though decreasing its construction expenditures, the government did not do the same for the social expenses. Social policies remained as one of few domains if not the only where the government expenses did not decline but kept increasing actually. The expenses of the state budget on healthcare, education, social protection expenses kept roughly an upward trend.

When the government instituted policies to address the consequences of the economic and financial crisis in the country, various measures targeting the social domain were also taken. In 2016, the State Agency on the Mandatory Health Insurance (SAMHI) was established. According to its charter, the SAMHI is "a public legal person ensuring the application of the mandatory health insurance, containing resources necessary for the financing of the medical services within the base envelope, being a buyer of the medical services and ensuring the payment

of the necessary relevant expenses" (SAMHI, 2017). The duties of the agency as such include ensuring the provision of the population with the mandatory health insurance, development of the mandatory health insurance in the country, accessibility of the medical services for the population etc (SAMHI, 2018).

In 2016, also, the State Housing Development Agency (SHDA) was established. The SHDA was created with the aim of meeting the demand of population for the housing, improvement of the living conditions thereof, construction of apartments meeting the contemporary environmental and energy standards and improvement of the state administration on urban planning and construction (Musayev, İqtisadi İslahatlar - 2016, 2016). As such, the SHDA is to ensure people's access to affordable housing, effective spending of the resources allocated for housing, better planning, projecting (Musayev, İqtisadi İslahatlar - 2016, 2016).

Also, in the same year, Food Products Procurement and Supply (FPPS) Open Joint Stock Company was set up. The FPPS aims at stimulating the production and processing of the agricultural products, improvement of the quality of the food products, efficient use of the state funds, improvement of the welfare of the rural population working on agricultural production, centralized procurement of the food products with the state commissioning (Musayev, İqtisadi İslahatlar - 2016, 2016).

3.4. Environmental situation & policies since independence

3.4.1. 1991-2005

Azerbaijan is located largely to the south of the Greater Caucasus mountain range, which serves as the border line between South and North Caucasus. Caucasus, the land bridge between the Black Sea and the Caspian Sea, is recognized as one of 25 biodiversity hotspots due to its endemic species, diverse landscape (Conservation International, n.d.). The country is divided into 5 ecological regions: 1) The Greater Caucasus Mountains 2) The Lesser Caucasus Mountains 3) The Kura-Aras valley 4) The Talish zone 5) The Caspian Sea. About 60% of the country is covered with the mountains, most of it being accounted for by the Greater and the Lesser Caucasus mountain ranges. About 80% of the flatlands is made up by the semi-deserts, mostly located in the Kura-Aras valley. Only 11% of the country is covered by forests, and out of all lands, the arable areas and pasturelands make up 55% (Asian Development Bank, 2014).

The dramatic changes in altitude among the ecological zones have contributed to the establishment of 9 climatic zones in the country, which range from subtropics to alpine (UNECE, 2004). Overall, the country receives low precipitation with over two thirds of the country receiving less than 400 mms in a year. The amount of the precipitation generally shows a positive correlation with the altitude and varies significantly across the country ranging from below 200 mm per year in the Absheron peninsula to 1200-1400 mm in the southern coastal line of Azerbaijan, that is, the Lenkeran lowlands. The evaporation is significantly high being 93% annually in the basin of the Kura river (UNECE, 2004).

Overall the country compared to other southern Caucasian neighbors of Georgia and Armenia is poorly provided with the water resources. The

per person and per area water supply compared to Georgia and Armenia is 7.7 and 8.3 times and 2.2 and 1.7 times less respectively. About 75% of the water resources of the country come from external sources, most of these being from the Kura and Aras rivers (Asian Development Bank, 2014).

In the Soviet period, Azerbaijan was among important centers of the industrial and agricultural production thanks to its vast natural resources and flatlands respectively. Gaining independence in 1991, Azerbaijan inherited environmental problems accumulated in the Soviet period and new issues emerging with the demise of the Soviet Union. The environmental issues can be summarized as such:

Industrial pollution: The Soviet Azerbaijan had gone through aggressively pursued industrialization as had other parts of the USSR. This had taken a significant toll on the living quality in the urban centers especially in the petrochemical capital of the country, that is, the city of Sumgait, 30 km to the north-west of the capital Baku. Different toxic combinations from the industrial enterprises were emitted. After gaining independence, the transition to the market economy, the breaking of the economic links among the former Soviet republics, the Nagorno-Karabakh conflict and other factors brought about the collapse of the economy, in particular, its industrial base. As a result, the industrial production significantly slowed down. This fall allowed the country to recover from the negative environmental effects of the industrialization through the decrease in the air pollution, discharges of industrial water, industrial waste disposal etc. even though on the economic side, this meant a huge recession and a soaring unemployment rate (Popov, 2005). While this meant some environmental improvement, there was still a large Soviet legacy to be

dealt with. Azerbaijan was one of the leading centers of the oil industry in the Soviet Union. Consequently, due to the extraction and exploration of oil and gas on the offshore fields, about 10000 hectares of lands had become contaminated and were to be cleaned. The extraction of oil in the offshore fields had led to the contamination of the Caspian Sea itself too. The pollution was not restricted only to the soil contamination with oil, mercury but also included "storage of obsolete agrochemicals and low-level radioactive waste" (Asian Development Bank, 2005). Also, the repercussions of the hazardous practices of the waste disposal in Sumgait were among serious inherited environmental issues to be addressed. While the halt of the operation of many industrial enterprises decreased the air contamination, waste disposal and other related problems, this also confronted Azerbaijan with the challenge of "the eventual dismantling of corroding remnants of Soviet-era facilities rendered obsolete and unviable in the new geopolitical circumstances". With such enterprises abundant especially in the Absheron peninsula, the industrial heartland of the country in the Soviet period, Azerbaijan needed technical know-how and financial resources to address this aforementioned issue (Asian Development Bank, 2005). The situation in this regard was exacerbated by the fact that the collapse of the economy in the 90s left the country with very little financial resources, and as a result, the environmental issues such as the waste management, wastewater disposal etc were underprioritized (Asian Development Bank, 2005).

Solid & hazardous waste:

Management of the solid and hazardous waste was among important environmental issues to be addressed in the post-independence period. Towards the beginning of the 2000s, more than million cubic meters of only solid domestic waste annually generated in Azerbaijan (Asian

Development Bank, 2005). About 800000 tons of municipal waste was generated only in the Absheron peninsual including Baku and Sumgait (UNECE, 2004). The waste collected in Baku by the private contractors would be dumped in the landfills. While there were 4 official landfills, according to the Azerbaijan Country Environment Analysis of the Asian Development Bank, there were 80 unorganized landfills in Baku and overall 200 around the country (Asian Development Bank, 2005). Whereas Baku performed relatively well in terms of collection of the municipal waste, other regions outside the capital fared badly in this respect (UNECE, 2004). Out of both official and unofficial landfills, none met the international sanitary standards, and the waste management largely comprised of simply compacting. Additionally, the municipal and hazardous waste would be dumped together (Popov, 2005). Towards the smaller towns and townships outside the capital, the waste disposal practices worsened to the degree that surface water could be affected the disposed waste. In some of these areas, the waste would be burned in open sites (Asian Development Bank, 2005).

Waste separation was conducted on a superficial level, with only bottles and bread separated mostly. The recycling was quite modest even though much of the waste was secondary raw materials and thus created a chance for recycling (UNECE, 2004).

The situation with the management of the hazardous waste was concerning as well. UNECE's first edition of the Environmental Performance Review for Azerbaijan noted that "chemicals used in wine production, waste from machine tool manufacturing and obsolete chemicals have been dumped at unmanaged landfills. As a result, soil, air and groundwater are contaminated" and "there is no organized system for

the collection and disposal of hazardous waste. Enterprises transport and dispose of this waste themselves or they store it at industrial sites. In some cases, hazardous waste is transported in open trucks, exposing both their drivers and the environment to contamination. (UNECE, 2004).

To address the issues with the hazardous waste disposal, in 2003, within the Ministry of Ecology and Natural Resources of Azerbaijan, a hazardous waste management agency was established with the support of the World Bank (Popov, 2005).

Air pollution: The air pollution was an issue of grave concern for Azerbaijan in the Soviet period due the industrial emission. In the post-independence period, the shutdown of many industrial enterprises enabled the significant reduction in the air contamination and the approaching of the air quality to the then existing international air quality standards. The air pollution as in the Soviet period was highest in Baku.

Table 6: Pattern of Air Emissions in Azerbaijan, 1990–2002 ('000 tons)

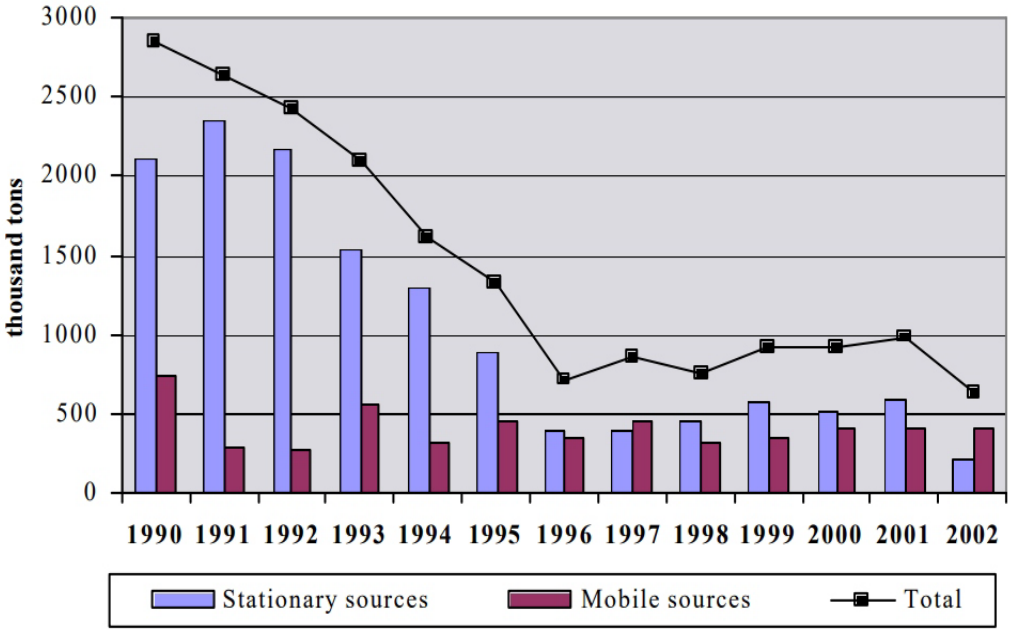
	1990	1995	2002	2003
Total	2108	879	217	426
Baku		624	110	331
Particulate matter	148	23	29	34
Gasesous matter	1960	856	188	392
Sulfur dioxide	90	50	14	15
Nitrogen dioxide	59	32	26	24
Carbon monoxide	71	22	18	25

Source: (Asian Development Bank, 2005)

While the industrial emissions went down, the emission from vehicles increased as the number of cars increased, and the volume of emissions

from mobile sources exceeded the industrial emissions (UNECE, 2004). In 2002, the stationary sources accounted for 40% of the emissions, while 60% was made up by the emissions from mobile sources. The major stationary sources of emission were the power plants, industrial enterprises, construction industries etc.

Figure 16. Air emissions 1990-2002



Source: (UNECE, 2004)

Energy inefficiency: In the post-independence period, Azerbaijan along with other former Soviet republics was at the top of the list of the countries in terms of the energy inefficiency. The level of the energy inefficiency was at its height in the 90s. This high rate of inefficiency was related to the wear and tear of the used machines, reduction in the use of the natural gas replaced more by oil (Asian Development Bank, 2005). The equipments in use since the Soviet era, poor maintenance of the inherited infrastructure, inefficient distribution network leading to the loss in electricity when transmitted were among other contributing factors (UNECE, 2004).

Water and wastewater management: Azerbaijan has scarce water resources compared to neighboring Armenia and Georgia as mentioned above. This issue confronted the country in the post-independence period too with 50-95% of the urban population having an access to the piped drinking water. Of this, only 50% of the residents in urban areas were delivered safe drinkable water. Many households particularly in the rural areas experienced severe water shortages (Popov, 2005). According to the State Committee of Amelioration and Water Management, in 2002, the total volume of the used water was 10 billion cubic meters. Of this, 6% was used by households, while 20% and 42% respectively were used for the industrial water supply and for irrigating lands (UNECE, 2004).

