Natural Resources Forum 38 (2014) 261–269 DOI: 10.1111/1477-8947.12059

The relationship between sustainable development and resource use from a geographic perspective

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Abstract

Geography provides the basic building blocks for the study of resource use and sustainable development, inasmuch as it categorizes the human environment. Within the environment are resources that are needed for the survival of society. As resources are largely limited and finite, humans as agents of change must employ techniques that allow an efficient and lasting use of the available resources in their environment. This paper discusses the nexus between geography, resource exploitation, use, and sustainable development. It also discusses the characteristics, types, and classification of resources, development and sustainable development as well as the challenges and strategies for attaining sustainable development, particularly in developing countries.

Keywords: Resources; use and exploitation; sustainable development; spatio-economic development; geography; resource use and sustainable development interrelationships.

1. Introduction

The nexus between resource use and sustainable development is established and maintained by the basic tenets of geography, traditionally viewed as the study of the Earth's environment. In this environment there are resources needed for survival and spatial units ranging from a cottage to a megacity. Since resources are largely limited and finite, humans must employ techniques that allow efficient and lasting use of the available resources in the environment. Sustainable development then becomes a tool to help guarantee the continuing and long lasting use of resources. This paper discusses the concepts of sustainable development from a geographic perspective and some salient measures and indicators of sustainable development including the characteristics, types, and classification of development. Finally, the paper discusses the challenges of sustainable development as well as the strategies that could be employed to deal with the challenges of sustainable development.

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2. Definitions and concepts of resources

2.1. Definition of resource

A resource is any material (item or a thing) that humans have need of and use to produce goods and services for their sustenance and for the betterment of their well-being. Each society or the global community determines what defines a resource based on their cultural needs; if a material is of no use to a given society or the global community, that material may not be regarded as a resource. The needs of one society could be met by resources identified in another, so the spatial (geographical) characteristics of resources may be twofold.

Due to differences in needs and wants of a given society and how the society learns to use a particular resource (material), a particular resource may be specific to one society. Certain food items that are accepted as food resources in some local communities are not considered as food resources in other local communities, based on food taboos and cultural or traditional unacceptability of certain food items which would otherwise be acceptable and nutritious. For instance, cocoyam is accepted as one of the staple foods in Ghana where both the leaves and the corms or the tubers are eaten as food resources. In Lebanon, on the other hand, only the corms or the tubers are eaten as a food resource (Wikipedia, 2013).

Second, the cultural needs of other societies in the global community may take pre-eminence over the cultural preferences of local societies in which a given resource may be found. For instance, opal, one of the precious colourful gemstones in Queensland, Australia was not largely considered a commercial mineral resource until the mid-19th century when the international community found the socio-economic benefits of opal as a gemstone (International Colored Gemstone Association, 2013). The first block of opal was found in Australia in 1849 and, economic prospecting of opal began in 1890 (International Colored Gemstone Association, 2013).

2.2. Types of resources

Resources can be grouped into four main groups. They are:

1. Natural: they refer to resources found in the natural environment. Examples include minerals, forest, ocean, rivers, land and soil. These resources are commonly referred to as physical resources because they are mainly found in our physical environment.
2. Captital resources: generally, capital resources are referred to as income resources. These resources mainly represent resources that provide the ability to acquire natural resources for the production of goods and services. This includes technology transfer, machines and equipment (excavators, computers, and vehicles) that are obtained to aid and facilitate the exploitation, production, transportation and distribution of goods and services.
3. Human resources: human resources deal with humans as agents of change and refer to the required skilled and qualified labour needed to supervise and organize both natural and capital resources for the production of goods and services. A productive and skilled labour force is mainly obtained through training and education.
4. Man-made or cultural resources: these are resources that are created and recreated by the ingenuity of humans to satisfy specific and varying needs. They are often the product of natural, social, and cultural resources (cultural landscape). Humans often use the available physical, human, and capital resources to help create a cultural good (roads, houses, and markets). Cultural resources form the physical and visible realizations of human ingenuity, innovation, and technological knowhow that often lead to the shaping and reshaping of the environment (de Blij and Muller, 2003).

