

Sustainable Exploitation of Natural Resources and National Security

Maria Constantinescu¹

Abstract: Although the presence of natural resources on a country's territory does not by itself lead to conflict, in specific situations this may constitute an aggravating factor for the risks pertaining to a country's national security and long term development. The aim of this article is to outline the links and interactions between the availability of natural resources, their sustainable exploitation and a country's national security and stability. The topic of the economics of conflict has generated a growing interest in the last 20 years, given the changing nature of the modern conflicts and their underlying economic factors. Some of these conflicts have been shown to be sustained, if not generated, by the availability of lucrative natural resources, leading to their classification as "resource wars". Following the analysis of the influencing factors, a conclusion can be drawn regarding the need for the countries relying for their economic development solely on the exploitation of natural resources to implement sustainable development measures, not only to promote long term economic growth, but also in order to avoid this type of conflict.

Keywords: conflicts; natural resources; development; national security

JEL Classification: F52

1. Introduction

The fact that economic factors, and especially the availability of natural resources, play an important role in conflicts is not a new concept, as throughout history there have been numerous examples on how the desire to control natural resources has led to inter-state or civil war. Though the importance of the economic factors in sustaining a war effort has been the focus of economists and scholars for a long time (from Sun Tzu to Clausewitz), the study of the economic causes of the civil wars has become of interest only since the middle of the last decade of the 20th century. This was due to a change in the geopolitical and military environment, to the occurrence of a series of highly destructive conflicts (Angola, Liberia, Rwanda, Sierra Leone, Afghanistan, Republic of Congo, Sudan, Somalia, Cambodia), which raised the question of how much economic factors have led to conflict, on top of more familiar

¹ PhD, DRESMARA – National Defense University "Carol I", Braşov, Romania, Tel.:+4 0268401860, fax +40268401802, Corresponding author: mconst_ro@yahoo.com.

and long-lasting causes, such as the colonial legacy.

The phenomenon of the “resource curse”, known also under the name of “paradox of plenty”, has been acknowledged by economists since the last decades of the 20th century. It refers to the apparent paradox that countries endowed with an abundance of natural resources (especially non-renewable resources, such as oil, minerals, fuels, gems etc) have had lower economic development rates compared to countries with fewer resources, since the early 1970’s.

Even though there are some exceptions to this paradox, a number of studies (Auty, 2001, Sachs and Warner, 1997, Gylfason, 2001) have shown that the “resource curse” is real, but its causes and effects differ from country to country. Among the causes identified for this paradox are the revenues fluctuations due to primary commodities prices volatility on the international markets; weak and inefficient governments; political instability and weak rule of law; corruption, a decline in competitiveness of the other economic sectors due to increased wages and appreciation of the real exchange rates. Although the negative economic effects of a country’s dependence on primary commodities production and exports have been extensively studied in terms of their economic impact, various more recent studies have also focused on other negative effects, with potential security implications. Thus, countries highly dependent on the export of minerals, fuels and gems have the tendency to encounter high poverty rates (Ross, 2003), accompanied by the rule of authoritarian governments (Ross, 2001, de Soysa, 2002) and high corruption levels (Sachs&Warner, 1999, Marshall, 2001). This type of patterns has been historically accompanied by high illiteracy rates, and political instability, which, in combination with other factors such as the geographical location, ethnic and religious background of the population etc, has lead to civil unrest, civil wars and even full inter-state wars.

This paper aims at outlining the links and interactions between the availability of natural resources, their sustainable exploitation and a country’s national security and stability. Although the existence of just one or more of the factors outlined in this paper is not going to pose a direct threat to a country’s national security, the complex interactions between them may lead to security issues, ranging from chronic economic underdevelopment to full-scale conflict.

2. Economic Over-Reliance on the Extraction and Export of Primary Commodities

A country’s dependence on the exploitation of its natural resources does not cause security problems in itself, but long term reliance can be considered a security vulnerability. The depletion of the non-renewable resources, in the lack of a sustainable economic alternative, may generate serious implications on a country’s long term economic and social development.