Azerbaijan almost completely depends on the Kura-Aras basin for water used for all purposes including for the municipal use. This, however, poses serious environmental risks for the country as neither of these two longest rivers originates from Azerbaijan with only 30% of the volume of the river water generated domestically (Asian Development Bank, 2005). Tresspassing Georgia and Armenia these rivers would become heavily polluted through the discharge of the municipal and industrial waste. Only into the Kura river according to the ADB report, annually 40 thousand tons of municipal sewage were discharged before even the river crossed the Georgia-Azerbaijan border. Also, the river was contaminated through the disposed industrial waste containing strong acids, lead, copper, iron etc. Also, as the country is criss-crossed by different pipelines, the oil leakage and leakage of other chemical products would pollute the groundwater and the surface water. The poor maintenance and quality of the Soviet time infrastructure used to distribute water would affect the drinkability of the transported water within the pipelines and would put under question its

safety (Popov, 2005). Also, due to the inefficiency of the system, about a third of the abstracted water would be leaked and lost consequently. Overall, in the period of 1993-2002, the irrigation and industrial water use respectively had declined by 49% and 43% while the volume of the domestic water used had increased two times (UNECE, 2004).

Table 7: Water abstraction and use

(million m^3/year)

	1993	1994	1995	1996	1997	1998	2002
Total abstraction	**16,344**	**14,631**	**13,970**	**13,462**	**12,512**	**10,235**	**10,075**
- surface water	15,156	13,118	12,820	12,475	11,414	9,554	9,530
- groundwater	1,188	1,513	1,150	987	1,098	681	545
Per capita abstraction, m3	2,149	1,923	1,837	1,753	1,613	1,307	1,256
Domestic use	390	368	327	277	222	264	503
Industrial use	3,459	2,323	2,173	2,225	2,132	2,293	1,977
Irrigation	8,222	7,996	7,668	7,047	6,397	4,482	4,169
Cattle and other use	78	99	55	383	284	254	105
Water losses	4,195	3,855	3,747	3,530	3,477	2,941	3,321

Source: The Committee of Amelioration and Water Management. January 2003

While the decline in industrial activies ensured the reduction in the industrial wastewater, the drop in the treatment of the municipal water left the wastewater treatment as an important environmental concern to be addressed. About 72% of the city was served by the waste-water network though only half of the waste water was treated with 90% of it being biologically and the rest mechanically. Overall, the waste water treatment infrastructure was in a poor condition (UNECE, 2004).

Land and its degradation: In the post-independence period, Azerbaijan faced land shortage worsened by the territorial loss as a result of the Nagorno-Karabakh conflict. Per capita, there was 0.2 and 0.6 hectares of respectively arable and agricultural lands available. The existing short stock of arable and agricultural lands had further been

reduced by the improper irrigation practices. Additionally, the wastelands with large landfills around the country further decreased the available stock by 20 to 118 thousand hectares according to estimates (Asian Development Bank, 2005)

Table 8: Composition of the land used in Azerbaijan

Area	Hectares ('000)	Percent of Total
Total Land Area	8,641	100
Utilized Agricultural Area	4,745	54.9
Irrigated Land	1,450	16.8
Perennial Crops	176[a]	2.1
Pastureland	2,467	28.9
Other Agricultural Land	652	7.1
Forest Land Area	1,037	12.0
Water Bodies	398	4.6
Other Land Area	2,461	28.5

Sources; State Statistical Committee and Food and Agriculture Organization

About 60% of the country's land had been exposed to the various degrees of the soil erosion. The erosion had affected approximately 80% of the mountainous area and 45% of the agricultural lands. This was facilitated by the anthropological factors such as farming in the sloping areas (Asian Development Bank, 2005).

In the post-independence period, the pasturelands were affected. In the Soviet period, the collectivization of the agricultural lands had ensured a disciplined use of the pasturelands. As the collectivization practice was abandoned following independence, the state took hold of most of these lands. However, rules to regulate the use of these lands were not formulated, which as a result exposed the pasturelands to the abuse (Asian

Development Bank, 2005). The overgrazing took a toll on these lands (UNECE, 2004).

Forests were among the seriously affected areas as well in the post-independence period. Amid the economic turbulence of the 90s, people faced acute shortages of electricity, heating etc supply. This forced many in the rural areas to cut trees for fuelwood. The fueldwood production as a result increased 3-4 times compared to the last years of production in Soviet Azerbaijan. The practice significantly reduced the already scarce areas covered with the forests. The poor supervision also led to the use of forests for grazing (Asian Development Bank, 2005).

The Caspian Sea: The Caspian Sea washes the east of Azerbaijan containing a significant share of the total volume of Azerbaijan's wealth of natural resources. In the Soviet period, the Sea had been affected by the operations in the off-shore oil fields, discharge of waste water, all these taking a toll on the biodiversity of the Caspian Sea. The Caspian Sea is home to a large reserve of the sturgeon (Asian Development Bank, 2005). The large rates of the catch of the sturgeon in the Soviet period significantly reduced the stock of this species of the fish endangering their population in the Caspian Sea and creating a necessity to urgently act to protect them (UNECE, 2004).

While Azerbaijan in the post-independence period from the Soviet Union inherited various environmental problems and faced new ones, it also had to confront the important task of developing its environmental legislation to address the issues discussed above. Already a year after the independence, in 1992, the Law on Nature Protection and Environmental Management was adopted, which set the foundation for the broad environmental policies and prepared economic instruments to be used to

achieve environmental goals (UNECE, 2004). However, the first government policy document addressing environmental issues specifically was developed in 1998. From 1995 to 1998, Azerbaijan started developing the National Environmental Action Plan (NEAP) as part of the trend of the preparation of the NEAPs in Eastern Europe and the former Soviet Union (UNECE, 2004). The NEAP identified the following issues as areas of urgent response:"

- Severe pollution caused by industries, oil exploration and production, and energy;
- Threat of irreversible collapse of the sturgeon stock triggered by a loss of reproductive capacity, pollution, and overfishing;
- Deteriorating water quality, especially of drinking water, both in rural and in urban areas, causing an increase in water-borne diseases;
- Loss of fertile agricultural land from erosion, salinization, pollution with heavy metals and chemicals, and deteriorating irrigation systems;
- Threats to protected areas leading to losses in biodiversity;
- Loss of forestry cover, mainly in war-affected areas;
- Damage to the Caspian coastal zone caused by flooding from a rise in sea level and pollution;
- Deterioration of cultural heritage, due to natural causes, aggravated by modern environmental problems such as acid rain and uncontrolled development." (UNECE, 2004)

The NEAP covering the period 1998-2003 put an emphasis on the integration of the economic and environmental policies. Based on the above-stated environmental issues, the NEAP formulated 32 objectives for action classified in 5 categories: 1) Pollution origination from industrial,

energy production, mobile sources etc 2) The Caspian Sea 3) Forests, soil and biodiversity 4) Institutional development (OECD, 2005)

The realization of all these actions in total would have demanded 42.5 million dollars, which would make up 1% of the state budget. However, by 2003, only about 20% of the envisaged actions had been carried out. Particular areas of progress had been policies as important steps were taken to shape the legislation. Additionally, new institutions were created for better environmental management on a state level. Along with the financial difficulties, despite its broad coverage of environmental problems of the country, the NEAP's implementation was also hindered by the fact that broad priorities were not sufficiently narrowed down into specific targets, actions. In spite of the expectations, the second NEAP did not emerge as the government formulated other policy responses to address environmental issues (UNECE, 2004).

An important step in the formulation of the environmental legislation in the country was taken in 1999 when the Law on Environmental Protection and the Law on Environmental safety were adopted. Of these two, Law on Environmental Protection came to be the backbone of the national environmental legislation under development (Asian Development Bank, 2005). The law set economic and social foundations for the protection of environment and served as a rule to regulate the natural resource use and combat both municipal and industrial pollution. Recognizing the importance of the use of the economic instruments for environmental protection, the law identified economic tools i.e. paying for the pollution, for the use of natural resources, environmental protection incentives etc. (Popov, 2005). Overall, both laws addressed issues such as identification of rights and obligations

of the government, citizens and other stakeholders in relation to the environment, use and registry of natural resources, ecological terms, environmental audit, international environmental cooperation etc. (Aliyev I., 2011). According to the ADB's Country Environmental Analysis for Azerbaijan, the adoption of these two laws which govern similar areas and address similar issues added to the complexity of the environmental legislation (Asian Development Bank, 2005).

In 2001, the Law on Air Pollution was adopted, which replaced the Law on the Protection of Atmosphere adopted in 1983. The new law established the requirements for air monitoring, obligations of the institutions, emission standards. Adopted in 1998, the Law on Hydrometeorological Activity set the standards for hydrometeorological measurements and envisaged the transition to new international air quality standards. In 2001, the National Environmental Health Plan was prepared, which looked at the environmental management through the lenses of health implications rather than the ecological ones.

Table 9. Laws on environment

Name of the legislative piece	Date in force
Water Code	17/03/1998
Law on Environmental Protection	10/08/1999
Law on Environmental Safety	14/08/1999
Law on Amelioration and Irrigation	26/09/1996
Law on Water Supply and Wastewater	31/01/2000
Law on Hydrometeorological Activities	25/08/1998
Law on Underground Resources	13/02/1998
Law on Protection of Atmospheric Air	22/06/2001
Forest Code	03/03/1998
Law on Plant Protection	30/02/1997
Law on Plant Quarantine	12/07/1996

Law on Fauna	08/08/1999
Law on Fishing and Fish Farming	24/06/1998
Law on Specially Protected Natural Territories and Objects	15/07/2000
Law on Domestic Wastes	28/10/1998
Law on Radiation Safety	01/04/1998
Law on Obligatory Ecological Insurance	21/04/2002
Law on Public Data on Environment	20/04/2002
Law on Population Health	31/07/1997
Law on Sanitary-Hygienic State	10/11/1992
Law on Land Code	08/08/1999
Law on Pesticides and Agricultural Chemicals	02/08/1997
Law on Geodesy and Cartography	22/07/1998
Law on State Borders	09/12/1991
Law on Utilization of Energy Resources	20/11/1996
Law on Energy	02/02/1999
Law on Electro Energy	14/06/1998
Law on Electric and Thermal Power Plants	11/03/2000
Law on Gas Supply	29/09/1998
Law on Technical Safety	02/02/2000
Law on Major Town Planning	05/09/1999
Law on Architecture	20/06/1998

Law on Natural Monopoly	13/03/1999
Law on Standardization	27/09/1996
Tax Code	01/01/2001
Law on State Land Cadastre, Land Monitoring, and Land Arrangement	22/12/1998
Law on Environmental Education	10/12/2002
Law on Health Protection	02/04/1999
Law on Land Fertility	30/12/1999
Law on Grain	16/06/2000

Source: (Popov, 2005)

Overall, the Country Environmental Analysis by the ADB concluded that in spite of the speedy progress in the formulation of the environmental legislation of the country, many times, the obligations established by the laws were disproportionately larger than the ability of the government institutions to carry them out (Asian Development Bank, 2005). Additionally, albeit the broad coverage of the environmental concerns by the adopted legislative pieces, still some very important issues had been left out such as the management of the hazardous waste or activities on the coastal territories. Also, the approach of combining the Soviet time environmental expertise with the more up-to-date international expertise had added to the legislative complexity. This in turn complicated the necessary responses to important environmental issues. Some rules duplicated themselves, while others were not clear enough. This created a need for the secondary legislation along with

giving the authorities a lot of discretion in implementing their responsibilities. Also, as many Soviet standards were outmoded, there was a need for replacing them (Asian Development Bank, 2005).

While building its environmental legislation, Azerbaijan also had to build its institutional framework as well to address issues effectively. The most important step had been the establishment of the Ministry of Ecology and Natural Resources (MENR) in 2001. The newly established governmental structure succeeded the previous State Committee for the Environment. Established as the major state agency for the environmental management, its mandates included areas such as fisheries, forestry, geology etc. (Asian Development Bank, 2005). Different areas of environmental management fell into the domains of mandates of other government institutions such as the Ministry of Health, Ministry of Agriculture, Ministry of Economic Development etc.