2.3. Nature and classification of resources

There are eight main characteristics of resources. However, these characteristics are not mutually exclusive:

1. Renewable resources: these are resources that are found in the natural environment that have the ability to renew and replenish their form and function by a natural process mainly within a relatively short period of time. As a result, they appear to be more readily depending on the nature of the energy source. Examples include solar and wind energy.
2. Non-renewable resources: they refer to resources that are not readily available for use within a relatively short period of time or they cannot be replenished by a natural process quickly. Examples include fuel resources (coal, crude oil and natural gas) and mineral resources (gold, diamond, and copper). Some resources that do get replenished naturally are sometimes considered non-renewable resources (e.g. soil degraded by nuclear waste), but this occurs over a relatively long period of time.
3. Exhaustible resources: they refer to resources that can be used up completely within a specified period of time. These resources often become depleted and exhausted when the rate at which they are exploited exceeds the rate at which they are replenished. Examples include water resources (wells and aquifers), mineral resources (gold, diamond, and copper), soil resources (soil fertility), and forest resources (trees and grass).
4. Inexhaustible resources: usually, inexhaustible resources refer to resources that do not get depleted or exhausted and they are often always available for use. Examples include the ocean, the sun, and the wind (air). It is important to note that although these resources are inexhaustible and they are largely always available for human use, they can become degraded through mismanagement and pollution.
5. Recyclable resources: these refer to the secondary use of resources that were mainly the remains or waste products of another resource. Usually, a resource becomes recyclable when society finds an industrial and technological means to produce a particular good or service from the resource after its original intended use. Examples of recyclable resources include waste paper, rubber, and plastic products.
6. Non-recyclable resources: these refer to secondary resources that cannot be converted into other beneficial products. Also, a resource is non-recyclable when there are no available technologies to convert the resources into useable products. A typical example is nuclear waste.
7. Reusable resources: this term is usually used at the household level where the remains of used household materials (solid or liquid) can be reused to provide another service to the household. For instance, waste water from the washing of household clothing can be reused to flush the toilet or clean the bathroom.
8. Non-reusable resources: these include secondary resources that cannot be used domestically or at the household level. Non-reusable resources mainly refer to overused resources at the household level that require

disposal. For example, clean soapy water may be used to wash some household items a couple of times before it becomes less beneficial.

3. Definitions and concepts of development

3.1. Development

Development may be defined as a state of human wellbeing at both the individual and societal levels that mainly manifest as cultural products in a given community, which often leads to the progressive transformation of economies and societies (Conyers and Hills, 1984; United Nations, 1987).

3.2. Characteristics of development

Characteristics of development are varied. Traditionally, development refers to the quality of life of a given people in the presence of available and accessible technologies and resources. Also, development refers to a state or a process and their associated classifications by multinational institutions and international financial institutions that largely depict the level of wellbeing experienced by the residents of a given community or a place (Conyers and Hills, 1984; United Nations, 1987).

3.2.1. Development as a state

This refers to the level of wellbeing attained by a given people in a community over a certain time period. In Ghana, the state of the national economy largely determines the level of the country's development and advancement. In the year 2000, Ghana was classified as one of the most heavily indebted countries and its economy was in a state where employment was lacking particularly among youth who were of a working age. Additionally, increasing inflation and widespread poverty were identified as detriments to Ghana's economic performance (Anaman, 2006). Consequently, this period marked an era of relatively low wellbeing for the people of Ghana.

3.2.2. Development as a process

This indicates that the general wellbeing of a given people can either increase or decrease over time with respect to their level of development which is largely determined by the type, quantity, and quality of resources available to them. For instance, the level of wellbeing experienced by the people of Ghana for the past 50 years (from March 6, 1957 to date) characterizes development as a process. (Anaman, 2006). The development process of Ghana can be grouped into three main stages.

