

The Sustainable Development in Mali

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Abstract

The government of Mali has the ambition to transform the country's economy into a green and climate resilient economy. The objective of the workshop is to identify the pillars for the development of Mali based on the principal of a green and climate resilient economy. Climate change and energy challenges being a priority for developing countries, Investment in renewable energy and energy efficiency is important to reduce the negative economic, social and environment impact of energy production and consumption in Mali. Mali is aware that non- renewable resources are exhausted inexorably and tries to limit its energy dependence by using on solar energy, wind or fuels. With the current level of economic production in the world, many essential ecosystems are threatened or destroyed. Environmental degradation in developing countries is often viewed in terms of access to the resource. It should be noted that the societal and social dimension is at the heart of climate, energy and environmental issues.

Keywords: sustainable development, climate change, ecosystem, environment, renewable energy.

I-Introduction

Sustainability is a system concept, relating to the continuity of economic social institutional and environmental aspects of human society, as well as the non-human environment. It is intended to be a means of configuring civilization and human activity so that society, its members and its economies are able to meet their needs and express their greatest potential in the present, while preserving biodiversity and natural ecosystems, and planning and acting for the ability to maintain these ideals in a very long term. The Economy of Mali is essentially dependent on natural resources. The population growth and climate hazards which are mainly characterized by repeated droughts, have engendered an over exploitation and a deterioration of these resources. Climate change, which is a great challenge to the world in the beginning of this 21st century, is likely to worsen this deterioration. It means to day that the preservation of the integrity of natural environment is eminently economical. The impacts of climate change on the development being already visible require that the phenomenon be taken into account in the future planning for a sustainable development. To this end the major challenges to overcome in Mali in the area of environment are: The consideration of the environment namely climate change in all the sector-based policies and the development planning process at all territorial levels (national, regional and local). The strategic framework for growth and poverty reduction supports the implementation of the objective of National Policy of Stainable economic and social development of the country through food security, fight against any form of pollution or disturbances and against the process of degradation of natural resources and desertification.

II-What is Sustainable Development?

In 1987, the World Commission (WCED) provided what has been the most enduring definition of sustainable development « development that meets the needs of the present without compromising the ability of future generations to meet their own needs »: This definition assumes that all people must be able to maintain a reasonable quality of life indefinitely given that our quality of life is highly dependent on the use of natural resources they must be sustained.

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However, more recent conception of sustainable development now recognizes that it relies on the intersection on three important principles related to the environment social equity and economic.

III-Challenges of sustainable development

The world is faced with challenges in the three dimensions of sustainable development: economic, social and environment. More than 1 billion people are still living in extreme poverty and income inequality within and among many countries has been rising at the same time, unsustainable consumption and production patterns have resulted in huge economic and social costs and many endanger life on the planet. The multiple challenges to development in Africa have necessitated the use of a holistic approach that integrates ecological, social and economic dimension, and generates new knowledge, policies and actions.

1-Ecological challenges

The environment view of sustainable development focuses on the stability of biological and physical systems. Of particular importance is the viability of subsystems that are critical to the global stability of the overall ecosystem. Natural resource degradation, pollution and loss of biodiversity reduce system resilience. Climate change resulting from negative environment trends poses a great threat to the continent's sustainability and its food supplies. Environment, climate changes, the fight against the desertification and the safeguarding of biological diversity are challenges more and more structuring determining factors of wellness of the population. The natural capital of Mali which contributes in a critical way to the national production main road and with the living conditions of the households must be preserved. Indeed, these natural resources at the base of the development of country are subjected to an important process of degradation under the combined effects, of an overexploitation and dynamic the ecological natural ones worsened by climate changes.

2- Social challenges

The social concept of sustainable is people-oriented and seeks to maintain the stability of social and cultural systems including the reduction of destructive conflicts. Poverty is the main cause of under development in general and of degradation of natural resources in particular. Mali set up a national strategy of fight against the poverty harmonized with the objectives of the millennium for the development. Admittedly progress was made, but the objectives of millennium are likely not to be reached from here at 2018 in the field of health of reduction of poverty and hunger. The reduction of poverty and food safety remains the main issues for Mali.

3- Economic challenges

The economic approach to sustainability is based on the Hicks-Landahl concept of the maximum flow of income that could be generated while at least maintaining a good stock of assets (or capital), which yield these benefits. This is based on the underlying concept of optimality and economic efficiency applied to the use of scarce resources. Malian's economy rests basically on the primary sector, agriculture constituting the most important under-sector. By diversifying its bases and privileging the accelerated growth, favorable to the poor and creative of employment and income-generating activities. Mali wants to reach rates higher than 7% a year.

IV-Climate change- What does it mean?

Climate change is a global issue that affects us all. Changes in climate patterns mean that extreme weather events such as heat waves, floods, storms, droughts and bushfires will become more frequent, more widespread or more intense. Climate change is the result of changes in our weather patterns because of an increase in the Earth's average temperature. This is caused by increases in greenhouse gases in the Earth's atmosphere. These gases soak up heat from the sun but instead of the heat leaving the Earth's atmosphere, some of it is trapped, making the Earth warmer. Climate change is also known as global warming.