Table 10. State Agencies with Environmental Obligations

Environmental concern	Agencies with Primary Responsibility
Air quality	MENR, Ministry of Health, and Ministry of Transport
Biodiversity, forestry, fisheries	MENR
Land and soils	MENR, State Committee on Land and Cartography, and Ministry of Agriculture
Water	MENR (several departments), Azersu Joint Stock Company, Ministry of Health, SAWM, Ministry of Health, Ministry of Agriculture, the Tariff Council
Oil pollution	State Oil Company of Azerbaijan (SOCAR), MENR
Hazardous waste	Ministry of Emergency Situations; MENR; Ministry of Health, Ministry of Agriculture (State Phytosanitary Control Service)
Waste	Ministry of Economy and Industry (MEI), Temiz Shahar joint stock company (JSC) (under MEI), MENR, executive powers, and municipalities
Mineral resources	MENR (Geological Service)

Sustainable development	MEI is the lead institution coordinating sustainable development activities. Program components on environment are developed by MENR.
Climate change / energy efficiency	MENR, Ministry of Energy and Industry (MEI), State Agency for Alternative and Renewable Energy (of MEI), Azerenerji JSC

Source: (Asian Development Bank, 2014)

The problems with the institutional oversight in the environmental domain were mainly the overlapping of the responsibilities especially in regard to the water and land management, environmental monitoring, insufficient integration of the local authorities (Asian Development Bank, 2005).

3.4.2. 2005-2014

With the oil boom significantly improving the country's finances starting from the second half of the first decade of the 2000s, Azerbaijan was able to appropriate more resources to different priorities, including the environmental concerns. Increased resources had important implications for the environment with the increased economic activities too in this period.

With the improvement in access to the utilities such as electricity, gas, the pressure on the country's already little forestry decreased. The decrease in the areas covered with the forests came to a halt as the stricter regulation and decreased demand for the fuelwood resulted in 35% drop in illegal logging.

Table 11. Used land components

	2000	2005	2007	2008	2010
Total Land Area	**8,660.0**	**8,660.0**	**8,660.0**	**8,660.0**	**8,660.0**
Agricultural Lands	4,740.4	4,758.6	4,756.5	4,756.7	4,766.8
Arable Lands	1,825.6	1,843.2	1,854.0	1,860.2	1,884.1
Land under Permanent Crops	236.8	221.5	224.7	227.5	227.4
Pastureland	2,678.0	2,693.9	2,677.8	2,669.0	2,655.3
Non-agricultural lands	3,919.6	3,901.4	3,903.1	3,903.3	3,893.2
Industry, Road	**395.1**	**365.3**	**351.5**	**352.2**	**350.1**
Protected Areas	192.4	288.6	291.5	343.9	393.5
Forests	**1,037.4**	**1,037.8**	**1,038.8**	**1,038.8**	**1,040.7**
Water Bodies	**150.2**	**142.5**	**146.7**	**146.7**	**147.1**
Other Lands	**2,144.5**	**2,067.2**	**2,075.0**	**2,021.7**	**1,961.8**

Source: (Asian Development Bank, 2014)

The size of the pasturelands, however, declined in this period as the pasturelands along with the irrigated lands kept being mismanaged. Poor irrigation practices decreased the stock of the arable lands, while pasturelands as previously suffered from poor regulation and ensuing overgrazing (Asian Development Bank, 2014). Overall, 40% of the land were affected by erosion, while salinization affected 40% of the irrigated lands.

Coastal waters of the Caspian Sea kept being affected too as before. The untreated municipal and industrial waste water discharged into the Sea, the oil-related activities were among main causes. With the operation of the major international companies in the oil sector, the standards in this area were upgraded, and the situation in this area improved. The issue with the wastewater discharge remains to be addressed though (Asian Development Bank, 2014). According to the UNECE's second review of the Environmental Performance Review for Azerbaijan, there was an improvement in regard to the biological treatment of the waste water, and the monitoring conducted in the Caspian Sea had shown that concentration of the pollutants had decreased. The UNECE's report concluded that low tariffs for water did not allow more efficient use of

water (UNECE, 2011). As in the previous times, the biodiversity of the Caspian Sea suffered in this period too. This especially concerned the stock of the sturgeon in the Sea. While in the 1960, the harvest of the sturgeon was about 20000 tons, in 2000s, it barely amounted to 1000 tons. The drastic drop reflected the widespread poaching practices in all littoral states of the Caspian Sea and insufficient contribution of the sturgeon farms (Asian Development Bank, 2014).

In this period, an area of improvement was the size of the protected areas. From 2003 to 2005, the size of the protected realm doubled going up to 8% of the country's territory from 4% (OECD, 2005). By 2014, they accounted for 10.3% of the country's territories covering 893 thousand hectares of land (Asian Development Bank, 2014).

Over this period, the water quality still largely remained as an issue to be addressed. As mentioned above, Azerbaijan largely relies (for 80% of the water) on the Kura and Aras rivers for water supply. Most of the supplied water does not meet the international standards (UNECE, 2011). In the Soviet period, however, big industrial enterprises had been constructed on the shore of these rivers for the pollutants to be discharged into these rivers. As some of these plants are located outside Azerbaijan's borders i.e. in Georgia and Armenia, it becomes more difficult to ensure the quality of the water (Asian Development Bank, 2014). To improve the water supply in Baku, the construction of a pipeline to transport water from the Greater Caucasian Mountains to Baku was commissioned. The construction of the Oguz-Gabala-Baku water pipeline was completed in 2010 (Mir-Ismail, 2011). Transporting about 430000 cubic meters of water to Baku, the pipeline would improve the access to water of about 75% of the city's residents. Before the construction of the

262 km long pipeline, 60% of the city residents could get water for only a few hours a day (Siemens, 2015).

The situation with the air pollution in Baku worsened especially in this period. Baku is known for its strong winds, which allows the dilution of different pollutants. Coupled with this, the dramatic increase in the number of vehicles in the city contributed to the air pollution significantly. From 2000 to 2014, the number of vehicles had almost tripled in the country going from 440 thousand to 1.290000. The growth in the vehicle fleet of Baku was spectacular in special where the number of vehicles had grown from 146000 to 740000 increasing 5 fold (State Statistical Committee of the Republic of Azerbaijan, 2018). The attempts to improve the public transportation, infrastructure to avoid traffic congestion have been insufficient to keep pace with the growth of the vehicle fleet.

Table 12. Vehicle fleet

Year	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Total	440.6	451.6	457.4	511.5	554.0	612.1	690.0	773.3	860.0	925.9
Trucks	78.6	77.1	76.9	79.0	80.9	90.9	97.4	110.4	113.1	117.4
Buses	16.8	17.3	17.4	18.8	21.0	26.7	27.5	28.1	29.3	29.9
Cars	332.0	343.0	350.6	400.4	439.1	479.4	549.0	616.9	700.1	759.2
Motorcycles	6.4	6.7	8.3	7.3	5.0	3.6	3.4	2.8	2.3	2.0
Others	13.3	14.3	12.5	13.2	13.2	15.0	16.2	18.0	17.5	19.3

Source: (Asian Development Bank, 2014)

As a result of the drastic growth of the vehicle fleet, the emissions from the mobile vehicles have gone up significantly. The emissions from the stationary sources, however, have kept a downward trend. Baku in this area too took the leading position. Together with other industrial centers of the country i.e. Sumgayit, Mingachevir etc. Baku accounted for 70-95% of the emissions into air from the stationary sources. While there were

important changes in the amount of emissions from mobile and stationary sources, the air quality monitoring was in a poor shape to keep track of these changes. Air quality standards reflected modification of the outmoded Soviet air quality standards. An area of progress in this regard was the application of the Euro emission standards for vehicles. In 2014, Azerbaijan transitioned to Euro 4 emission standard. Based on this emission standard, Sulphur limit on the fuels were imposed, and all fuels were lead-free. The standard restricted the import of old cars into the country (UNEP, 2015).

Table 13: Emission of pollutants

Year	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Total (w/out CO_2)	908.1	1,000.0	620.7	837.9	975.3	1,054.3	875.1	969.9	922.7	..
Stationary sources	515.4	577.0	217.4	425.9	539.8	557.9	344.2	385.9	280.7	300.0
% of total	57.0	58.0	35.0	51.0	55.0	53.0	39.0	40.0	30.0	..
Mobile sources	392.7	423.0	403.2	412.0	435.5	496.4	530.9	584.0	642.0	..
% of total	43.0	42.0	65.0	49.0	45.0	47.0	61.0	60.0	70.0	..

Source: (Asian Development Bank, 2014)

Azerbaijan as before remained vulnerable to the effects of the climate change. The climate change has important implications for the country given the large share of the population employed in the agricultural sector. The temperatures over the period 1961-1990 rose by 0.34 °C, increasing by 0.41 °C additionally in the following decade. Compared to 1990, the amount of the rainfall across the country over the period 2004-2014 decreased by 9%, reachin 14.3% even in the Kura-Araz basin. For a country with scarcer water resources, this is an important development. Compared to 1990, by 2050, the temperatures are forecasted to rise by 1°C to 1.6 °C (Asian Development Bank, 2014).

In regard to the waste management, serious issues remained as before. The government, however, took an important step in this domain establishing in 2009 the open-joing stock company "Tamiz Shahar", which means in Azerbaijani "Clean city". The company was put in charge of managing waste through recycling and other practices (Tamiz Shahar, 2019).

Additionally, in accordance with the Comprehensive Action Plan on Improvement of the Environmental Situation, steps were taken to tackle with the consequences of the industrial pollution. The action plan contained targets such as improvement of the environmental situation around the Bibiheybat zone, an area in historical south of the city, cleaning the Boyukshor lake, the biggest of dozens of salty lakes across Baku, which had been contaminated through discharge of industrial pollutants (President of the Republic of Azerbaijan, 2006). With the realization of these measures, the Bibiheybat zone was cleaned as was half of the Boyukshor lake where the cleanliness of its water was restored.

While Azerbaijan has enough resources to gain fossil fuel, it took some measures to tap in its potential of renewable energy. In 2004, the State Program on Use of Alternative and Renewable Energy Sources (SPUARES) in Azerbaijan Republic was adopted. The SPUARES recognized the potential of Azerbaijan's renewable and alternative energy sources and the growing international expertise in this field and significance of benefitting this expertise. The program included tasks as identification of the country's potential in this domain, ensuring the energy security through the use of alternative and renewable energy (President of the Republic of Azerbaijan, 2004). Additionally, a Presidential order on "On the development of the State Strategy on use of

alternative and renewable energy sources in the Republic of Azerbaijan for 2012- 2020" was made. In 2009, the State Agency on the Alternative and Renewable Energy Sources was established (Yusifov, 2018). Overall, the potential of the renewable energy sources in Azerbaijan is 130000 kws. Of this, 115000 kws was accounted for mainly by solar energy mainly. Across the country, 2 region hybrid power plants, 6 solar power plants, 3 windfarms were established, one waste to energy plant were established (Yusifov, 2018).

With the conclusion of the NEAP, new policy papers emerged to ensure environmental regulation such as the aforementioned SPPRED 2003-2005. The SPPRED had been aligned to Azerbaijan's commitment to achieving the MDGs. The 7th MDG was about the achievement of environmental sustainability. It acknowledged that improvement of the environmental situation is critical to the attempts to reduce poverty and ensure better living standards for the population. The document mentions the presence of the environmental problems inherited from the Soviet Union and notes that these problems such as the soil pollution, salinization etc. contribute to poverty and the other way around. It also states that the economic development harming the environment cannot be considered sustainable and emphasizes the significance of the environmental protection, environmental monitoring, raising awareness within the society (Azərbaycan Respublikasının Prezidenti, 2003). In the same year with SPPRED, the State Program on Environmentally Sustainable Socio-Economic Development 2003-2010 (SPESSD) was adopted. The SPESSD was in line with Azerbaijan's international obligations to ensure sustainable development. It targeted to deal with and restrict the repercussions on the economic activities. Its aims included

the use of economic and human potential to improve environmental protection, putting in practice economic models to ensure welfare of the current and future generations, achieving intergenerational equity etc. (Azərbaycan Respublikasının Prezidenti, 2003). In 2003, also, the National Program on the Restoration and Expansion of Forests was adopted. The national program listed planned actions in 10 subsectors (UNECE, 2004). In the completion of the national program, 60 thousand hectares of forests had been restored or planted. In the period of 2003-2008, 1087 hectares of forestry was planted in Baku (Bədəlov, 2009). Besides the National Program on the Restoration and Expansion of Forests, the National Caspian Action Plan and the National Biodiversity Conservation Strategy to address other specific issues (Asian Development Bank, 2005).

Following the implementation of the SPPRED, in 2006, the State Program on Poverty Reduction and Sustainable Development (SPPRSD) was launched. Covering the period of 2008-2015, the SPPRSD was the main poverty reduction strategy document of the government succeeding in this position the SPPRED. The SPPRSD stated the alignment of all economic development policies and programs with the environmental sustainability as one of nine priorities (UNDP, 2006). Among the environmental issues the SPPRSD aimed at addressing was achievement of a reliable water supply for the population and sanitary concerns. The action plan of the SPPRSD included steps on sustainable management of forestry, water, air, biodiversity etc.