The first stage may be termed as the 'Post-Colonial Independence, Economic, and Developmental Reform Period'. During this period Ghana had to take bold steps to peruse economic, industrial, scientific, agricultural, and educational policies to make Ghana self-reliant and to improve the wellbeing Ghanaians. The economic growth and development was interrupted by unstable political atmospheres (overthrow of democratic elected governments by *coupe d'états* in 1966 and 1972), limited economic growth, and limited social and infrastructural development (Anaman, 2006).

The second stage can be referred to as the period of "Staggering Socio-economic Development" and it began in the early 1980s. At this stage of Ghana's social, economic, and political development there was inconsistent economic growth and development. This was partly due to the frequent overthrowing of governments (1979 and 1981 *coupe d'états*) and the famine of 1983. After the end of the 1983 famine period, Ghana vigorously pursued drastic economic measures that provided the required economic and social impetus for accelerated economic growth and development. This developmental effort largely resulted in an improved general wellbeing of the people. Relative peace and political stability was also achieved during this period. The stable political atmosphere largely created confidence in the people of Ghana and their international partners and friends. The largely motivated Ghanaians work hard and their accelerated economic growth nearly moved the country into the middle income developing country category. A World Bank and International Monetary Fund (IMF) recommended Structural Adjustment Programme (SAP) that was primarily aimed at providing further social and economic impetus for sustained and accelerated economic growth turned out to be an austerity measure and counterproductive. As a result, the Ghanaian economy failed and unintended economic hardships of poverty and hunger were felt by the people. Consequently, quick remedial measures referred to as the Programme for Mitigating the Social Ills of the Structural Adjustment (PAMSCAD) were introduced by the IMF and the World Bank. PAMSCAD kept the economy at bay with relatively little economic gains until the late 1990s (Anaman, 2006).

The third period, which covers the current developmental stage can be referred to as a period of "Study Accelerated Growth" in which Ghana moved from an highly indebted country to a lower middle income developing country status in 2011. This period of Ghana's relative sustained and increasing economic growth may be explained by sound and productive economic growth policies coupled with relatively disciplined government expenditure and microeconomic restructuring. The pursuance of sound economic restructuring and fiscal discipline policies by the government coupled with the sacrifices of the people allowed for better economic gains and wellbeing between 2000 and 2010. This period provided a relatively better spatio-economic development coupled with a relative increase in the general wellbeing of the people (Aikins, 2011). Geographically or spatially, this period saw

an increase and improvement in spatial and economic (spatio-economic) development infrastructure such as roads, schools, commercial, financial, service, business establishments and institutions, hospitals, and markets. The spatial benefits of these development infrastructures that are visible in space have yielded additional social and economic benefits through tolls and taxes. Traditionally, income obtained from tolls and taxes provides additional economic resources for further national development. In this sense, spatial infrastructural development served as a catalyst for national growth and development (Aikins, 2011).

3.2.3. Development as a classification

Usually, the state and the process of development largely provide the basis for accessing the overall performance of a given country comparative to the level of economic achievements, development and wellbeing enjoyed by other countries world-wide. For instance, during the 1980s Ghana was classified as a least developed country and it was classified as a highly indebted country by the year 2000. The computation and the classification of the level of development, economic performance and the general wellbeing of countries in the world are done by three main international and multilateral organizations: the United Nations (UN), International Monetary Fund (IMF) and the World Bank (IMF 2011 Sustainable Diversity, 2012). However, other socio-economic and political classifications exist. To a larger extent, the development classification criteria by these organizations are not mutually exclusive but largely complementary. In this paper, three main development classifications that are common to the UN, IMF and World Bank are discussed (Table 1).

