

THE ROLE OF SOCIO-DEMOGRAPHIC, ECONOMIC AND ENVIRONMENTAL FACTORS IN PERPETUATING THE CONFLICTS IN YEMEN

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Abstract: Lying in a strategic region from the economic point of view, on the Bab al-Mandab Straits, the Republic of Yemen is known for its ancient civilization, but also for the political instability affecting the country for several decades. This situation has largely been influenced by the population's structure and evolution, as well as by the low economic level and the restrictiveness of the natural environment. The population, which is very heterogeneous from the socio-cultural standpoint, experienced a rapid growth in the past half century, putting an increasing pressure on the natural resources (water, soil, biodiversity), which have started to dwindle and get worse in terms of quality. In all this time, the low level of economic development has failed to bring about visible improvements in the quality of life, which remained precarious for most of the people. The inefficiency of governmental policies in solving these problems has been an almost permanent reason for discontent among the population.

Key words: conflicts, demographic evolution, environmental restrictiveness

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INTRODUCTION

The Republic of Yemen is situated in the southwest corner of the Arabian Peninsula, between Oman and Saudi Arabia, stretching along the coast of the Red Sea, the Gulf of Aden and the Arabian Sea. More important, however, is its position to the Bab al-Mandab Straits, one of the most significant in the world from the economic point of view, which explains why many regional and global geopolitic stakeholders are interested in its safety. The richer water resources of the mountains lying to the west of the country, in comparison with the excessive aridity of the Arabian Peninsula, has made this region a privileged land, which used to be called Arabia Felix (i.e. Happy Arabia). Inhabited since ancient times, the territory that currently makes up the Republic of Yemen reached a high level

of civilization in Antiquity, with the creation of indigenous kingdoms like Sheba, Qataban or Ma'in. A major role in this development was played by the flourishing trade with spices, especially myrrh and incense (Romano, 2004). Essential for the historical evolution of Yemen was the spread of Islam, in 630, and the creation at the end of the 9th century, by the Zaydi Islamic sect, of an imamate in the north of the country, which lasted for 1000 years (Ram, 2015).

The Ottomans' occupation and influence of the 16th and 19th centuries, as well as the British ones, starting with 1839 (after the conquest of the port of Aden), were the premises that led to Yemen's separation. In 1918, with the dissolution of the Ottoman Empire, Zaydis took over the power in the region that would become later the North Yemen (The Yemen Arab Republic), while the former territories under British protection and the Aden Colony, after the withdrawal of the British troops in 1967, formed the People's Republic of Yemen. As soon as the two states were in place, the region began to experience a pronounced instability. In 1962, after the death of Imam Ahmad bin Yahya, a civil war broke out in the north between royalists and republicans, in which were also involved Saudi Arabia and Egypt. On the other hand, in the south, in 1969, the political power was taken over by Marxists, who made the country move towards the communist bloc (Burrowes, 2010). The political strifes, either internal or between the two Yemenite states, continued over the period 1970-1980, culminating in wars that ruined the country. After unification (May 22, 1990), because of the South Yemenites protests against political and economic marginalization, a new civil war broke up, in 1994. The years 2000 were also marked by numerous protests, clashes and violent conflicts, but also by terrorist attacks staged by Al-Qaeda.

Since September 2014, when the Zaydi Houthi rebels took control over the capital Sana'a, the political situation of Yemen has deteriorated again. Besides, analyzing the historical evolution of Yemen over the past century, we see that political instability has prevailed for most of the time. The present situation is only a stage of the Houthi rebellion, which started in 2004 under the leadership of Hussein Badr al-Din al-Houthi, from whom they derived their name, with the purpose of getting more autonomy for their territory in the Sa'dah province, and also for protecting their religion and their cultural traditions against the Sunni Islamists. After al-Houthi was killed by the Yemenite army at the end of 2004, his family took over control and led five more rebellions before a truce was signed with the government in 2010. In January 2015, the Houthi rebels took over power and president Hadi, recognized by the international community as the legitimate leader of Yemen, had to take refuge in Aden. Consequently, a coalition consisting of five states of the Persian Gulf plus Jordan, Egypt, Morocco and Sudan, led by Saudi Arabia, launched air strikes against the Houthi targets at the end of March 2015 (BBC News, March 26, 2015).