3.4.3. 2015-present

The outbreak of the economic crisis strained the country's finances, consequently limiting the country's financial capabilities to address environmental issues as well. In this period too, Azerbaijan inherited the

environmental issues challenging the country previously such as air pollution, soil contamination, waste water management etc. In this period, the new policy papers to regulate different areas emerged, that is, the strategic roadmaps. While no strategic roadmap was adopted specifically targeting the environmental management, Strategic Roadmap on the development of utilities (electricity and thermal energy, water and gas supply) in the Republic of Azerbaijan (Azərbaycan Respublikasının Prezident, 2016) had certain enviromental targets. The Strategic Roadmap prioritizes the utilization of the alternative and renewable energy sources and recognizes its benefit for environmental protection. It states that the country is underutilizing its renewable energy sources potential, which is larger in the solar and wind energy and has to do more to make use of this potential. The Roadmap also states the improvement of the energy efficiency and saving of energy as priorities. To achieve these, the Roadmap states measures such as monitoring of the energy efficiency, increasing efficiency of the use of the fuel (natural gas) to produce thermal power, using modern equipment, reducing energy loss. Also, the document states measure for environmental protection during the use of the thermal power and identification of energy sources for heating. The Roadmap also envisages the increase of the renewable energy production capacity. By 2020, the energy production from these sources is expected to increase by 430 MVt.

Table 14: Power installation by 2020/2025/2030

	2020	2025	2030
• Wind PP	350 MVt	440 MVt	465 MVt
• Solar PP	50 MVt	150 MVt	190 MVt
• Hidro PP	10 MVt	220 MVt	220 MVt
• Bioenergy PP	20 MVt	30 MVt	50 MVt
• Total (MW)	430 MVt	840 MVt	925 MVt
• Total (RES %)	20 %	25-30 %	35-40 %

Source: (Yusifov, 2018)

Table 15. Planned investments into Renewable energy sources for the period 2018-2020

N	Type	Project title	Power, MW	Required investments for 2018-2020, mln. manats	including:						Current status of the Project
					2018		2019		2020		
					%	million manats	%	million manats	%	million manats	
		TOTAL	**420.0**	**1153.4**	**37.6%**	**434.1**	**44.5%**	**513.0**	**17.9%**	**206.3**	
1	Wind Energy Plants	**Wind Power Plants - total**	**350.0**	944.1	**36.5%**	**345.0**	**44.5%**	**419.9**	**19.0%**	**179.2**	
1.1		Khızı-1 (Shurabad)	56.1	134.5	100.0%	134.5					Project continuation
1.2		Khızı-2 HES (wind component)	69.0	190.1	70.0%	133.1	30.0%	57.0			TFS
1.3		Khızı-3	135.0	371.9	10.0%	37.2	60.0%	223.1	30.0%	111.6	Draft TFS
1.4		Absheron HES (wind component)	55.2	152.1	10.0%	15.2	60.0%	91.2	30.0%	45.6	TFS
1.5		Lokbatan	26.7	73.6	10.0%	7.4	60.0%	44.1	30.0%	22.1	TFS
1.6		Gobustan HES (wind component)	8.0	22.0	80.0%	17.6	20.0%	4.4			Project continuation
2	Solar Energy Plants	**Solar power plant - total**	**50.0**	**107.2**	**66.5%**	**71.3**	**33.5%**	**35.9**	**0.0%**	**0.0**	
2.1		Surakhani	1.7	7.7	100.0%	7.7					Project continuation
2.2		Sumgayıt	1.8	7.7	100.0%	7.7					Project continuation
2.3		Pirallahi-1	2.2	5.5	100.0%	5.5					Project continuation
2.4		Pirallahi-2	7.2	11.6	100.0%	11.6					TFS, typical project
2.5		Samukh-1	0.4	12.3	100.0%	12.3					Project contuniation
2.6		Samukh-2	7.2	1.7	100.0%	1.7					TFS, typical project
2.7		Gobustan HES (solar component)	5.0	12.3	100.0%	12.3					TFS, typical project
2.8		Khızı-2 HES (solar component)	10.0	8.5	100.0%	8.5					TFS
2.9		Absheron HES (solar component)	10.0	17.1	10.0%	1.7	90.0%	15.3			TFS
2.10		Siyazan	4.5	17.1	10.0%	1.7	90.0%	15.3			TFS, typical project
3	Bioenergy Plants	**Bioenergy plants - total**	**20.0**	5.8	10.0%	0.6	90.0%	5.2			
3.1		Agjabedi	8.0	**102.0**	**17.5%**	**17.9**	**56.0%**	**57.1**	**26.5%**	**27.0**	TFS, typical project
3.2		Siazan	3.0	40.8	10.0%	4.1	60.0%	24.5	30.0%	12.2	TFS
3.3		Hovsan Aeration	3.0	15.3	10.0%	1.5	50.0%	7.7	40.0%	6.1	TFS
3.4		Barda	2.0	15.3	60.0%	9.2	40.0%	6.1	0.0%	0.0	TFS
3.5		Samukh ARC	2.0	10.2	10.0%	1.0	70.0%	7.1	20.0%	2.0	TFS
3.6		Absheron	1.0	10.2	10.0%	1.0	50.0%	5.1	40.0%	4.1	TFS
3.7		Yalama	1.0	5.1	10.0%	0.5	70.0%	3.6	20.0%	1.0	TFS

Source: (Yusifov, 2018)

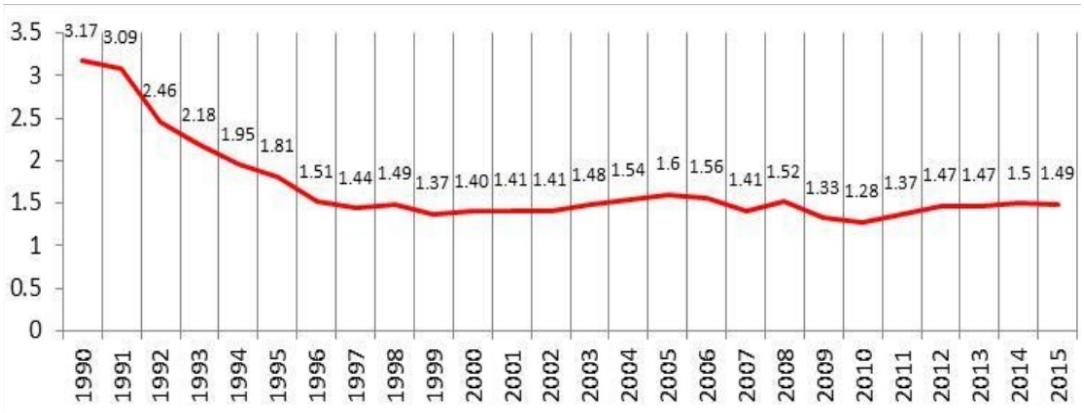
Sustainable energy is central to achieving the sustainable development. Various definitions have been offered for the sustainable development. The most widely used one has been anchored on the

definition of the sustainable development by the Brundtland Commission, referring to sustainable energy as the "energy that meets the needs of the present generations without compromising the ability of future generations to meet their own needs" (Energy Alabama, 2018). Sustainable energy is also defined as "energy sources that will allow the Earth to sustain balanced, healthy ecosystems and human life" (Penguins on Thin Ice, 2016). This definition puts the highlight on impact of the fuels used to generate energy and identifies the renewable energy sources as the quintessence of the sustainable energy development as these energy sources are replenishable and using them does not affect the nature. The sustainable energy under this definition are renewable energy sources such as wind energy, solar energy, some biomass fuels etc. Hydro power obtained through the construction of dams on the rivers does not qualify as sustainable energy because of the negative impact it has on the environment. Department of Earth and Environmental Sciences of Columbia University as types of sustainable energy identifies solar, wind, hydroelectricity, wave, tidal, geothermal, nuclear energy (Columbia University, 2018). In "Sustainable Energy: Choosing Among Options" published by MIT Press, it is stated that "in its most extreme guise, sustainable energy is that which can be provided without change to the earth's biosphere". However, authors admit that under this definition, attaining sustainable energy is not real. Therefore, authors offer a more comprehensive, pragmatic definition identifying a energy production technology as sustainable only "if their net effects upon the biosphere do not significantly degrade its capabilities for supporting existing species in their current abundance and diversity" and offer the following definition for sustainable energy: "A dynamic

harmony between the equitable availability of energy-intensive goods and services to all people and the preservation of the earth for future generations". (Tester, Drake, Driscol, Golay, & Peters, 2005). Renewable energy types such as wind energy, solar energy fall under this definition. Authors also add that for a future with sustainable energy, renewable energy production technologies are not sufficient; energy production and use efficiency should be improved as well along with reduction of consumption (Tester, Drake, Driscol, Golay, & Peters, 2005).

Azerbaijan as country rich in hydrocarbon resources is able to meet its own energy demand. The country has been relying on its oil and gas resources predominantly for the energy supply. Though rich in fossil fuel, over years Azerbaijan's total primary energy supply (TPES) per capita has been decreased by half as indicated by Figure 17. With the TPES being the total supply of energy a country has at its disposal from extraction of primary energy sources, the TPES per capita is one of indicators of a country's access to primary energy. Azerbaijan's comparatively low TPES per capita is in line with the developed nations having significantly more energy consumption than developing nations and wider access to energy. With a TPES capita at 1.49 toe/capita in 2015, Azerbaijan lagged behind the world and EU averages, Norway, US, Russia, Kazakhstan etc. whose TPES capita in 2015 respectively was 1.86, 3.11, 4.97, 6.80, 4.80, 4.45 toe/capita (Salimov, 2018).

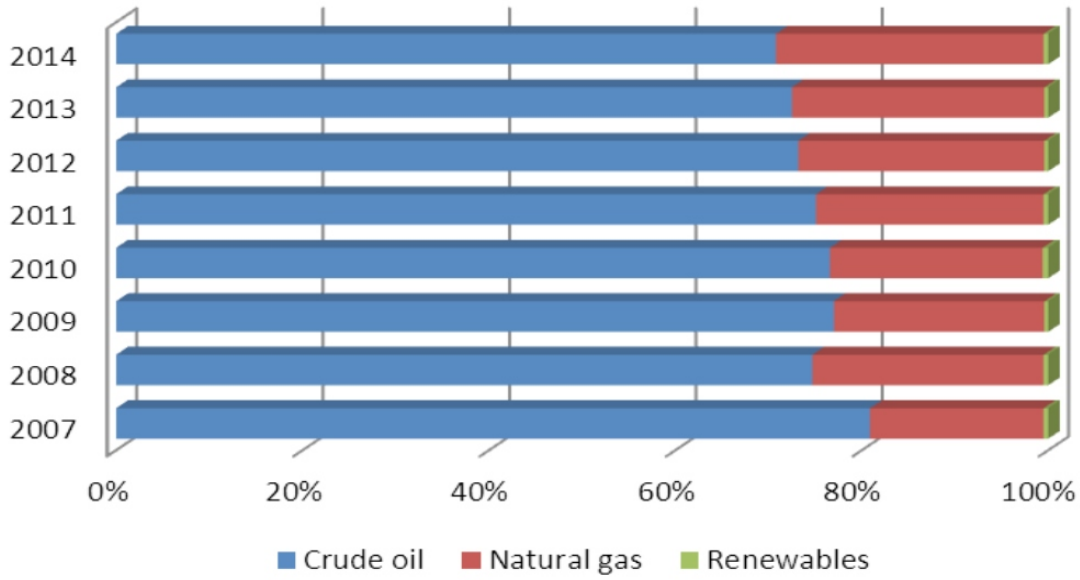
Figure 17. Total Primary Energy Supply per capita in Azerbaijan for the period
1990-2015



Source: (Salimov, 2018)

Oil and gas together account for over 90% of the primary energy production. Over years while the shares of oil and gas in the primary energy production have fluctuated to some extent, their total share has changed little as indicated by Figure 18. As seen also from the table, the share of the renewable energy has remained marginal in the period 2007-2014.