3.2.4. High income countries (advanced countries/ developed countries)

They represent countries such as the United Kingdom, France, Germany and the United States of America that have positive trade balances and higher per capita incomes. The gross national income per capita of these countries is above US$ 12,276. Socially, a large proportion of the population of these economies is educated. Production is highly mechanized in these countries and this allows them to produce large quantities of goods within a short time frame and at relatively low production costs and market prices (economies of scale). Transportation (road and air transport) and communication (telephone and internet) infrastructure is well developed. Medical care and research are well advanced which mainly ensures high life expectancy and a relatively healthy labour force that can contribute to the achievement of a higher gross domestic product (GDP) per capita. Private ownership is encouraged (capitalist economy) while social welfare is provided to the under privileged population by the government (welfare state).

3.2.5. Middle income developing countries (emerging and developing countries)

This development category represents countries that have achieved some considerable success in obtaining some modest economic and developmental gains in their finances, food production, health, education, and infrastructural development. Countries including China, Brazil, Singapore and Ghana form part of this group. It is worth stating that developing as a classification is different from developing as a process. In respect of developing as a process, all countries (developed, developing, least developed) may be recognized as developing countries. This is largely because economic development-wise all countries are regarded as non-static, progressive or retrogressive economic and developmental entities. On the other hand, developing as a classification refers to economic entities or countries that go through constant structuring and restructuring to achieve a particular level of economic growth and development, which provide the basis for them to be classified into specific economic development groups based on specified economic and development conditions and criteria. Two main sub-typologies exist within the middle income developing countries group. First, upper middle income developing countries (economies in transition). This classification refers to countries of a relatively better economic achievement and wellbeing. Poverty is generally low in these countries. Mainly, they are characterized by relatively better socio-economic wellbeing, better medical care, moderate population with fewer numbers of people with low or no education, and a relatively moderate per capital incomes (a larger proportion of the population live on more than one US dollar a day). Countries that form this group include Albania, Croatia, and Gabon. The gross national income per capita of these countries is between US$ 3,976 and US$ 12,275. Second, lower middle income developing countries (less developed countries). This classification refers to countries of a relatively good economic achievement and wellbeing. Poverty is generally low in these countries. Mainly, they are characterized by relatively good socio-economic wellbeing, good medical care, a relatively high population, relatively few persons with low to no education, and relatively moderate per capital incomes (a relatively large proportion of the population live on more than one US dollar a day). Countries that form this group include Ghana and Nigeria. The gross national income per capita of these countries is between US$ 1,006 and US$ 3,975.

3.2.6. Low income countries (least developed countries)

Countries that form this group include Gambia and Liberia. Low income countries refer to countries of low economic achievement and wellbeing. Poverty is widespread in these countries. Usually, they are characterized by hunger, poor medical care, large population with low or no education, high rates of illiteracy, and low per capital incomes (a larger

Table 1. World Bank, IMF, and UN classification criteria and conditions

Development Classification Organization				
World Bank	**IMF (No one specific Human Development Index is used)**	**United Nations**	**Country**	**Human Development Index (Gross National Income Per Capita in US $)**
High Income	**Advanced Countries**	**Developed Countries**	United States of America, Germany	Above 12,276
Middle Income	**Emerging and Developing Countries**	**Developing Countries**		
1. Upper Middle Income	—	1. Economies in transition	Albania, Croatia, Gabon	3,976-12,275
2. Lower Middle Income	—	2. Less Developed Countries	Ghana, Nigeria	1,006-3,975
Low Income	—	**Least Developed Countries**	Gambia, Liberia	Below 1,005

Source: Compiled by author based on IMF (2011) and Sustainable Diversity (2012).

proportion of the population live on less than one US dollar a day). Most of these countries are trapped in a vicious cycle of debt with negative trade balances coupled with high financial borrowing rates that attract higher interest rates. Debt servicing and the sustenance of the local economies largely depend on financial support from donor countries. The gross national income per capita of these countries is below US$ 1,005. They are mainly 'agrarian economies' (agriculture is the main stay of these economies) and primary producers of raw materials for export, which complements the efforts of the agriculture sector for the provision of a larger proportion of their national incomes. Table 1 shows the criteria and conditions for the classification of countries per their level of development by the UN, IMF and the World Bank.