At present, according to Abaad Studies & Research Centre, Yemen is a territory where four large groups are in combat, as follows: Houthi, which is superior in terms of military equipment and which controls much of the country, with the logistic and military support from Iran and Lebanese Hezbollah; AQAP (Al-Qaeda in the Arabian Peninsula); HIRAK (Al-Hirak al-Janoubi), which advocates the independence of South Yemen; and the Sunni tribal communities in the south of the country, which do not approve of the Houthi actions. The situation became more complicated at the end of 2014, with the emerging of a branch affiliated to the Islamic State Jihadist Group, which ever since has been

trying to overshadow AQAP. Moreover, since March 2015 this organization has claimed a number of suicide attacks that occurred in Sana'a, in which have lost their lives 137 people, while 350 were injured (BBC News, June 16, 2015).

METHODOLOGY

In highlighting the role of socio-demographic, economic and environmental factors that have perpetuated the conflicts in Yemen, we have relied on the analysis of various information coming from Yemenite and international sources (Yemen Central Statistical Organisation, Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat, BP Statistical Review of World Energy, US Energy Information Administration and Abaad Studies & Research Centre). At the same time, we have studied thoroughly the specialty literature in this respect. We have also analyzed a number of indicators (population growth, dynamics and structure, economic growth, the level of poverty, economic structure, climate variability, water resources, land use), the correlation of which highlights the fundamental elements underlying population discontent.

RESULTS AND DISCUSSION

Socio-demographic evolution and structure. Yemen has more than 25 million inhabitants, while the population growth rate is 2.8%. During the past six decades, the population has grown rapidly (in 1950 there were only 4.3 million people – Figure 1), which has resulted in a higher pressure on the country's resources, scarce as they are. This very rapid dynamics can be explained by the fact that birth rate has remained at high levels, of more than 30‰, death rate has dropped (8.1‰ at present in comparison with more than 40‰ over the period 1950-1955), while life expectancy at birth has doubled, reaching 63 years (Table 1). The most populated governorates are Ta'izz, Al-Hudaydah and Ibb, each of them with more than two million people. In the western part of the country are also recorded the highest population densities, reaching in some areas more than 500 inhabitants per square kilometer, while the average value is 55. Young population prevails, as 39% of the people are less than 15 years old, while only 3% exceed 65 years. Fertility is still very high, more than 4 children per women (DESA, 2015, Central Statistical Organization of Yemen, 2015). Most Yemenites live in the countryside, because the degree of urbanization is 34%.

Even though the population is mostly formed by Arabs (there are also small groups of Africans, especially Somalis and south Asians), which speak different dialects of the Arab language, the social structure is predominantly tribal. The tribe is the Yemen's central socio-political, territorial and identity unit. The number of tribes is estimated to be ranging between 74 and 100. The tribe members are loyal to their leaders (shaykh), who also enjoy religious legitimacy. Despite the mountain area, where the two tribal confederations, *Hashid* and *Bakil (Baqeel)*, have never been completely subdued, the people living in the plain have been more exposed to external invasions and influences. Likewise, the tribes in the east of Yemen, which is less populated, even though they have not been able to design a significant tribal confederation, have never been subdued completely, the political authority of Sana'a capital being conventional (Rabi, 2015). In the first part of the 7th century, the vast majority of the population adopted Islam. But in the following two centuries, the Islam

community cleaved in two big branches, Shiites and Sunnis, which had a crucial importance for the historical evolution of Yemen. In 897, the control of Yemen was taken over by the mountain tribes in northwest, followers of Zaidism (*zaydiyyah*), a branch of the Shia Islam, named after its founder, Zayd ibn Ali, a nephew of Imam Husayn ibn Ali. This religious faction emerged following the argument related to the line of succession to Yemen's leadership, which broke after the death of the fourth Imam, Ali Zayn al-Abidin, in 713 (Peterson, 2011). The Zaydis claim that only a direct descendent of the Profet can be Imam (community's religious and political leader) and can govern the Islam community. However, in contrast with the Shiites, who form the religious majority, Zaydis are more reasonable, recognizing the legitimacy of the first three caliphs. At present, the Shiites account for less than 35% of the country's population (CIA the World Factbook, 2015).