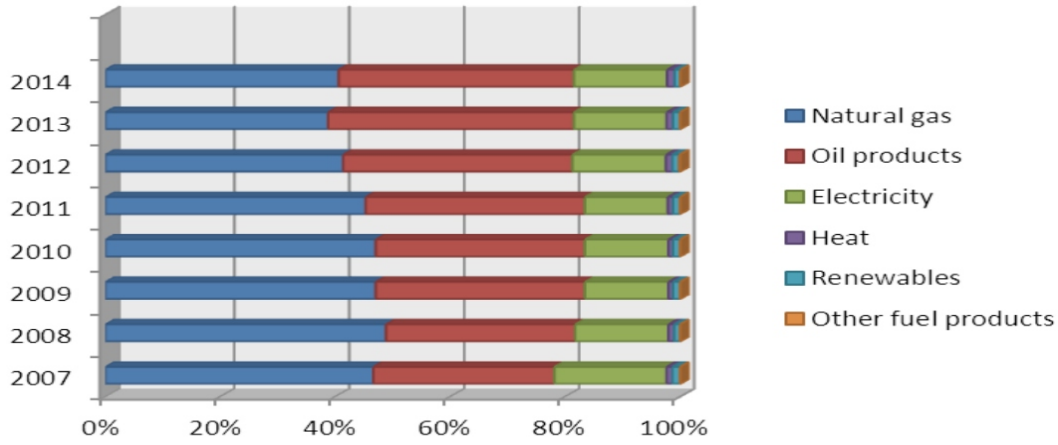
Figure 18. Composition of the Primary Energy Production in 2007-2014 in Azerbaijan



Source: (Hajiyev, Dimadama, Timotheou, & Gross, 2015)

The share of the renewables remained small in the final consumption of the energy products too, where natural gas, petroleum products and electricity accounted for over 90% of the consumption. In this period of 2007-2014, the largest final energy consumers were households consistently followed by transport, industry and construction, commerce and public services, and agriculture (Hajiyev, Dimadama, Timotheou, & Gross, 2015).

Figure 19. Final Consumption of Energy Products in 2007-2014



Source: (Hajiyev, Dimadama, Timotheou, & Gross, 2015)

In 2015, Azerbaijan's TPES was 14 Mtoe with the natural gas having the lion's share (67%), followed by oil (31%). While having a lower TPES per capita rate, Azerbaijan had one of the largest energy self-sufficiency rates in the world with energy production surpassing the energy demand by four times (International Energy Agency, 2015). In the same year, the electricity production in the country amounted to 25 Twh. Natural gas accounted for 86% of this while the share of the renewables was 7% with the hydro-power being the largest.

Figure 20. Azerbaijan TPES composition in 2015

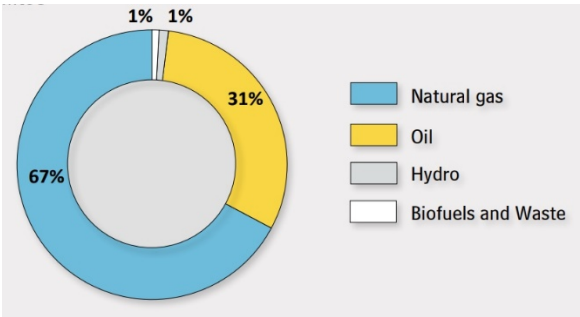
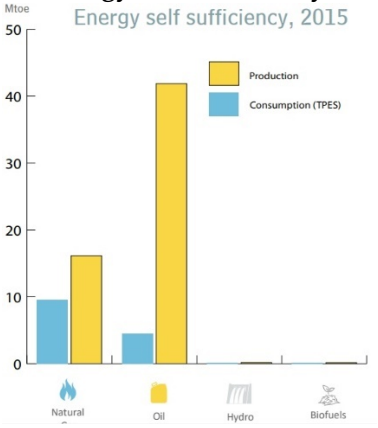


Figure 21. Energy self-sufficiency in 2015



Source: (International Energy Agency, 2015)

Azerbaijan has adopted a number of laws to regulate energy production, use etc. In 1996, the "Law of the Azerbaijani Republic on Utilization of Energy Resources" was adopted. The law determines social, economic, legal grounds of the government policy on energy resources, regulates related issues arising between the government, legal and physical persons. The law also identifies the measures to implement the energy savings policy. In 2003, "National Program on Environmentally Sustainable Socio-Economic Development for 2003-2010" was adopted. The program offers the mechanism for the use of the natural resources and commits the economic development to the principle of sustainability. The action plan to implement the national program entailed measures regarding introduction of energy effective technologies to reduce energy loss. The State Program for the Development of the Fuel and Energy Sector for 2005-2015 introduced aimed at meeting population`s need for energy i.e. electricity, natural gas, fuel etc. and states measures to achieve this goal such as installation of technologies to improve energy production, efficiency, increasing investments into the energy sector,

guaranteeing environmental safety (Hajiyev, Dimadama, Timotheou, & Gross, 2015).

In 2004, Azerbaijan adopted "The State Program on Use of Alternative and Renewable Energy Sources in the Republic of Azerbaijan", which became the key document to guide government policy on the renewable energy production and improvement of energy efficiency in the use of hydrocarbon resources. The program had the following major directions:"

- Identifying the potential of alternative and renewable energy (A&RE) sources in electricity generation;
- Increasing energy efficiency by exploring A&RE sources;
- Providing cutting edge vacancies through developing new energy generation areas;
- Ensuring energy security by diversification and improvement of the energy capacity of the country" (Huseynova, 2014).

"Azerbaijan 2020: Look into the Future" development concept set the goals of turning Azerbaijani economy into an energy-efficient, export-oriented economy with the stimulated competition. Among the priority directions determined by the development concept are the modernization of the oil-gas sector and the petro-chemical industry, diversification of the non-oil sector and development thereof, enhance of the opportunities for the use of the alternative and renewable energy sources. Regarding the renewable energy, the concept planned the implementation of the measures to stimulate the use of these energy sources, improve the institutional framework, enhance R&D potential, involve he private sector in this process, flexibly regulate the alternative energy tariffs (Azərbaycan Respublikasının Prezidenti, 2012).

The Strategic Roadmap on the Development of Public Utility Services adopted in 2016 has two strategic targets regarding electricity energy: 1) Production of fully diversified and environmentally friendly electricity energy 2) Putting in force mechanisms in order to achieve the application of world efficiency and quality standards. The first strategic target entailed three priorities. The first priority appertained to the increase of the electricity production capacity of the country. The roadmap states that demand for electricity is rising faster than the production capacity growth which brings forth this priority. The 2nd priority concerned the diversification of national electricity production portfolio. This priority was largely based on the increase of the renewable energy production, which currently has a low share in the electricity production generally, 94% of which is accounted for by natural gas. The target set by the Road map is to achieve production of 350 MVt wind energy, 50 MVt solar energy and 20 MVt bioenergy. As the 3rd priority, the resulting energy produced in excess would be exported. To achieve 2rd Strategic target, priorities too were defined. Firstly, electricity production facilities are to be modernized to avoid energy loss. Secondly, the loss of electricity energy in the distribution network should be minimized. The Road map notes that most of Azerbaijan's distribution network is 45 years old. In 2014 only, 13.6% of the produced energy had been lost when distributing. Thirdly, efficiency in energy consumption had to be improved mainly through change to tariffing to incentivize more economical attitude towards electricity energy consumption. Thirdly, to ensure more effective regulation of the electricity sector, the sector should be opened to the privatization, public-private partnership and investment (Azərbaycan Respublikasının Prezidenti, 2016).

Based on the Strategic Roadmap on the Public Utility Services, Azerbaijan is now preparing the long-term Energy Strategy in cooperation with the International Energy Charter. The prepared strategy is expected to prioritize "energy supply security, energy sector sustainability and economic effectiveness of the process" (EU Neighbors East, 2018). Additionally, a bill on energy efficiency has been prepared to guide the state policy on this field. The bill "describes the preparation process of the national action plan, obligatory energy audits and stimulation of measures for improving energy efficiency, creating responsible bodies of authorities and a system of intelligent energy calculation, improving consumer awareness and introducing energy labelling of goods" (EU Neighbors East, 2018).

The institutional oversight over the energy sector in the country is implemented by several institutions. The Ministry of Energy is the central government institution responsible for realizing the state energy policy. Its main responsibilities include "supervision, regulation and control of the efficient use of the fuel and energy complex, issuance of special permissions (licenses) in cases provided for by legislation, preparation of the annual fuel and energy balance, preparation and implementation of state programs on the development of the industry and energy sectors, coordination of the activities of state-owned enterprises operating in the relevant field, or entities that have a controlling part of the shares at state-ownership". Ministry of Economy is responsible for the development of mechanisms for efficient use of energy and budget. In 2013, the State Agency on Alternative and Renewable Energy Sources was established. The agency is the central executive authority implementing the government policy and regulation in the fielf of the alternative and renewable energy and its use, efficient organization of the activities on the

alternative and renewable energy sources and coordination of operations in this domain and the state oversight (State Agency on Renewable and Alternative Energy Sources, 2013).

As discussed above, energy sustainability can be ensured through work in two major directions: 1) Renewable energy development 2) Ensuring energy efficiency. Problems in both of these domains challenge energy sustainability in Azerbaijan and are to be overcome. Azerbaijan is rich in hydrocarbon resources and can meet its energy demand. This decreases the incentive for the development of the renewable energy sector, in which Azerbaijan has almost an untapped potential. As of 2018, following are the estimates of the potential of different renewable energy sources in the country.

Table 16. Potential of renewable energy sources of Azerbaijan

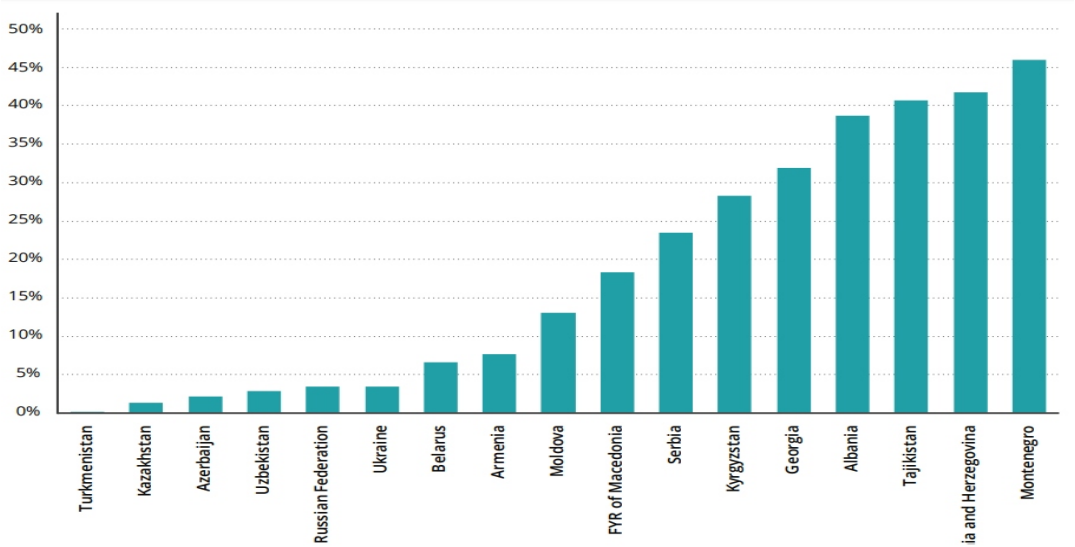
Type of RSE	Capacity, MWt/bln.kVts
Solar Energy	>115200
Wind Energy	>15000
Bioenergy	>900
Geothermal Energy	>200
Small Hydro	>650
TOTAL:	>130000

Source: (Yusifov, 2018)

Currently, however, Azerbaijan among the CIS countries is at bottom of the list in terms of the share of the renewable energy in total final energy consumption (below 3%) lagging significantly behind Armenia, Georgia and Tajikistan (over 30%). As of 2014, the total

contribution of the renewable energy production to the energy sector of the country amounted to 234 ktoe, a figure dwarfed by the estimate for the non-renewable energy production (14088 ktoe). As indicated by this figure and estimates of the potential of the renewable energy sources in the country, the share of the renewable energy should be enhanced. The government is the only financer of the renewable energy facilities in the country. To ease the financial burden of this task, the government might explore options to attract foreign invesment into this sector. As this area is a nascent for Azerbaijan, the foreign invesment besides funds can also bring the necessary know-how to construct these facilities such as wind mills, solar panels etc. To achieve this, the government might relax regulations to encourage entrance of the foreign investors in the sector such as tax incentives etc. Exploration of the renewable energy potential will allow Azerbaijan to achieve energy sustainability, minimize the impact of its energy sector on the environment.