The way in which natural resources may be linked to a country's economic development and national security varies, depending on a series of specific conditions. According to some studies (Collier&Hoeffler, 1998, 2002; Collier, 2006), reliance on primary commodities exports has a significant influence on the likelihood of the emergence of a civil war. According to them, the threshold of 32% of resource exports to GDP is significant, as up to that level the probability of a conflict increases. For instance, countries with a primary commodity dependence of 26% have a risk of conflict of 23%. The type of the commodity and the way in which they are extracted also influence the probability of generating conflict, together with the response of the international community in encouraging trade with "legitimate" commodities and the policy of the foreign corporations located in those countries. Other authors (Doyle & Sambanis, 2000) found that primary commodity exports tend to increase the war duration.

Since the primary commodities include a broad category of goods, the type of natural resources appears to be relevant, as some studies described below have shown that the dependence on agricultural commodities is not correlated with conflicts and civil wars, while the dependence on oil is strongly linked with conflict. This may explain why, from the countries highly dependent on the export of a single commodity, not all have experienced national security problems in terms of civil conflicts and wars. Some developing countries have been able to benefit from their abundant natural resources (such as Brazil, Argentina and other Latin American countries), while others have experienced devastating conflict. Thus, some studies (Fearon & Laitin, 2003), found that countries reliant mainly on oil exports for their revenues have a higher probability to experience the onset of a civil war. If a country derives at least one-third of its export revenues from fossil fuels, its odds to experience civil war more than double. Other authors (Ross, 2004), found that oil and other mineral resources contribute to the propensity of factions from outside the exporting country to initiate conflict or support civil war.

Another factor of influence in the issue of avoiding negative effects on national security generated by the exploitation of natural resources is the capacity of the government to formulate viable and sustainable strategies and policies. Many of the world's developing countries, due to bureaucracy, corruption, autocratic regimes and external pressures from other countries, are only focusing on the short term returns from the natural resources exploitation, with destabilizing economic and security effects. Even if the direct causes of civil wars may not rest in the foreign interests of large resource importing countries, their heavy involvement in the economy of the resource rich, but unstable, developing countries may negatively affect their economic growth, by imposing a heavy competition on the local businesses and promoting the export of cheaper raw commodities instead of higher value manufactured goods.

Many times, the natural resources are perceived as an easier and convenient way to extract monetary gains, which leads to a political approach often separated from the interests of the general public, oriented on competition for the control of resources. The more the state revenues derive from the exploitation of natural resources, the bigger the temptation of corrupt government officials to adopt political and legal measures to appropriate them for their own benefit, leading to rent seeking behavior and negatively affecting the savings and investment policies. This behavior may result in political instability, lack of proper management in developing the country in a sustainable way, a short term, profit oriented strategy, with negative implications on budgetary revenues. The results are reduced or non-existent efforts to invest in areas such as education, health care, infrastructure development, support of other economic areas and industries which do not rely on the exploitation of natural resources and other measures to promote long term, sustainable growth.

Countries with economies build around the production and export of just a few commodities are more vulnerable to commodities price fluctuations, demand fluctuations and weather and climate phenomenon affecting certain crops (such as coffee, cocoa), all of them increasing the risks to national security. Prices for raw materials are highly volatile, causing unpredictable economic boom and downturn periods, with a heavy impact on the affected countries and communities. Studies on the implications of the instability in terms of trade on the economic growth in developing countries have indicated that a large part of the GDP increases and decreases has been caused by external shocks (Easterly & Kremer & Pritchett & Summers L.H. 1993). In this respect, drops in the commodity prices may push many farmers under the poverty line, cause the bankruptcy of smaller and medium producers and have negative effects on a country's export revenues and implicitly on the economic growth. Even in the event of positive terms of trade shocks, according to some researchers (Hadaas & Williamson 2003, p. 629–656), the positive effects on the economic growth will be limited to short term. The effects are not limited to the economic area, as an increase in poverty has been identified as one of the factors linked to a higher probability of emergence of a civil war (Fearon & Laitin, 2003). According to their study of former colonies in Africa, the Middle East, and Asia, a \$1,000 less in income corresponds to 34% greater annual odds of a civil war outbreak.