V-What activities produce greenhouse gases?

Greenhouse gases are produced by human activity, including:

- Burning fossil fuels, such as coal, oil or gas.
- Using energy (generated by burning fossil fuels (coal, oil, gas))
- Some aspects of farming, such as raising cattle and sheep, using fertilizers and growing some crops.
- Breakdown of food and plant wastes and sewerage.

- Some industrial processes, such as making cement and aluminum.

The main greenhouse gases generated by human activity are carbon dioxide, methane and nitrous oxide and some manufacture gases such as chlorofluorocarbons (CFCs), halocarbons and some of their replacements. Water vapor is also a powerful greenhouse gas but the amount in the atmosphere is not directly linked to human activity

VI-Climate Change Impacts

Research by the world's leading Scientists suggests that without actions to reduce greenhouse gas emissions, the Earth's surface temperature is likely to rise by 1.0°C-6.4°C by the end of this century. Likely outcomes are reduced water, availability, more heat waves, fewer, frosts, more storms, stronger tropical cyclones and rises of 18-59 cm in sea levels.

1-Socio-Economic and Environmental

Some of environmental and social impacts of Mali's current energy mix are: Deforestation of about 400.000 ha per year. Emission of 15-45 megatons of carbon dioxide representing 94.33% of Mali's total gas emissions in carbon equivalent. A decrease in the population's purchasing power because of the rising price of petroleum products. The impacts of renewable energy use have been assessed in relation to the deployment of solar PV systems and in the context of the preparation of renewable energy projects. At the social level, increased access to and improved use of basic social services, such as education and health care and increased access to water in rural areas. Solar home systems also prevent health issues related to indoor use fire wood and improve household safety by decreasing domestic accidents caused by candles and kerosene lamps.

At the economic level, new jobs and new income generating activities, modernization electricity access local capacity building and better living conditions for women, less kerosene purchased by households, less firewood used and better processing and conservation of agricultural products. At the environmental level, reduction in carbon dioxide emission and various forms of pollution, as well as less pressure on forests by using alternative energy that can reduce deforestation. However, renewable energy initiative can also have negative effects or barriers that may prevent their large scale development.

2-Agriculture and food Security

Most people in Mali derive their livelihood from the use of natural resources and this is linked to the main economic sector, agriculture, which employs about 80 per cent of the total population. Agriculture remains a key driver of the transformation of Africa because of its expansive opportunities for value-addition increased labour land productivity; Climate change will affect all four dimensions of food security: food availability, food accessibility, food utilization and food systems stability. Agriculture is the most important sector for most little developed countries as the impact of agricultural growth on poverty reduction tends to exceed the impact of growth in other sectors. Climate change could worsen the prevalence of hunger through direct negative effects on production and indirect impacts on purchasing powers.

3-Health

The potential impacts of climate change on human health would increase vulnerability and reduce opportunities by interfering with education and ability to work. Changes in temperature and rainfall may change the geographic range of vector-borne diseases such as malaria, fever, exposing new populations to these diseases. Climate change and climate variability are and will be a threat to human health. Climate change already affects human health directly, for example through increased heat stress or loss of life in floods and storms, and indirectly through changes in water availability, air pollution and the ranges of diseases vectors (for example mosquitoes) waterborne pathogens and food borne pathogens and food borne diseases.

Summary

Mali is a landlocked country in the heart of the Sahel region of West Africa, with an economy dominated by the primary sector. It is vulnerable to climate change impacts and there is a need to increase the resilience of ecosystems and communities, and to engage in a sustainable management of natural resources. Considerable efforts have been made by the Government in recent years to begin the transition to a Green and Climate Resilient Economy. Its surface of covers is of 1.241.248 Km², 51% of wick in desert. Its population is estimated at 14, 5 million inhabitants and its average annual growth rate is 3.4%. Nearly 73% of the population resides in rural areas.

Mali's climate is characterized by a long dry season and a rainy season that lasts on average one to five months per year, depending on the region. On the basis of rainfall levels, the country is divided into four main areas corresponding to four ecological zones whose agricultural potential is diversified. Two energy sub-sectors are particularly vulnerable to climate variability: wood, fuel (firewood and charcoal) and hydroelectricity. The concept of sustainable development emerged in the 1980s as a result of the world's recognition of the need for environmental protection in development planning practices. Although many benefits have been claimed for sustainable development, such as it being a framework of achieving a balance between socio-economic development and environment conservation.

Conclusion

Today, it is widely agreed by the scientific community that climate change is already a reality. The rate and duration of warming observed during the twentieth century are unprecedented in the past thousand years. Climate change is a serious risk to poverty reduction and threatens to undo decades of development efforts. The use of biomass energy has many unique qualities that provide environmental benefits. It can help mitigate climate change, reduce acid rain, soil erosion, water pollution and pressure on landfills, provide wildlife habitat and help maintain forest health through better management. Sustainable Energy Development Strategies typically involve three major technological change energy savings on the demand side, efficiency improvements in the energy production, and replacement of fossil fuels by various sources of renewable energy

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