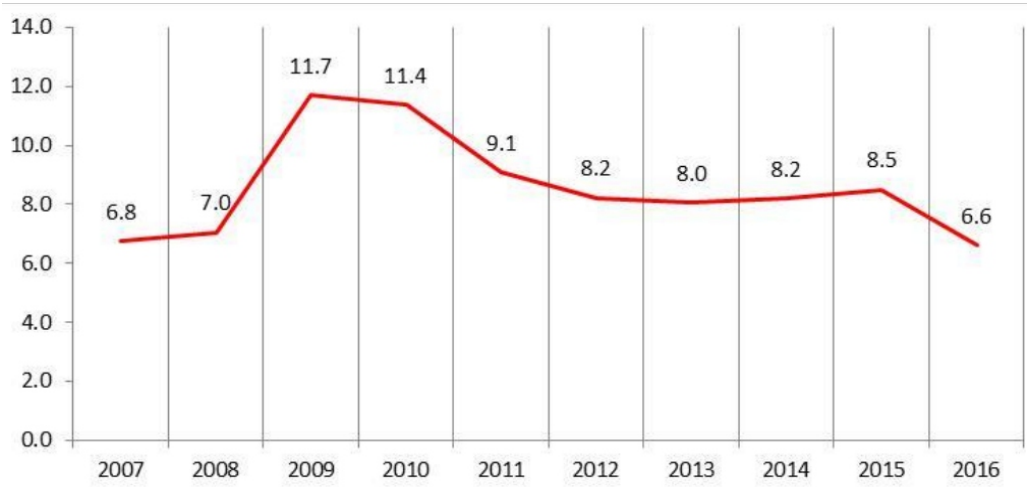
Figure 22. Share of renewable energy (% of Total Final Energy Consumption)



Source: (UNECE, 2017)

The second domain the government needs to work on to achieve energy sustainability is the energy efficiency. Energy efficiency is about reducing energy consumption while still attempting to have the same outcome through energy use. Azerbaijan has to address a number of issues to achieve energy efficiency given its old outmoded energy infrastructure largely inherited from the Soviet Union. The not up-to-date infrastructure has led to serious losses of energy during its transmission and distribution. As indicated by Figure 23, even though the loss of energy as a share of the total energy supply has decreased over years, it still remains high (Salimov, 2018). According to the State Statistics Committee of Azerbaijan, in 2010, in the energy transmission system and distribution system, respectively 3.8% and 16.6% energy loss was recorded, which by 2017 had dropped to 1.6% and 7.6% respectively. The Strategic Road Map set the target of reduction of level of losses to 7% and 8% in Baku and other regions of the country respectively. This is almost on a par with the level of energy losses in developed countries, which is 5-6% (EU Neighbors East, 2018).

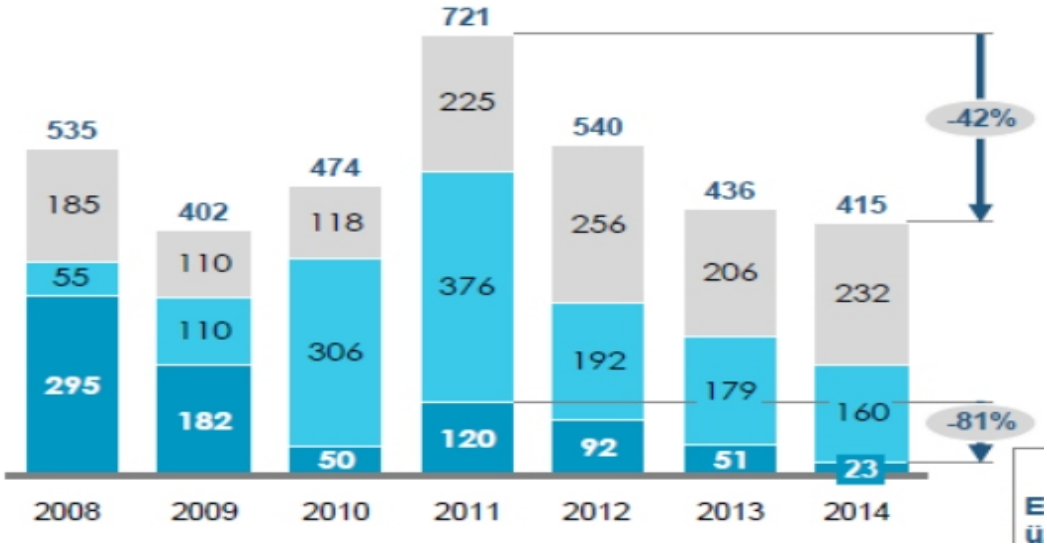
Figure 23. Energy losses (% of total energy supply)



Source: (Salimov, 2018)

Energy losses were recorded both in transmission and distribution of electricity and natural gas. The amount of the energy losses had decreased from 3830 million kw/h in 2010 to 3362 million kw/h in 2014 (Hajiyev, Dimadama, Timotheou, & Gross, 2015). During transportation of natural gas, leakages only in 2015 had caused a loss of 1.1 billion m^3. (Azərbaycan Respublikasının Prezidenti, 2016). Addressing this issue requires modernization of the energy infrastructure. The booming of the economic growth in 2000s enabled the country to allocate funds to upgrading of the energy infrastructure too; however, from 2011, there has been a downward trend in the financing of this field.

Figure 24. Capital allocations to the energy sector by the government



Source: (Azərbaycan Respublikasının Prezidenti, 2016)

The need for the upgrading of the energy infrastructure was evidenced by the blackout in July of 2018. The capital Baku was hit by the outage which paralyzed live in the entire city with millions of people left without an access to electricity (Jam news editorial, 2018). The blackout happening several times in one month had been caused by an incident in

one of the energy production facilities of the country. The case exposed the fragility of the energy security of the country, the need for the modernization of the infrastructure, diversfication of the transmission network.

Energy efficiency could be improved through the reduction of the energy consumption as well. Households in 2014 consumed about 40% of all used energy. A significant part of this energy was used to heating buildings. As most of the Soviet-time and modern residential buildings do not meet international construction standards, this causes overuse of energy, which can be prevented e.g. by insulation technique to save energy when heating. Problems in this area can be avoided by raising awareness about energy efficiency standards for buildings, adopting standards, oversee compliance with them, enhancing access to funds to realize these projects (Hajiyev, Dimadama, Timotheou, & Gross, 2015).

Transportation is another area where energy can be saved. Since the economic boom of 2000s, the number of cars has increased significantly. A lot of cars do not meet international fuel emission standards. Azerbaijan has been applying euro emission standards. Upgrading these standards further can ensure import of the cards meeting international standards. Additionally, the authorities might develop the public transportation and realize other measures to discourage people from using personal cars and direct them towards the public transportation (Hajiyev, Dimadama, Timotheou, & Gross, 2015).

In the industry too, application of energy efficient mechanisms can ensure significant energy saving. There is a need for raising awareness of energy efficiency in the corporate sector of Azerbaijan. Companies can conduct energy auditing. This would provide companies with the

information on energy use, ways to optimise energy consumption. Also, measures should be taken to ensure access to funds for companies aiming to realize energy efficiency projects (International Finance Corporation, 2018).

Chapter 4.

METHODOLOGY

4.1. Research design

In this study, the exploratory research design is utilized to provide an overview of the developments in economic, social and environmental domains in Azerbaijan throughout the entire period of the independence.

Eploratory research design is used to explore the phenomenon (Marketing Research, 2019). It is employed mostly when the issue of interest has not been studied previously or is at the preliminary stage of study. As such it seeks for developing insights into the issue under study and aims "to identify the boundaries of the environment in which the problems, opportunities or situations of interest are likely to reside, and to identify the salient factors or variables that might be found there and be of relevance to the research" (Wyk, 2019). This research design does not seek for providing a conclusive result but rather aims at developing the background against which the studied question lies.

For studies on energy and energy-related phenomena, qualitative methods are more pertinent as they enable the exploration and understanding of the complex phenomena (Biresselioglu, Yildirim, Demir, & Tokcaer, 2017). Qualitative research methods such as interviews provide "interactivity, flexibility, sufficiency and appropriateness" and allow the collection of more fluid, not numerial type of information, which would be difficult to obtain through quantitative methods (Biresselioglu, Yildirim, Demir, & Tokcaer, 2017). Energy research literature calls for integrating social aspects of energy production, consumption and policies, and utilizing more human-centered methods of data collection (Sovacool, 2014).

4.2. Data collection method

Firstly, secondary data was collected by reviewing a large number of sources to examine different dimensions of the issues under consideration. The sources analyzed include scholarly articles on concepts of sustainable development and energy, reports from international organizations, pieces of legislation, policy papers, government publications recording progress on development goals, data from government institutions such as State Statistical Committee and Ministry of Finance. Then, primary data was collected by conducting four in-depth interviews with policymakers and private sector representatives in Azerbaijan (see Table 17 for details). The structured interviews were sent to respondents via e-mails between March and April 2018 (See Appendix A for the interview protocol).

Table 17. Details of interviewees

Public Sector Interviewees		
Name	Position	Key insights gained
Toghrul Novruzlu	Senior Specialist at Fiscal Policy Division of the Budget Policy & Macroeconomic Analysis Department of the Ministry of Finance of the Republic of Azerbaijan.	Factors leading to the economic and financial crisis of 2015 and the subsequent fiscal policy of the government.
Faig Nuriyev	Senior Specialist at the Department of Economic Policy of the Ministry of Economy of the Republic of Azerbaijan.	Reasons for the economic crisis, the Strategic Roadmaps, overall effectiveness of the policy response by the government

Private Sector Interviewees		
Name	Position	Key insights gained
Aladdin Ismayilov	Deal Advisory Executive at the Baku Office of KPMG, a BIG Four member global professional services company.	Role of the private sector in economic diversification, challenges it faces including the access to finance and unfavorable business environment.
Orkhan Ahmadli	CleanTech Associate for Schneider Electric EMEA.	Energy efficiency and renewable energy needs of Azerbaijan, policy tools to encourage private investment in green energy.

4.3. Data analysis method

As mentioned before, the Four Capital Model theory postulates that human, financial, natural and manufactured capitals should be balances so that the use of one would not compromise another (Ekin & Medhurst, 2006). To show how government policies may influence the balance of stocks of the four aforementioned types of capital, a sustainability assessment framework (SAF) was developed by Ekins and Medhurst (2006) based on impact assessment methodology. To assess the impact of policies; first indicators for four capital stocks are determined, and than the impacts of policies on these capital indicators are identified as positive (+), negative (-), neutral (*) and unknown (n/a) in the matrix. The number of (+) and (-) shows the strength of the positive and negative effects, respectively. The impact on capital types is aggregated in summaries, which is made to both aggregate the impact of all policies on separate types of capital and of policies on all types of capital jointly. While the

SAF is based on a qualitative approach, it has a quantitative dimension as well since the total impact of the policy or a certain measure of the policy on the stocks of capital is aggregated. Aggregation, however, is not conducted using quantitative estimates; instead, it is done mainly as a summary of the total effect of the policy. The aggregation helps to assess the contribution of the policy to the sustainability.

To adjust the SAF for the purposes of this study, first clusters of indicators were framed against which the change in stocks of capital are assessed. Indicators were derived from the sustainable development indicators suggested by the OECD (Ekins & Medhurst, 2003). For the economic capital, the indicators are GDP growth rate, growth in GDP per capita, current balance to GDP growth ratio, and changes in the net capital stock value. For the social capital, unemployment rate, life expectancy rate, and changes in income distribution are considered. The environmental capital is assessed with the change in air quality, land, biodiversity, and water resources. The human capital is evaluated with indicators such as investment in education, and changes in the enrollment rates. Then, since the dissertation aims at providing a holistic assessment of the sustainability of Azerbaijan's development since independence, policies were grouped as economic, social and environmental. While many policies have an overarching scope, main sustainability focus was taken into account. Finally, sustainability impacts of policies implemented since independence of Azerbaijan were assessed separately in terms of each stock of the Four Capital Model.

Regarding primary data, tape-recorded interviews were first transcripted. Then, by conducting qualitative content analysis, the texts of interviews were divided into meaning units, that is, smaller parts with

significant information (Erlingsson, 2017). Following this, the meaning units were condensed, and as such, texts were shortened. After this, main topics per a meaning unit were identified and based on that, information was categorized and subsequently, relevant inferences were drawn.