3. Unsustainable Exploitation of Natural Resources

Another crucial factor of influence in the complex relationship between natural resources endowment and national security risks is related to the unreasonable and unsustainable exploitation of the natural resources. This may be the result of external pressures or internal factors and may negatively affect in terms of security not only the local communities or one particular country, but also neighboring countries.

The competition for the access to strategic mineral resources is considered to be one of the main economic and security issues for developed countries, and a factor of instability for the resource-exporting countries. The availability of strategic natural resources (especially oil and minerals) is clearly stipulated as a priority for the United States, the European Union, Japan or China. United States are presently more than 40% dependent on commodities and rare metals imports (Perry 2012), which are critical for high tech consumer products, or military technology and equipment. Many import-dependent countries realize the need to maintain stockpiles of such minerals, for economic and strategic purposes, while others (the European Union) have tried to identify additional solutions, in line with sustainable development goals (European Technology Platform on Sustainable Mineral Resources, 2007). The build up of stockpiles may have the effect of distorting the international markets, by pushing up the demand and creating large fluctuations in commodity prices, encouraging a short term, unreasonable exploitation in resource rich countries with corrupt and weak governments, lacking a long term strategy.

The attempt to secure access to strategic resources leads also to an aggressive policy of lobbying and influence. For example, China's fast growing economy needs to be fueled by a large amount on natural resources, prompting the country to become one of the most important players in the global competition for natural resources. China has used a variety of methods in order to secure its access to natural resources, ranging from accepting the higher risks associated with doing business in volatile countries, such as Sudan, Congo, Ethiopia or Zimbabwe, to granting Chinese companies cheap state credits, in order to win the competition to secure exploitation rights. Other methods used were related to conditioning its programs of foreign aid and assistance, in exchange for the aforementioned rights, or heavy investments in resource rich countries.

Negative effects on national security are also the effect of internal pressures towards the unsustainable exploitation of natural resources. As confirmed by some studies (Keen, 1998, Le Billon, 2003) the increased number of conflicts and civil wars in many resource-producing countries has been the result of a combination of external factors with internal factors. Before 1990, many of these groups and actions were supported financially and with military equipment and armament by one of the opposing blocks or a certain government. The collapse of the Soviet Union and the subsequent loss of a financing source by rebel groups and authoritarian governments alike have led to the need of present rebel and terrorist groups to rely on self-financing, from sources such as kidnapping and ransom requests and controlling the access and exploitation of natural resources. This is achieved in a variety of ways, from direct exploitation (sometimes with the use of slave work from the local population), selling concession to natural resources rights to other companies (including foreign companies) or offering protection rackets to the companies involved in the exploitation of resources. In all these cases, the results are often an

unsustainable resource over-exploitation, especially of the so called “lootable resources”, such as timber, gems, and drugs. Le Billon, 2005, argues that over-reliance on natural resources creates a political, social and economic context that increases the probability of an armed conflict, but also the accessibility, type and geographical location of a resource to a government or armed group is going to influence the course and duration of a conflict. In this sense, dependence on natural resources also tends to influence the state’s capacity to use these resources wisely, through weak rule of law, corruption and low government accountability.

4. The Unequal Allocation among the Members of the Society of the Wealth Generated by the Exploitation of the Natural Resources

An economic development model based on natural resources does not automatically increase the risk of conflict, but, when combined with other factors such as high poverty rates (Collier & Hoeffler, 2002), the presence of authoritarian regimes, low literacy rates (Hegre et al, 2001), and high corruption levels (Fearon&Laitin, 2003, Le Billon, 2005), the likelihood of conflict increases.

Although the production and export of natural resources may generate substantial amounts of money, the unequal allocation of this wealth in the society is a source of instability and conflict (Elbadawi & Sambanis, 2002).