4. Definition and concept of sustainable development

The concept sustainable development was first used in the report "Our Common Future" that was submitted to the United Nations General Assembly in 1987 (United Nations, 1987). According to the United Nations (1987), sustainable development refers to a type of development, stating that it will 'ensure that it meets the needs of the present without compromising the ability of future generations to meet their own needs'. Spatio-economically, this concept recognizes the limited availability of resources in general and the notion that some resources may not be available for future use if care is not taken in the exploitation of such resources.

It is important to note that some natural resources such as vegetation, rivers and aquifers, and soil have reached the limit for their long term uses in this present generation. The problem of deforestation, especially the decrease in the extent of the tropical rainforest and the perpetuation and intensification of the conditions that lead to the formation of deserts (desertification) are among the visible signs of the rather fast and unsustainable uses of our resources. In this sense, the concept sustainable development does not only set limits for resource use, it also cautions the wasteful and increasing use of resources to meet the needs of the present generation without due recognition of the needs of future generations. The following subsections discuss four (main factors (income, human resource, technology, needs of society) that affect sustainable development.

4.1. Income

The exploitation and use of resources for the production of goods and services largely depends on the disposable income of a given country or people. Usually, large sums of money (income) are required for the purchase of prescribed machines and equipment that are needed for the exploitation and development of resources into finished products for use. Generally, low income countries have limited financial ability (limited income) to purchase the required machines, equipment, and tools to exploit and develop their available resources. As a result, resource use tends to be relatively low in these parts of the world compared to that of high income countries where development is at its peak. Through globalization, some industries in high income and advanced developed countries have relocated to relatively low income countries (least developed countries) with relatively large populations to take advantage of the available cheap natural resources and labour force that these countries provide. Consequently and in some instances, the resource exploitation and resource use activities of these rich multilateral companies often leave behind visible signs and scars of intensive use of resources in the affected low income countries that they operate.

4.2. Human resources

Human resources (labour) is one of the primary inputs of production. Usually, human resources are required to organize the various factors of production, particularly land and capital for the production of goods and services. Low income countries often lack manpower that have the

expertise in the use of modern machines and equipment that are necessary for the production of goods and services. In the case of high income and advanced countries, a relatively large proportion of their population is well educated and equipped with the requisite skills that are needed to help increase production to meet the demands of their modern societies. It is expected, therefore, that the negative effects of increasing resource exploitation and use be relatively higher in these advanced developed countries. However, in some instances, through international trade and outsourcing, some advanced developed countries are able to meet their resource needs requirement from other countries, particularly from the least developed counties thereby limiting the negative environmental impacts associated with the exploitation of such resources in their countries.

4.3. Technology

Technology is key component to effective and efficient exploitation and use of resources. Generally, technology and innovation are identified to be among the main attributes of most high income and industrialized countries. The use of high capacity earth moving machines and computers has revolutionized the construction and the mining industries world-wide. One should also note that the increasing use of machines and modern technology often lead to deforestation and soil degradation. The future use of the available natural resources will be limited if care is not taken during their exploitation. Without proper land reclamation and environmental remedial policies set in place, mining can be unsustainable because it usually does not replace the resources that it takes out of the earth.

4.4. Needs of society

The needs of modern societies largely call for the use of large quantities of resources to satisfy and meet their daily resource requirements. The extent of use of resources in modern societies largely depends on the material taste and requirements of such societies which is compounded by the growing population of the world. The satisfaction of the needs of the growing world population is highly dependent on the quality, quantity and type of resources available to a given society. If a relatively highly populated society has a high dependence on available resources then there are negative environmental consequences associated with unplanned resource exploitation. With the help of available technology, human ingenuity and innovation, some modern societies with a relatively higher demand for resource exploitation and use have largely been able to manage and control some of the negative environmental consequences associated with resource exploitation and use. The reverse holds true in some least developed countries where unplanned and destructive exploitation and use of resources such as bush burning and illegal mining activities sometimes cause environmental problems comparable to those created by advanced modern societies.