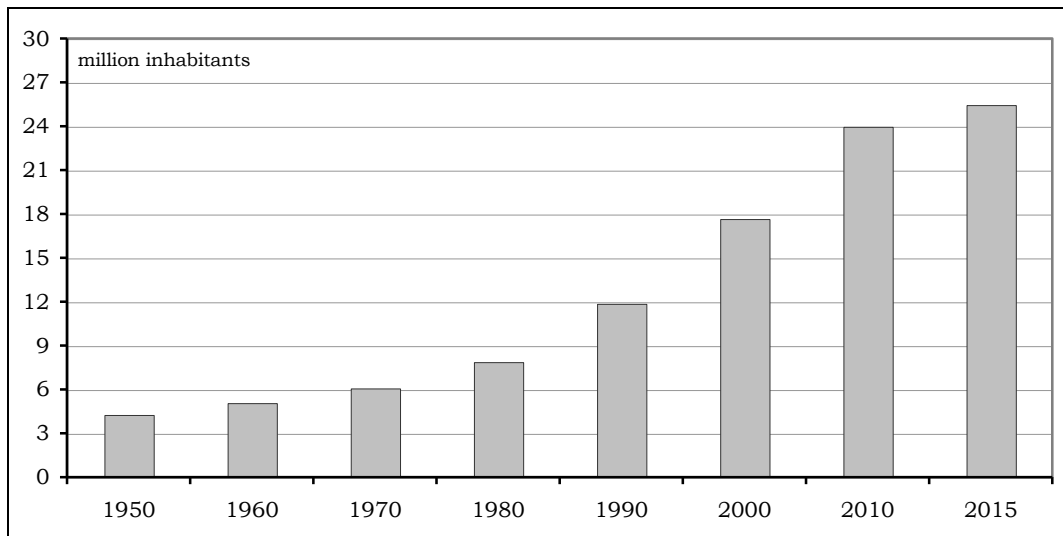


Figure 1. The evolution of Yemen's population over the period 1950-2015

(Source: Population Division of the Department of Economic and Social Affairs of the UN Secretariat, 2015)

Table 1. Yemen – variation of selected demographic indicators

(Source: Central Statistical Organization of Yemen, 2015)

No.	Demographic indicators	1994	2004	2013
1.	Birth rate (‰)	47.0	39.7	35.9
2.	Death rate (‰)	11.3	8.9	8.1
3.	Infant mortality (‰)	84.0	77.2	68.3
4.	Life expectancy at birth (years)	57.3	61.1	63.0
5.	Mean age of the population (years)	20.7	21.9	22.4
6.	Fertility rate (children/woman)	7.4	6.1	4.9
7.	Population growth rate (%)	3.7	3.1	2.78

The second largest Islam community in Yemen is represented by the Sunnis, followers of the shafi'i (*shafi'iyyah*) school, who live in the southern part of the country and in the Tihamah Plain. The demarcation line between these two large communities, dissimilar from the religious, cultural and geographical stanpoints, is the Samara pass, south of Yarim City. Thus, the cities of Dhamar, Sana'a and Sa'dah are mostly Zaydi, while Ibb, Ta'izz and Al Hudaydah are

mostly Sunni (Rabi, 2015). For most part of the Yemen's history, the country was led by Zaydis (the Zaydi imamate lasted for more than a millenium, from 897 to 1962), the Sunnis recognizing the political authority of the Imam, but not the religious one. But being marginalized and having no access to key positions in central administration and in the army, many Sunnis decided to move to Aden or leave the country. As a result, they were subjected to foreign influences and ideologies, like the Arab nationalism and socialism, to a greater extent than the Zaydis, who were living in relative isolation.