In many developing countries, large part of the population is living in rural areas, which are dependent on the environment for their living and directly affected by deforestation, mining, overfishing, building of hydropower dams etc. A weak rule of law and corrupt officials lead to the emergence of powerful groups (local warlords, government agencies, multinational companies etc) aiming to gain control over these resources, leading to the creation of legal and institutional frameworks that allow the unequal distribution of the revenues from the exploitation of the resources and negative externalities. Without investments and governments support, the local communities in developed countries lack the capital and technology needed to exploit the resources on their own, and the outsourcing of revenues from the resource exploitation by large companies generates resentments and tensions, exacerbated by the poverty, unemployment and lack of education.

The case of Sierra Leone is representative for this situation. The civil war over the control of diamonds exploitation and trade lead to an estimated 75 000 people being killed, half a million refugees to other countries, half of the population displaced (Johnson 2002) and severe economic consequences. The country’s GDP (largely dependent on natural resource – diamonds, cocoa, coffee, fish and agriculture) dropped in the conflict period with almost 30% compared to the pre-war period, or 350 million USD, in a country whose GDP only reached 1.2 billion USD in 2013 (Kushnirs 2013).

Another situation in which the struggle to control natural resources may lead to conflict is when a minority (usually ethnical, religious) is perceived as being wealthier than the impoverished majority, due to the exploitation of natural resources. When the natural resources are situated in only one part of the country, especially near the borders, the problems may be compounded by secessionist movements fueled by the desire for personal gains from their leaders – Cote D'Ivoire, Congo, Liberia, Sierra Leone are just a few examples in this respect.

According to Ross, 2003, there are a few common factors in the countries or regions affected by civil conflicts over resources: distinct religious, ethnic or linguistic identity, high costs resulting from the externalities generated by resource exploitation imposed on the local population, and the perception that the wealth resulting from the resource exploitation is unfairly appropriated by the central authorities.

5. Conclusion

The connection between the sustainable exploitation of natural resources and a country's national security is still subject to debate and further research. A major difficulty derives from the fact that it is never easy to clearly separate the mix of social ethnical, religious, economical and environmental factors that may lead to conflict, but we can draw one conclusion: the presence of natural resources on a country's territory does not by itself lead to conflict (there are examples of countries that manage to exploit their natural resources in a way beneficial for the entire society). In order for a conflict to emerge, a complex mix of factors is required: poverty, social inequality, religious or ethnic tensions (Rwanda, Democratic Republic of Congo), political instability, weak governments, unfair appropriations by authorities of resources revenues, corruption, low literacy rates, lack of employment opportunities, especially for young men. Still, in specific situations, the dependence on natural resources may increase the risk of a conflict and may contribute to the spread of conflict over a longer period of time, through the effects on the economy, their implications for the governments, local populations and the armed factions.

The complex interaction between these factors leads to a self-reinforcing vicious circle, as poverty may favor the emergence of a conflict, but a civil war may also contribute to the increase in poverty. Natural resources may be one of the many factors causing a civil conflict, and at the same time, a civil conflict may be prolonged and fueled by the warring factions seizing access to natural resources to finance their activities.

In order to better understand the complex interactions between natural resources, their sustainable exploitation and national security, a more comprehensive model is

needed, encompassing economic, social and political factors, using more reliable data sources and correlating the rather different results of various studies already done on the topic.