5. The nexus between geography, resource use and sustainable development

The relationship between geography, resource use and sustainable development can be represented in the form of a triangle with geography as the base flanked by resources use and sustainable development (Figure 1). Geography defines the domains of human activities with respect to the type and quantity of resources (natural resources, capital resources mainly income, human resource, and man-made/cultural resources) available and accessible to the residents of that community as well as where the available resources are located for use (resources use). Additionally, geography provides the basis for the operational efficiencies of the

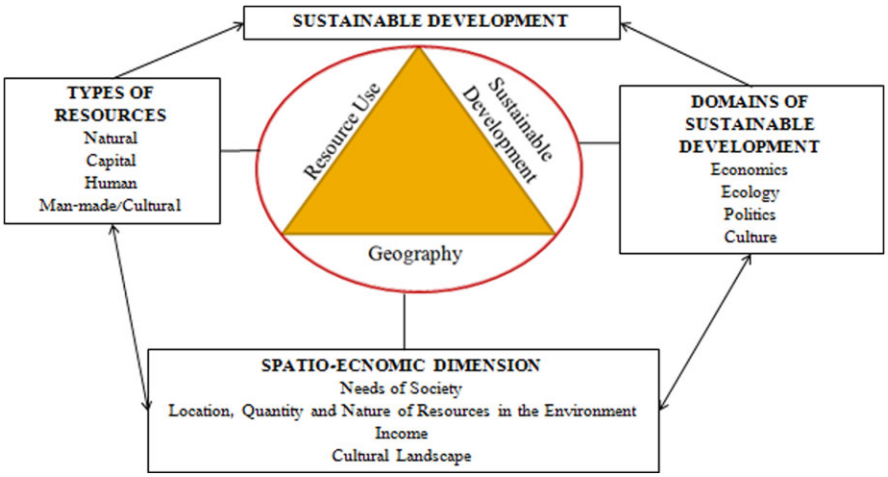

Figure 1. Geography, resource use and sustainable development interrelationships.
Source: Author's elaboration.

domains of sustainable development (mainly economics, ecology, politics and culture).

First, the relationship between geography and resource use is based on the spatial attributes (location and spatial extent) of the available resources. Usually, the closer a resource is to a community, the more accessible the resource is to the community provided that all other factors of production are available to that community. The reverse also holds true. In relation to a resource's spatial extent, the aerial coverage of a particular resource (resource per unit area) largely defines the quantity of resources available for use in a given community. Since resource availability and use (both by location and spatial extent) play an important role in satisfying human needs at both global and local community levels, the geography of an area largely becomes the focus of development. Normally, the benefits and loss of resources related to the rate and extent of development are largely contained within the space or community ("local impact") where the needed resources are exploited to meet the developmental needs of the affected community. This paper recognizes the possibility that some basic resources are imported from other communities when these resources are lacking in some affected communities. Recognizing this possibility, the impact of resource exploitation on space could be referred to as "foreign impact" to the community that obtained the resource from another community. Traditionally, the benefits and loses of resource exploitation and use are shared by both the resource processing (local community) and producing (foreign community) communities respectively. In both instances, the space (geography) within which resources are exploited and used becomes the common denominator within which both benefits and loss of resources exploitation and use are realized.

Second, the relationship between geography and sustainable development is mainly economical, ecological, political and cultural in nature. This relationship largely determines the type and quantity of resources needed for the development and achievement of both local and global (space) economic aspirations and needs. Usually, the type, quantity, and quality of resources available to a given community are determined by the local and regional ecological setting and sensitivity, especially in the case of local resource use. The political will of the governing political body as well as government policies on natural resource use set limits for the exploitation and use of resources in affected communities. Generally, this is done with respect of the rules, regulations and the aspirations of affected communities regarding the present and future uses of resources available to the community. The culture of the people largely determines how much resources are needed within a given period of time for the production of finished goods either for sale outside the community or to be consumed directly by the people in the community.