In this context, the conflict in Yemen is also seen from the outside like a part of the regional fight between the Shiites, supported by Iran, and the Sunnis, backed by Saudi Arabia. According to the Abaad Studies & Research Centre, only in 2014 more than 7700 people lost their lives in the Yemeni conflict, of which 1200 were civilians, while 80 thousand were compelled to abandon their dwellings.

According to the Foreign and Commonwealth Office (the United Kingdom), in 2014 the human rights violations occurred on a large scale and manifested through discriminations against women, restrictions imposed on journalists, restrictions of freedom of opinion and assembly, religious persecutions. The country was shattered by killings and bomb attacks against civilians, extrajudicial executions, kidnappings, tortures, and political imprisonments; besides, the military factions used soldier kids. The governmental forces brutally crashed protests launched by civilians, killing and wounding the Houthi people during a demonstration that took place in Sana'a in September 2014.

The economic factor. Although the GDP and the GDP per capita have increased during the recent years (Table 2), Yemen is the poorest country in the Middle East and one of the less developed in the world. Beside political and social instability and the poor performance of the government, this can be explained by the scarce natural resources, the poor economic infrastructure and the restrictiveness of the environment. Thus, poverty is at high levels, increasing from 42% of the population in 2009 to 54.5% in 2012 (World Bank, 2015). According to the UNDP, quoted by the United Kingdom: Foreign and Commonwealth Office, in 2014 about 16 million people were in need of humanitarian assistance, 10 million did not have enough food, 13.4 million had no access to drinking water, 12 million were lacking their own sanitary facilities, while 8.4 million did not have access to basic medical assistance. The low quality of life has always been a permanent reason for discontent.

Table 2. The evolution of GDP and GDP per capita in Yemen over the period 1990-2013
(Source: The World Bank, 2015)

	1990	1995	2000	2005	2010	2013
GDP at purchaser's price (current billion US\$) (billion)	5.647	4.257	9.636	16.753	30.906	35.954
GDP per capita (curent US\$)	472.1	279.0	541.5	817.1	1310.1	1408.0

The Yemen's economy is poorly developed, being dominated by oil and gas industry, which between 2010 and 2012 ensured more than 60% of the governmental revenues and almost 90% of the total export revenues (US Energy Information Administration, 2014). Moreover, the geographical location on the Bab al-Mandab Straits gives Yemen a particular strategic importance in the field

of international oil trade, in 2013 more than 3.4 million barrels of oil passing daily through the straits.

Although Yemen is not a major producer of hydrocarbons, in comparison with other states in the Middle East its oil and gas resources are used both for internal needs and for export. However, because of the internal insecurity, the exploration, production and transport of the energy resources has been difficult. During the period 2012-2013, more than 25 attacks took place against the hydrocarbons pipelines and consequently the exports were seriously disturbed (US Energy Information Administration, 2014). Because of these events, but also because of the natural decline, oil production constantly dropped starting with 2001 (Figure 2), when was reached the maximum level of 440 thousand barrels per day, while the production of 2014 was only 145 barrels per day (BP Statistical Review of World Energy, 2015). The most productive oil fields are Marib-Jawf, in the center of the country, and Masilah, in the east, which are operated by several international companies, as the total reserves are estimated at 3 billion barrels.