Chapter 5. Findings

5.1. Sustainability Assessment of State Policies by Four Capital Model

5.1.1 Sustainability Assessment of Economic Policies

The first years of independence in Azerbaijan were marred with the economic and political chaos. Towards the mid-90s, the economy started stabilizing. One of the drivers for this was the Production Sharing Agreements (PSAs) to exploit the oil reserves of the country. The PSAs brought the much-needed revenues to the economy, strengthening the fiscal position of the government. The economy started recovering and growing, thus expanding the economic capital. The revenues were invested on the social sector, mainly education and health, consequently positively impacting the social capital as well. There was no direct tangible impact on the natural capital. Thus, if aggregated overall, the PSAs positively influenced the achievement of sustainability. In 1996, Azerbaijan took loans from the IMF, conditional on implementation of Structural Reforms (SRs). The reforms allowed restroing macroeconomic stability with the hyperinflation going down. This significantly improved the economic situation in the country. In addition, the decrease in hyperinflation brought down the depreciation of people's income, positively influencing the social capital as well. On the human capital and environmental capital, there was little to no tangible impact.

Following the outbreak of the economic and financial crises, the Strategic Roadmaps (SRMs) were adopted which are still being implemented. The SRM on the national economy identified the fiscal sustainability, macroeconomic stability as targets. These, in turn, positively influenced the economic capital. Other sector-specific SRMs,

such as the roadmap on the tourism, agriculture, SMEs, and heavy industry, aimed to contribute to the economic growth and to the reduction of unemployment, which have a positive effect on the social capital as well. Through the reduction in the rate of emigration, such policies positively affected the human capital. While on the natural capital, there was little to no effect from the implementation of many of these roadmaps, such as, oil and gas sector and the heavy industry may exert pressure on the environment by, such as, adding up to problems regarding pollution and waste disposal, consequently eroding the natural capital. Overall, the economic policies contributed to the sustainable development; however, the balancing with the natural capital requires more attention. Table 18 presents the details of the sustainability assessment of economic policies of Azerbaijan since independence.

Table 18. Sustainability Assessment Matrix for Economic Policies

Economic Policies	**Sustainability Impacts**				
	Economic capital	***Social capital***	***Human capital***	***Natural capital***	***Summary***
PSAs	**+++**	**++**	**+**	*	**++**
SRs	**+++**	**+**	*	*	**++**
SPPRED	**+++**	**+++**	**+**	*	**++**
SPPRSD	**+++**	**+++**	**+**	*	**++**
SRMs	**+++**	**++**	*	*	**-**
Summary	**+++**	**++**	**+**	*	**++**

5.1.2 Sustainability Assessment of Social policies

The collapse of the centralized Soviet economy and the outbreak of the Nagorno-Karabakh confronted Azerbaijan with a number of social challenges including unemployment, high poverty rates and poor healthcare system. To address the situation of the displaced, in 1998, the State Program on the Solution to Problems of the Refugees and Internally Displaced Persons (SPSPRI) was adopted. The program aimed at improving living conditions of the refugees addressing problems, such as unemployment, housing and infrastructure, which contributed to the social capital and human capital.

Following the arrival of the windfall of oil revenues, Azerbaijan implemented its first poverty reduction strategy – State Program on Poverty Reduction and Economic Development (SPPRED). The policy had a broad focus encompassing social sector and overall economy. In the years of the implementation of the program, the poverty rates started falling precipitously. The state strategies addressing social issues, such as unemployment, health, education and problems of the displaced, significantly strengthened the social capital of the country. In addition, the increased invesment on education by the government contributed to the human capital. It also targeted the macroeconomic stability thus contributing to the economic capital. However, the natural capital remained disaffected.

Following the completion of the SPPRED, the State Program on the Poverty Reduction and Sustainable Development (SPPRSD) was adopted and implemented. SPPRSD covered 2006 and 2015, the period of high revenues. This strategy as well targeted high investment in the social sector to address issues, such as poverty reduction, social protection, and

condition of the displaced. This program went further touching the gender equality. Thus, the social capital was strengthened further as was the economic capital by the macroeconomic stability. The SPPRSD also stated the importance of the compliance with the environmental sustainability of the state program, although it was not translated into concrete measures.

Following the crisis of 2015, the socio-economic situation of the population deteriorated. The Strategic Roadmaps (SRMs) on the housing, vocational education and utilities covered the social domain, aiming at improving the access to housing, quality of vocational education and access to the utilities respectively. Thus, the implementation of these SRMs benefited the social and human capital. Table 19 provides a summary of the sustainability assessment of social policies of Azerbaijan since independence.

Table 19. Sustainability Assessment Matrix for Social Policies

Social Policies	**Sustainability Impacts**				
	Economic capital	***Social capital***	***Human capital***	***Natural capital***	***Summary***
SPSPRI	*	+++	++	*	++
SPPRED	+	+++	+	*	++
SPPRSD	++	+++	+	+	++
SRMs	+	+++	*	*	++
Summary	++	+++	+	*	++

5.1.3 Sustainability Assessment of Environmental policies

Following independence, Azerbaijan prohibited a wide range of environmental challenges from the Soviet Union due to its industrial past. There were problems in some of the areas, such as, air pollution, waste disposal and treatment, water quality, and deforestation. The first major policy tool to address these issues was the National Environmental Action Plan (NEAP), which was adopted in 1998 and then revised in 2003. The action plan covered a broad spectrum of issues including air quality, deforestation, Caspian, and soil contamination. However, most of the 32 objectives stated in the Action Plan were not accomplished. The progress was mainly achieved in the development of environmental institutional regulation, which in turn benefitted the natural capital in the country. Through the positive impact on the natural capital with the improvement in areas, such as soil contamination, air pollution, the social capital in the country also advantaged as the living standards improved. The Comprehensive Action Plan on Improvement of the Environmental Situation (CAPIES) aimed at tackling the industrial pollution in the country and entailed measures of cleaning several industrially polluted lakes in the Absheron Peninsula. This action plan, as the NEAP, firstly benefitted the natural capital, which is followed by social and human stocks. The State Program on Use of Alternative and Renewable Energy Sources (SPUARES) aimed at promoting green energy, and thus, enhancing the natural capital. As of the SRMs, while no roadmap explicitly targeted the strengthening of the natural capital of the country, utilities strategies entailed measures to increase energy efficiency and transition to alternative energy sources resulting in a positive impact on the natural capital. Similarly, the economic capital as the improvement of the energy efficiency may reduce

energy losses and benefit the economy. Table 20 shows the sustainability assessment of social policies of Azerbaijan since independence.

Table 20. Sustainability Assessment Matrix for Environmental Policies

Environmental Policies	**Sustainability Impacts**				
	Economic capital	*Social capital*	*Human capital*	*Natural capital*	*Summary*
NEAP	+	+	++	++	++
CAPIES	+	+	++	++	++
SPUARES	+	*	+	++	+
SRMs	+	*	+	++	+
Summary	+	*	++	++	++

5.2. Sustainability Achievements and Shortcomings of Azerbaijan

5.2.1 Economic Sustainability Considerations

While Azerbaijan's path since independence has been uneven with ups and downs, progresses have been certainly being achieved in different areas - from the economy to the environmental domain. In the economic sector, the transition to the market economy was completed though with a mixed progress record. Some of the formerly state-owned enterprises were privatized, and with the collapse of the collective farms, land reforms were carried out, which resulted in the distribution of land among peasants. Also, with fiscal and monetary reforms, a stable macroeconomic ground for the functioning of the economy was established by the mid 90s. This was one of the main pre-conditions for establishing a necessary foundation

upon which the market economy could be built on. The halt of the hyperinflation, stability in the exchange rate are among the achievements of these structural reforms.

Despite these achievements, overall economy due to a large range of challenges performs far below its potential. For instance, one of the most critical issues to be addressed is the reliance on the oil revenues. Its consequences were displayed best by the economic crisis in 2015. As explained by Mr. Nuriyev, an official of the Ministry of Economy of Azerbaijan, the slump in the oil prices by 4 times in 2014 and 2015 affected the balance of payments of Azerbaijan through the 90-92% share of the revenues from export of oil and oil products in the trade balance, which is one of the constituents of the current account. Thus, the decreased revenues put pressure on the balance of payments, eventually pushing down the exchange rate of the Azerbaijani currency, which was a trigger of the economic and financial crisis. Mr. Nuriyev also stated that while some macroeconomic stability has been restored since 2015, it might be early to argue that the crisis has finished, as the factors that triggered it remain largely unaddressed, especially given that the share of the revenues from oil and oil products in the trade balance still is around 90%. A composite of measures is to be taken to ensure diversification of the economy away from the dependence on the oil sector for the revenues by stimulating entrepreneurship, overall increasing the share of the non-oil revenues in the budget. Achieving this goal is on progress in certain areas. Besides the further relaxation of regulations, there is a need to improve transparency, reduce corruption, ensure the rule of law, and protect property rights. The reforms in this area are critical to stimulate both domestic and foreign investment in the economy. Unless these economic problems are

addressed, investors and entrepreneurs still be sceptical about investing or starting a business due to the risks with the violation of property rights and improper adjudication of the arising cases. The banking sector remains vulnerable as well. Mr. Nuriyev mentioneed that though several years passed since the outbreak of the crisis in 2015, the issues that triggered the financial crisis remain unaddressed largely. The banking sector is still the heavyweight of the financial sector, as the capital markets remain underdeveloped. Other problems regarding the non-performing loans, the restructuring of the banks still have to be resolved. A senior financial analyst of KPMG Azerbaijan, Mr. Ismayilov also stated that the financial sector in the country is underdeveloped. The capital markets are absent. The investors can inject liquidity but they are discouraged from investing by the problems in the judicial system, inadequate protection extended to the investments. Additionally, the perception of the currency exchange risks and the overall unstable macroeconomic environment discourages investment. While the range of the fluctuations in the exchange rate has declined, the macroeconomic stability remains threatened. The threat is about to valid until the revenue sources for the country are diversified and oil revenues have smaller share in the balance of payments. The large volume of the state debt and overall ineffective fiscal management with the inefficient budgeting and auditing of the allocations are other serious problems.

While different problems challenge the achievement of sustainable development, there are as well. For instance, Azerbaijan has large hydrocarbon resources. While these resources in the past have led to the reliance of the economy on the revenues from them, they can be mobilized for the goal of diversification of the economy. The diversification while

relying on the encouragement of entrepreneurship can be further stimulated with the state investment in certain industries, such as manufacturing and infrastructure. There are other opportunities for the country to diversify the economy away from dependence on the oil and gas revenues. For example, tourism sector is a promising area. Azerbaijan already saw a surge in the number of tourists from 2015 following the devaluation of the national currency and the relaxation of the visa requirements. Further relaxiation of regulations and encouragement of investments into the area may allow greater utilization of the tourism potential of the country.

Another prospective area is utilizing the strategic location of the country for the regional transit projects. Azerbaijan is located at the crossroads of large regions, which increases its strategic importance. The country already aspired to join large regional initiatives such as China's "Belt and Road". Additionally, there is a chance to use the country's territory to channel hydrocarbon resources from Central Asia to Europe, use the railroad to link the Indian Ocean with Russia and Europe through transit corridors.

5.2.2 Social Sustainability Considerations

After the economic domain, among all dimensions of the sustainable development, the social domain was the area where Azerbaijan recorded most achievements. This is evidenced by the accomplishment of the MDGs and significant progress in achieving the social-domain focused SDGs. Of the MDGs, the eradication of extreme poverty and hunger was accomplished. In the early 2000s, the country recorded one of the fast

declines in the poverty rate in the world thanks to the influx of the oil revenues, resulting boost of the national spending and growth in wages (UNDP, 2012). In 2016, according to the state-disclosed statistics, the share of the population living below the national poverty line was 5.9% (Asian Development Bank, 2018). In addition, the second goal, which is providing a universal access to primary education, was achieved. When Azerbaijan was already part of the USSR, it had been able to achieve universal access of the population to both primary and secondary education (UNDP, 2012). As of the promotion of gender equality and empowerment of women, Azerbaijan had some achievements, such as women having a high education level with over 99% literacy. Regarding the fourth goal of reduction of infant mortality rate, Azerbaijan recorded a significant progress with the infant mortality rate dropping from 53.6% in 2002 to 23.4% in 2015 (FRED, 2019). A decline was recorded in the maternal mortality rate, which went down to 68 deaths per 100 thousand people in 2000 to 48 deaths in 2015 (World Health Organization, 2016). Also, an improvement was achieved in the access to child delivery centers and prenatenal care with 89% of the births happening under the supervision of the medical professionals and 79% being in the health facilities (UNDP, 2012). In accordance with the sixth goal of fighting HIV, AIDS, malaria and other diseases, the country achieved a progress in containing the growth of the HIV epidemic (UNDP, 2012). Another area of significant progress was the integration of the refugee population. By 2018, the country invested $6 billion to improve the living conditions of the refugee and IDP population of close to a million people, committing about 3% of its GDP to this goal in some years, the highest rate in the world (World Bank, 2011). As a result,

refugee camps were all abolished and progress was made in improving housing conditions of this segment of the population.