6. References

- Auty, R. (2001). *Resource abundance and economic development*. New York: Oxford University Press.
- Collier, P. & Hoeffler, A. (1998). On economic causes of civil war. *Oxford Economic Papers* Volume 50, Issue 4.
- Collier, P. & Hoeffler, A. (2002). Greed and grievance in civil war, Centre for the study of African economies, working paper 2002-01 <http://www.econ.nyu.edu/user/debraj/Courses/Readings/CollierHoeffler.pdf>.
- de Soysa, I. (2002). Eco-violence: Shrinking Pie, or Honey Pot? *Global Environmental Politics*, Vol. 2, No. 4, Pages 1-34, Massachusetts Institute of Technology.
- Doyle, M. & Sambanis, N. (2000). International Peace-building: A Theoretical and Quantitative Analysis. *American Political Science Review* 94(4).
- Easterly, W., Kremer, M., Pritchett, L. & Summers, L.H. (1993). Good luck or good policy? Country growth performance and temporary shocks. *Journal of Monetary Economics*, 32(3), pp. 459–483.
- Elbadawi, I. & Sambanis, N. (2002). How Much War Will We See? Estimating the Prevalence of Civil War in 161 Countries, 1960-1999. *Journal of Conflict Resolution*, 46 (3), 307-334.
- European Technology Platform on Sustainable Mineral Resources (2007). https://ec.europa.eu/eip/raw-materials/en/system/files/ged/85%20smr_en.pdf.
- Fearon, J, Laitin, D. (2003). Ethnicity, Insurgency, and Civil War. *American Political Science Review* 97, 1, 75-90.
- Gylfason, T, (2001). Natural resources, education, and economic development. *European Economic Review* 45.
- Hadaas, Y.S. & Williamson, J.G. (2003). Terms-of-trade shocks and economic performance, 1870–1940: Prebisch and Singer revisited. *Economic Development and Cultural Change*. 51(3), pp. 629–656.
- Hegre H. et al, (2002). *Some social requisites of a democratic civil peace: Democracy, Development, and Armed Conflict*. http://www.researchgate.net/publication/228716165_Some_Social_Requisites_of_a_Democratic_Civil_Peace_Democracy_Development_and_Armed_Conflict.
- http://kushnirs.org/macroeconomics/gdp/gdp_sierra_leone.html retrieved from date 10.06.2015.
- <http://www.eia.gov/countries/country-data.cfm?fips=ch#pet>.
- Johnson, E. (2002). *Blood diamonds: the conflict in Sierra Leone*, <http://web.stanford.edu/class/e297a/Conflict%20in%20Sierra%20Leone.htm> retrieved from date 10.06.2015.
- Keen, D. (1998). The economic functions of violence in civil wars. *Adelphi Paper* 320, London: International Institute for Strategic Studies.

- Le Billon, P. (2003). Getting it done: instruments of peace enforcement, in Bannon I & Collier P. eds, *Natural resources and violent conflict: opinions and actions*. Washington DC, World Bank, 215-286
- Le Billon, P. (2005). *Fuelling War: Natural resources and armed conflict*. Adelphi books.
- Marshall I.E. (2001). A survey of Corruption Issues in the Mining and Mineral Sector, *Report no. 15 Minerals, Mining and sustainable Development, International Institute for Environment and Development*, <http://pubs.iied.org/pdfs/G00949.pdf>.
- Nile Bowie (2012). *US Resource War against China: Further Militarization of the African Continent*. <http://www.informationclearinghouse.info/article31343.htm>, retrieved from date 08.05.2015.
- Paul, Collier (2006). *Economic Causes of Civil Conflict and their Implications for Policy* [Online]. <http://users.ox.ac.uk/~econpco/research/pdfs/EconomicCausesofCivilConflict-ImplicationsforPolicy.pdf>, retrieved from date 08.05.2015.
- Perry, M.J. (2012). Dangerous dependence: US increasingly beholden to imported raw material, *American enterprise Institute*, <http://www.aei.org/publication/dangerous-dependence-us-increasingly-beholden-to-imported-raw-material/> retrieved from date 10.06.2015
- Ross, M. (2001). *Does Oil Hinder Democracy?*, *World Politics*, Volume 53, Issue 03 , pp 325 – 361.
- Ross, M. (2003). How Does Mineral Wealth Affect the Poor? <http://www.sscnet.ucla.edu/polisci/faculty/ross/minpoor.pdf>.
- Ross, M. (2003). *Natural Resources and Civil War: An Overview*. World Bank Research Observer.
- Ross, M. (2004). How does natural resource wealth influence civil war. *International Organization*, Vol. 58, No. 1.
- Sachs, J.D. Warner A.M. (1997). Natural resource abundance and economic growth, Center for International Development and Harvard Institute for International Development Harvard University Cambridge MA.
- United Nations (2009). *Voices of the Vulnerable: The Economic Crisis from the Ground Up* [Online] <http://www.undg.org/docs/10586/GIVAS-Brochure-%28English%29.pdf>, retrieved from date 06.03.2015.