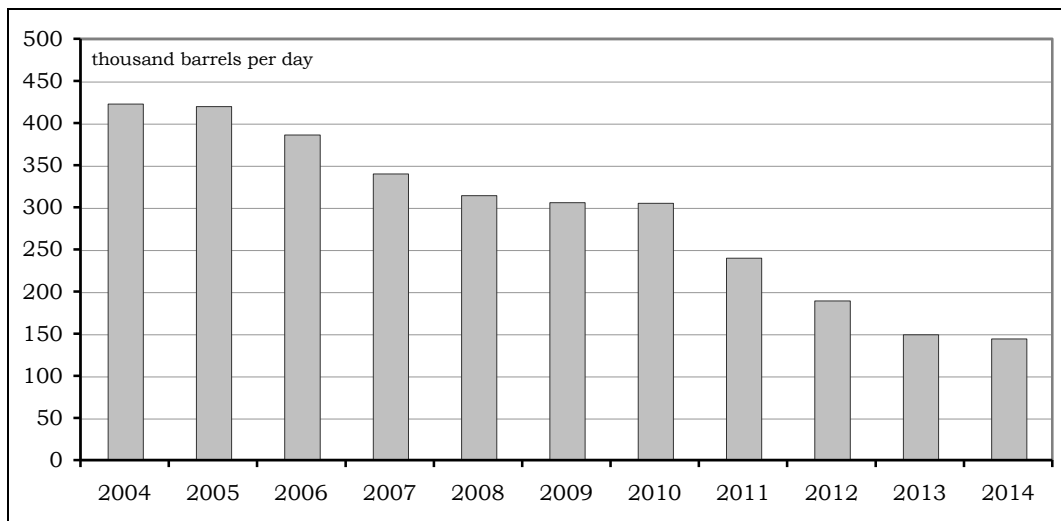


Figure 2. The evolution of Yemen's oil production over the period 2004-2014
(Source: BP Statistical Review of World Energy, 2015)

In 2013, Yemen exported 124 thousand barrels of crude oil every day, according to the Lloyd's List Intelligence, cited by the US Energy Information Administration. However, the export operations were affected by the frequent sabotage actions against the most important pipeline, Marib-Ras Isa (oil terminal on the Red Sea coast). As for the domestic oil consumption, this had an increasing trend, reaching 144 barrels per day in 2013. The oil refining capacity of the country is rather low; there are two refineries, one in Aden (with a capacity of 130 thousand barrels per day), and the other at Marib, which is smaller, processing only 10 thousand barrels per day.

As far as the natural gases are concerned, which have been extracted since 2009, the reserves are estimated at 0.3 trillion cubic meters, the most important gas field being Marib-Jawf, which produces 80% of the country's gas. Natural gases, the production of which amounted to 9.6 billion cubic meters in 2014 (Figure 3), are less used on the domestic market. In 2013, 90% of the production was turned into liquefied petroleum gas and was later exported (85% to Asia).

The liquefying plant and the terminal through which the liquefied gas is exported are situated in Balhaf, 200 km southwest of Al Mukalla, a place that is also the end of the pipeline coming from the Marib gas field.

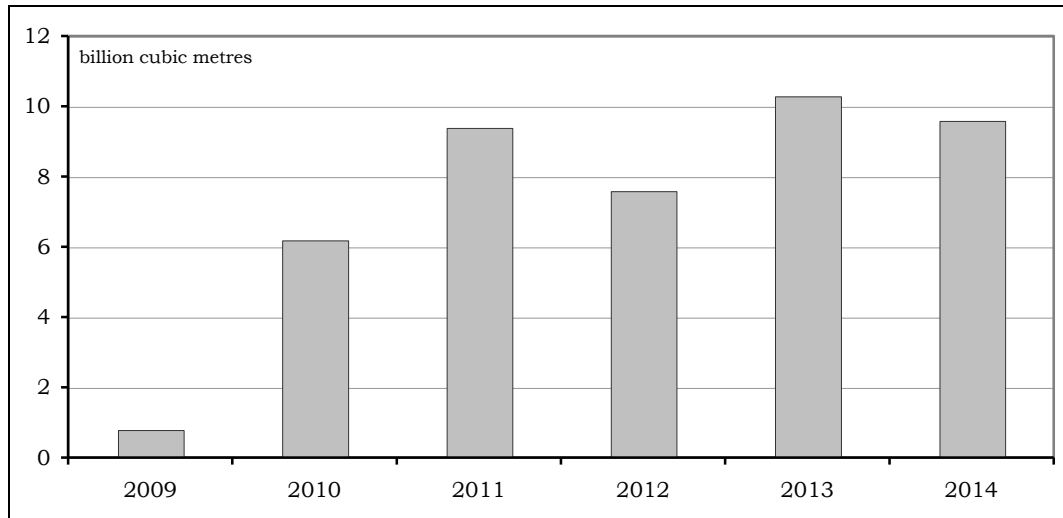


Figure 3. The evolution of Yemen's natural gas production over the period 2009-2014
(Source: BP Statistical Review of World Energy, 2015)