Finally, the relationship between geography (space), resource use and sustainable development may be represented as the spatial and economic (spatio-economic) dimensions of resource use and sustainable development. At this stage, the spatial attributes of a given community with respect to the type, quantity, and quality of resources available combined with the development needs and aspiration of a community largely determines both the local and foreign resource acquisition and use options. The use of available resources (both local and foreign) for the production of goods and services provide both local and national incomes (capital) for development. Economically, income and capital (machinery, technology, and human resources) obtained from the sale of goods and services produced by affected communities largely provide the necessary economic impetus for further development. Since some resources are limited and finite in nature, it is important to use them sustainably in order to meet the needs of the present generation and future generations. In this regard human's cultural activities in space (cultural landscape) will have to be regulated in line with the consequences associated with the use of such resources for both the present and future generations.

6. Challenges of sustainable development

There has been a considerable improvement in development and sustainable development world-wide over the past thirty years (OECD, 2001). Still, sustainable development is confronted with some pertinent challenges that need to be addressed in order to help further development in various economies of the world in a sustainable manner (OECD, 2001). Some of the challenges of sustainable development that are more prominent in developing countries are examined in the following subsections.

6.1. Extreme poverty and corruption

Poverty is widespread, particularly in developing countries (United Nations, 2007; 2013). On average one out of every five people lives in poverty in developing countries while the socio-economic/income gap (income inequalities) between the poor and the rich keeps widening (OECD, 2001; United Nations, 2007; 2013). This rather high prevalence of poverty has negative consequences on the socio-economic wellbeing of the people in the developing world. In these countries, poverty is largely worsening the existing persistent social ills including disease, crime, and the use of narcotic drugs, especially in the urban and the urbanizing areas of developing countries (OECD, 2001; United Nations, 2007; 2013). Consequently, governments of developing countries are largely trapped in a cycle of increasing resource exploitation mainly for exports to earn income and help address their current state of relatively high poverty without regard for the environmental consequences associated with their resource exploitation.

Corruption is equally pervasive in developing countries, especially among some African and Asian countries (United

Nations, 2007). The United Nations (2007) estimates that nine out 10 developing countries require some form of assistance to fight corruption. By nature corruption and poverty are income deprivation agents. Mainly, they limit effective income mobilization and savings at both the individual and national levels. Consequently, they largely set limits for any countries efforts in providing the needed economic impetus for national and foreign investments as well as sustainable development.

6.2. Political instability

Political conflict, overthrowing of democratically elected governments, and ethnic conflicts often result in war situations and general unrest that limit socio-economic progress and development of affected developing countries (Anaman, 2006). Generally, business, commerce, and other entrepreneurial work thrive well in a peaceful and a politically stable environment. The displacement of people during wars literally limits the workforce available for effective production of goods and services that are mainly measured in the GDP of affected countries. Related to this, foreign investments that provide economic impetus for the growth and development of most developing countries become scarce largely due to the social and economic risks associated with war situations and political instability. Usually during wars, development infrastructure of foreign companies and institutions are destroyed and the owners and representatives of such businesses institutions largely become targets of the various warring factions. Consequently, war situations mainly result in breaks in development and the attainment of sustainable development.

6.3. Environmental deterioration

This phenomenon is increasing in most developing countries. For instance, the exploitation of natural resources is associated with negative environmental consequences such as soil erosion, loss of forest and forested vegetation, loss of habitat, loss of biodiversity, the depletion of fish stock, and pollution (Aikins, 2012a, 2012b). Although most developing countries need to increase production for accelerating economic growth to help eliminate the social ills associated with poverty and underdevelopment, the fact remains that care has to be taken in their efforts to exploit resources for development. Within the past thirty years the world's ecosystem and the stock of renewable natural resources declined by 30% and within the same period the demand for these resources increased by 50%. This largely creates a mismatch (an inverse relationship) between world stock of natural renewable resources and ecosystems and the demand for their use (OECD, 2001).