However, the country is also confronted with a wide range of problems to be resolved to improve people's living standards and bring the country closer to the target of achieving a sustainable development. The state of the healthcare system in the country demands urgent reforms. Even though the state guarantees universal free healthcare to all citizens, the reality is of a grim picture where the healthcare services offered are of a poor quality and out of pocket payments are rampant. As of the infant and maternal mortality, while the rates have dropped in the last years, the rates remain high. The infant mortality rate for 2017 was 20.5 deaths per 1000 live births, a rate highest among the European countries (World Bank, 2019). The maternal mortality rate per 100000 live births was 25 in 2015, a rate similar to the ones across Eastern Europe, but still significantly higher than in Western Europe (World Bank, 2019). Gender equality is also one of the areas demanding action. Azerbaijan ranked 71st in the Gender Inequality Index in 2017 lagging behind developed and many developing nations (UNDP, 2019). Problems with the violence, unequal representation are serious. Women are underrepresented in the decision-making positions. The existing laws do not provide sufficient protection to women against violence (Kaufman, Mells, Mukherjee, & Michel-Casulleras, 2017). The country also faces a political risk from the unresolved state of the Nagorno-Karabakh conflict. The conflict is latent, vulnerable to enflaming with the escalation of tension necessitating its resolution.

An opportunity for Azerbaijan lies in its demographics. The young population makes up the largest demographic group in the country.

Integrating them into workforce, turning them into qualified professionals can contribute a lot to diversification of the economy by supplying the industry, businesses with the workforce. While Azerbaijan has a young population, which can be an asset, failing to integrate them into the job market can have serious implications. Following the economic crisis of 2015, the unemployment soared in the country. That has raised the question of providing the young people with work. Failing to do it results in them leaving the country and causing a brain drain. While Azerbaijan has a scarcity of highly qualified workforce, losing the already available highly skilled professionals to the foreign markets through the brain drain has serious repercussions to the economy and country overall.

5.2.3 Environmental Sustainability Considerations

In the environmental domain, progresses were achieved in the biodiversity protection: the size of the protected areas grew two fold from 5% to 10.2% of the country's surface from 2000 to 2011 (UNDP, 2012). About 71.5% of the population has access to safely managed drinking water (Asian Development Bank, 2018).

On the other hand, Azerbaijan has to tackle a variety of challenges in areas, such as energy efficiency, renewable energy production, pollution, and deforestation. While large hydrocarbon resources ensures the country's energy security, energy efficiency remains poor. This leads to a large energy loss during the transportation and distribution of energy. This is dsue to the outdated infrastructure and mismanagement. The share of the renewable energy production in the overall electricity production remains far below than the share that can be achieved given the country's

renewable energy production potential. The CleanTech Associate at Schneider Electric EMEA, Mr. Ahmadli states that Azerbaijan has an opaque set of regulations that discourage investors who want to invest in green initiatives including in renewable energy production. Additionally, according to Mr. Ahmadli, mechanisms to provide investors with the financial incentives, such as long-term payments, are also absent in Azerbaijan, which further affect the sustainable energy production. In addition, the pollution of the Caspian Sea and onshore areas due to the energy production remain as issues to be addressed. Moreover, the waste management with little recycling is another issue causing concerns.

While for Azerbaijan, the availability of the oil and gas reserves can be a blessing, one should not forget that all these resources are exhaustible. Azerbaijan also eventually will face the depletion of all these reserves. Additionally, given the current trends regarding a transition to renewable energy and other modes of green energy production and exploitation, Azerbaijan faces the threat of decline in the demand for fossil fuels (Biresselioglu, Yildirim, Demir, & Tokcaer, 2017). All these make it more imperative for the country to speed up efforts to diversify the economy away from dependence on the oil sector. Otherwise, the depletion of these resources prior to the diversification can have very serious repercussions for the economy endangering achievement of the sustainable development.

In the environmental domain, the climate change threatens the whole world including Azerbaijan. Given the areas of risks, such as the scarce water resources and dry lands, adapting to the climate is very important for Azerbaijan.

Overall, Azerbaijan has to work on two areas to achieve energy sustainability: renewable energy exploitation and energy efficiency improvement. Azerbaijan has largely untapped potential in renewable energy production, specifically in solar and wind energy. The installations to make use of these renewable energy reserves of the country so far capture only a small part of the energy potential. A greater potential lies in the energy efficiency improvement. The current energy distribution grid causes a lot of energy loss. The massive country-wide blackouts in summer of 2018 revealed best the problems in this area, exposing how fragile the energy security of the country might be. Addressing these issues by strengthening energy security of the country and improving energy efficiency may bolster energy sustainability in the country.

Chapter 6. Conclusion

The research aimed at exploring sustainable development achievements and shortcomings of Azerbaijan since independence by examining sustainability impacts of policies based on the Four Capital Model. With this aim, primary and secondary data were collected. The former was obtained through interviews, while the secondary data was collected through the review of a large number of sources including scholarly articles, reports from international organizations, pieces of legislation, policy papers, and government publications recording progress on development goals. As part of the primary data collection, 4 interviews were conducted, which was among research limitations as there was a difficulty finding access to public policymakers at the top circles of the Azerbaijani bureaucracy. In future studies, beside public administration officials, the civil society representatives, such as non-governmental organizations' members, can be interviewed to gain more insight into the achievements and challenges of Azerbaijan's sustainable development process.

The study endeavored to fill in the literature gap on the sustainable development in Azerbaijan. Studies conducted so far had been mostly focused on the overview of Azerbaijan's economic and social development. This dissertation complemented this cluster of studies such as papers by Aras, Suleymanov, and Zeynalov (2012) and Petri, Taube, and Tsyvinski

(2002). The thesis validated concerns raised by Aras, Suleymanov, and Zeynalov (2012) on the small share of the non-oil sector of the Azerbaijani economy and the need for diversification. It also found that issues mentioned by Petri, Taube, and Tsyvinski (2002) such as overdependence on oil revenues still have to be addressed. Additionally, other concerns such as energy losses were too found to be still valid for Azerbaijan.

The sustainability impact analysis of policies illustrates that economic capital benefitted most. After independence, the economy once centrally planned by the government was in total ruins. Structural reforms and other policies created a solid macroeconomic framework, established pillars for the emergence of a market economy through privatization and price liberalization. Attracting foreign investment mainly in the oil sector helped the country obtain the much-needed financial resources. All these, which were translated into the growth of the economic capital, were central to achievement of sustainable development of economy though not sufficient as problems in areas such as financial regulation, unemployment, and corruption remained not well addressed. Therefore, the economic pillar of sustainable development entails building of a diversified, transparent economy with strong regulatory institutions and solid macroeconomic ground.

After economic capital, social capital benefitted most from the state policies. The collapse of the Soviet Union brought an end to the social protection policies of that era. Unemployment soured and the funding to the social protection of the populace declined significantly in the first years of independence. However, with the arrival of the petroleum revenues, more resources were allocated to the social defense as well increasing social capital. Unemployment declined from rates in the 90s.

Public investment was boosted through infrastruxture projects including construction of roads, hospitals, schools etc. Also, pensions and other social benefits rose too. On an individual basis, all these benefitted the human capital as well as living standards improved. This was positively reflected on sustainable development of the country as the social dimension is one of three dimensions of sustainable development. However, as problems with the poor quality of public education and healthcare system, social protection system and other problems linger, much has to be made before the country can achieve sustainable development. Therefore, the social pillar appertains to building an effective healthcare and education and social protection systems.

The environmental capital benefitted least of all from the state policies following independence achievement. The spillover effect of economic and social policies on the environmental capital was mostly minimal. Implemented policies mainly targeted establishment of an environmental regulation system. In areas such as air pollution, pollution of the Caspian Sea, deforestation, salinization, transition to the renewable energy, improvement of energy efficiency, small progress left much to be desired regarding achievement of environmental sustainability. Therefore, the environmental pillar concerns achievement of energy sustainability through renewable energy, energy efficiency improvement, addressing of perennial issues, such as, industrial pollution and Caspian Sea contamination.

As an oil-rich nation, Azerbaijan's sustainable development has also come under the challenge of the so-called "resource curse". The resource curse also called "the paradox of plenty" is the concept of how nations rich in different resources fail to translate their wealth into economic

development and of the compilation of economic, social, political repercussions thereof. The National Resource Governance Institute identifies effects of the resource curse on democracy, institutional development, political stability, weakening of the manufacturing base (National Resource Governance Institute, 2015). It can be seen that Azerbaijan has experienced most of the effects of the resource curse. With the windfall of oil revenues, the share of taxes in the state revenues decreased, which gave government access to large financial reserves empowering it and simultaneously decreased its accountability before the population. This slowed down the development of strong, accountable state institutions. State expenditure rose dramatically, increasing also questions over transparency, how appropriately the funds were used. Azerbaijan also experienced what is called Dutch Disease. The Dutch Disease is a term referring to the phenomenon of the shift of factors of production away from the manufacturing sector to the booming sector of the resource exploitation and the service sector. Hasanov (2013) argues that in Azerbaijan, there was the shift of factors of production to the service sector, negatively affecting the manufacturing sector. In addition, Biresselioglu, Demir, Gonca, Kolcu, & Yetim (2019) formulated the Resource Curse Vulnerability Index to assess how vulnerable different resource-rich economies are to the resource curse. The index was developed taking into account factors, such as the rule of law, political stability, accountability, and GDP growth. The study found out that Azerbaijan is among the resource-rich economies scoring high in this index (0.46), and there is a need to address negative effects of the resource exploitation on the social, economic, political sectors.

Given the review of the economic, social and environmental dimensions of Azerbaijan's development path and the sustainability assessment of implemented policies since independence, below are policy recommendations to achieve sustainable development.

1) *Diversifying the economy away from dependence on oil revenues*
   - Relax regulations to encourage entrepreneurship
   - Utilize tourism potential
   - Increase the usage of hydrocarbon resources
2) *Stimulating domestic and foreign investment*
   - Improve transparency
   - Carrying out judicial reforms to ensure the rule of law
   - Protect property rights
   - Strengthening macroprudential regulation of the banking sector to alleviate risks emanating from it
3) *Improving healthcare system*
   - Advance service quality in the medical facilities
   - Reduce maternal and infant mortality rates
4) *Improving the efficiency of social protection system*
   - Increase pensions, minimum wage, unemployment benefits and other social payments
   - Protect women from violence
5) *Pursuing energy sustainability*
   - Increase energy efficiency by modernizing infrastructure to decrease energy losses
   - Privatize electricity sector
   - Encourage renewable energy production

- Support recycling in waste management

6) Resolving the Nagorno-Karabakh conflict

- Achieve the return of the IDP population to their homes
- Reintegrate the occupied lands into Azerbaijan's economy

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APPENDIX A

Questions of the interview with Faiq Nuriyev

1) What were main reasons for the outbreak of the economic crisis in 2015?
2) Can we say that the crisis has ended?
3) How appropriate are the Strategic Roadmaps to address consequences of the crisis and achieve economic growth in the future?
4) Have the reforms that have been realized by now made the Azerbaijani economy more resilient?
5) What are currently the biggest challenges before the Azerbaijani economy?
6) What measures have to be taken to further improve resilience of the economy?

Questions of the interview with Orkhan Ahmadli

1) What is a better way of achieving sustainable energy? Improving energy efficiency or renewable energy?
2) What measures are needed to achieve energy efficiency? (both by the government and the corporate sector)
3) How cost effective is the production of renewable energy currently and what are the future trends in this area?
4) What should be the priority areas to address for Azerbaijan in order to achieve sustainable energy?

Questions of the interview with Aladdin Ismayilov

1) How can the situation around access to funs of business be characterized?
2) How can problems in this be adressed?
3) What measures are necessary to stimulate enterpreneurship, private investment and improve the business environment?

Questıons of the interview with Toghrul Novruzlu

1) What were the transmission channels of the economic crisis?
2) What vulnerabilities of the Azerbaijani economy facilitated the unfolding of the crisis?
3) How was the initial fiscal and monetary response of the government to the crisis?
4) What contours of the fiscal policy were drawn in the Strategic Roadmaps?