With the exception of the hydrocarbons, the other industrial branches are less developed; there are industrial units dealing with metal processing (iron and steel at Aden, Al Hudaydah and Riyan, 50 km north of Al Mukalla, aluminium at Ta'izz), ship repairs, building materials, but especially textile and food factories, as well as craft workshops. Besides, although it has a number of mineral resources (cobalt, copper, gold, nickel, silver, lead, zinc, salt, gypsum, marble, basalt, limestone dolomite, gravel, sand, etc.) these are less exploited (Taib, 2011). As a matter of fact, another great impediment for Yemen's economic development is the very low level of electric power production, because the generating capacity is about 1000 MW, being provided almost entirely by the fossil-fuel power stations. According to the World Bank, in 2012 more than half of the population had no access to electricity.

Despite the fact that cultivated area is very confined, agriculture plays a very important socio-economic part. It accounts for 50% of the country's labor force and represents the main source of livelihood for about two thirds of the population. At the same time, it has a significant contribution to exports and is an important source of income (Almeshreki et al., 2012). The arid climate requires irrigations and the only water available for this purpose is the groundwater. Non-irrigated agriculture is practiced on more than one million hectares, especially on the terraced slopes of the mountains lying in the west; it represents the most important agricultural production system, providing for the subsistence of more than 50% of the country's population (Almeshreki et al., 2012). However, there are numerous environmental problems that hamper the development of this sector, the most serious of them being desertification, soil erosion and water scarcity.

In 2013, cultivated land represented 1.49 million hectares, i.e. about 3.3% of the Yemen's surface area, the largest agricultural fields lying in the western

part of the country. In the east, traditional oasis agriculture is typical, especially in Wadi Hadramaut. Most of the land is cultivated with cereals (857 thousand hectares, i.e. 57%), especially sorghum and wheat, followed by khat (*Catha edulis*, 11%), fodder plants (11%), fruit trees (6%), vegetables (6%), and commercial cultures (6%), including coffee and legumes (3%) (Central Statistical Organisation, 2014). Animal husbandry is practised based on natural pastures and fodder crops. People raise mostly sheep (9.5 million heads in 2013) and goats (9.2 million heads). This traditional activity provides food for the population and raw materials for some industrial activities.

Environmental restrictiveness. Yemen is a predominantly mountainous and desert country. To the west, rise the Yemen Mountains (Sarat al-Yemen), consisting mainly of volcanic and sedimentary rocks, being intensely dissected by a vast network of dry valleys (wadi) and reaching 3666 m altitude (*Jabal an-Nabi Shu'ayb*) (Figure 4). The eastern slopes, less inclined in comparison with the western ones, which are very steep, gradually descend to the Ramlat as-Sabatayn desert area, belonging to the Rub al-Khali desert, lying near the border with Saudi Arabia. Along the Red Sea coast, at the mountain foothills, stretches an arid coastal plain (Tihamah Plain), 20-50 km wide and crossed by many dry valleys. In the eastern part of the country, between the Gulf of Aden and Rub al-Khali, lies a tableland (Hadramawt), made up predominantly of Tertiary limestones, which slope down from south, where they have elevations of 1000-1400 m, to north. In the neighborhood of the coast, they end up with steep slopes and further away, there is a narrow coastal plain, low and dry. In general, the tableland is arid and is crossed by many valleys, which most part of the year run dry; the most populated and fertile area in this land is Wadi Hedramawt. On the other hand, Yemen is vulnerable to earthquakes, 318 of them being recorded only in 2013 (National Seismological Observatory Centre, quoted by the Central Statistical Organisation, 2014).