6.4. Population growth

Increases in population of developing countries coupled with its associated pressure on resource exploitation and use to meet the increasing demands of the growing population could worsen the current levels of environmental degradation and resource depletion (Aikins, 2003). For example, the share of developing countries population of the expected increase of 2 billion people world-wide over the next twenty years is about 95%. This increase suggests that the population of most developing countries will double over the next twenty years and there will be an unprecedented increase in the levels of resource exploitation and consumption in affected countries (OECD, 2001). This expected high level of resource consumption could worsen current levels of environmental degradation and deterioration as well as limit current sustainable development efforts.

6.5. Disease prevalence (HIV/AIDS and Malaria)

HIV/AIDS and malaria are two of the most dangerous diseases that are common to most developing countries. In addition to their effects on increasing infant, child, and maternal mortality, these diseases are associated with debilitating effects that affect work performance and productivity of workers. This largely limits national productivity and achievement of national economic growth targets and sustainable development.

6.6. Marginalization

Some of the policies of some advanced industrialized countries such as trade protectionism largely limit the full participation of some developing countries in the global economy (OECD, 2001; United Nations, 2013). Generally, most developing countries are confronted with slow economic growth, heavy external burdens, corruption, disease, political instability, and food insecurity that might not qualify them to be trade partners of some high income countries. If trade protectionism persists then most developing countries may be forced to increase trade among themselves which may not be helpful to their development efforts, since most of these countries produce similar and non-complementary goods. Apart from limited trade, the transfer of information, technology and innovation that could benefit the affected developing countries in their effort to attain sustainable development may be limited by their lack of and limited participation in the global economy.

7. Strategies for attaining sustainable development

The following measures are key to the attainment and maintenance of sustainable development.

First, breaking of the cycle of poverty through increased commitments of governments of the developing world and the international community to eliminate poverty and offer improved and sustainable ways of achieving socio-economic development (OECD, 2001; Blossner and de Onis, 2005).

Second, limit environmental degradation through improved methods of resource exploitation that encourage the use of equipment and machinery that cause relatively little harm to the environment. The parties involved in extracting the resources also have to comply with environmental protection policies that regulate the use and exploitation of resources.

Third, eco-capitalism could be encouraged. Mainly, eco-capitalism refers to the sustainable exploitation of natural resources for the purpose of generating capital and profit to augment the national incomes of affected countries. More private institutions could be incentivized to participate in the control and use of natural resources. (Shrivastava, 1995; Anderson and Leal, 1999).

Fourth, structural changes in work ethics and economic policies at the local and national levels to achieve improvements in the socio-economic wellbeing and political life of the people in affected developing countries.

Fifth, intensify the reduction in current mortality rates (infant, child and maternal) through improved and accessible health care. Strong public health policies are needed that target reductions in communicable diseases, offer incentives for good sanitation practices, and ensure improved access to clean water.

Finally, create and maintain a stable political atmosphere that focuses on providing the needed support for peace and development. This can be done by setting achievable policies and planning initiatives with a primary aim to eliminate poverty, create jobs, and reduce current unemployment levels with a special focus on youth unemployment.

8. Conclusion

This paper concludes that for the benefit of present and future generations in relation to the gradual and continual expansion our interconnected world sustainable development needs to be discussed in the context of space focusing on the spatio-economic dimensions of the geographies of affected countries.

The nexus between geography, resource use, and sustainable development needs to be maintained in all development efforts to help provide an impetus for a world-wide reduction of environmental degradation and to also preserve resources available to the global community, particularly ecologically sensitive resources.

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