The Yemen's plains and low tablelands have an arid and semi-arid tropical climate. The mean temperatures are approximately 30°C, but in the hottest months (June, July and August), they can exceed 40°C. Precipitations are highly variable and have a torrential character, recording less than 200 mm/year, or even less than 100 mm/year in some areas lying in the central and eastern parts of the country. The Tihamah Plain is frequently affected by *shamal*, a wind blowing from the northwest, which brings about sandstorms. With the elevation increase, in the mountain areas the climate becomes temperate, with mean temperatures of about 20°C, summer rains, as well as cool and dry winters (mean temperatures less than 15°C). During the harsher winters, the high mountain areas are affected by frost and snow. The higher parts of the western cliff, exposed to the flow of the moist air coming from south and southwest, receive the highest amounts of precipitation in the whole country, the values ranging from 700 to 1200 mm/year (Bruggeman, 1997).

Yemen's water resources are scarce, being represented by precipitations and groundwaters, the mountains playing an important part in the formation and distribution of rainfalls. Surface flow is temporary, but the valley network is dense. Over the time, many dams have been built in order to capitalize the meteoric waters; the largest reservoir is Ma'rib, which lies behind the dam bearing the same name, built on Wadi Dhana. The groundwaters are the main water resource for various uses, but in most aquifers water level is on the decline because of overexploitation. If the actual pattern of water consumption is

maintained and the population growth rate continues to be the same, water consumption per inhabitant will drop in the following years to 150 cubic meters, in comparison with 1990, when the value amounted to 1100 cubic meters (Almeshreki et al., 2012).



Figure 4. Yemen – general map

Being influenced especially by precipitations and soil types, vegetation is rather sparse in most part of the territory. Floristic diversity is higher only on the western cliff of the Yemen Mountains. Moreover, the vegetation has shrunk over the centuries through cuttings and overgrazing. In general, the soil is poor in nutrients and organic matter. According to the Soil and Water Division and Renewable Natural Resources Centre (2002), quoted by the Central Statistical Organisation (Statistical YearBook 2013), 85.4% of the country's area is rocky and sandy, while 12.5% is in various stages of degradation, of which 5.7% experience severe degradation (Table 3).

In order to reduce poverty and unemployment in the rural areas sustained efforts are needed for desertification control, phenomenon affecting about 30 million hectares, i.e. 66% of the country's area (Almeshreki et al., 2012). The vulnerability to desertification is high, the causes being the following: water and wind erosion, overgrazing, vegetation removal and the changes in agricultural practices. Starting with the 1960s, Yemen's mean annual temperature has grown by 1.8°C, with a mean rate of 0.39°C per decade (the rate was higher for the summer season, with 0.56°C per decade), while the mean precipitations have declined by 9%, with a rate of 1.2 mm per decade (McSweeney et al., 2006).

Table 3. Types of lands and the forms of land degradation in Yemen
(Source: Soil and Water Division and Renewable Natural Resources Centre, 2002)

	Type of land	Area (thousand hectares)	Percentage (%)
1.	<i>Waste land</i>	38 918	85.4
1.1.	Desert	4 857	10.7
1.2.	Sand dunes	5 816	12.8
1.3.	Rocky lands	28 196	61.9
1.4.	Humid areas (sabkha)	48.3	0.1
2.	<i>Degraded lands</i>	5 697	12.5
2.1.	Degradation by water	5 070	11.1
2.2.	Degradation by wind	578	1.3
2.3.	Saline lands	37	0.1
2.4.	Physical degradation	12.7	0.03
3.	<i>Total area</i>	45 550	100.0

CONCLUSIONS

Besides the political problems, the socio-demographic, economic and environmental factors have unquestionable played a significant part in triggering and spreading the conflicts that have left their mark on this territory over the past decades. From the socio-demographic standpoint, significant have been both the socio-cultural aspects (the tribal and religious structure) and the population dynamics, especially the high population growth, which could not be matched by the economic development. As for the economic factor, this has been an almost permanent reason for discontent among the population, because the level of economic development has stayed low, while poverty has been rather high. Consequently, Yemen has remained one of the poorest countries in the world, with a scant infrastructure and with an economy where agriculture has been the main source of livelihood for about two thirds of the population. The restrictive conditions of the natural environment, namely the predominantly mountainous and desert topography, the arid and semi-arid climate, the scant water resources, and the low fertility soils have hampered the socio-economic development. Moreover, soil degradation has affected the farmers' lifestyle.

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