

Jayaraj Annapackiam College for Women(Autonomous)

Periyakulam

Mrs. G. Saktheeswari, Assistant Professor in B.Com (CA)

Email-id: kirushitha@gmail.com

Phone No:9944400097

IMPACTS OF NATURAL DISASTERS ON ENVIRONMENTAL AND SOCIO-ECONOMIC SYSTEMS

ABSTRACT

A natural disaster can be defined as some impact of an extreme natural event on the ecosystem and environment, and on human activities and society. The environmental and socioeconomic impacts of natural disasters and focuses on the factors that can contribute to reducing damage both in material terms and in terms of loss of human life. A reflective analysis was carried out - based on a qualitative and quantitative approach - integrating environmental, economic and social dimensions of sustainability as well hydro-meteorological, climatologically and geophysical paradigms of disasters (Hazard-Risk-Vulnerability-Resilience). Our objective is to identify key variables in the reduction of vulnerability and the prevention and mitigation of the impacts of natural disasters. The concept relies on the interaction of a natural agent—the hazard—with human vulnerability to produce a risk that is likely to eventually materialize as a destructive impact.

Key-words: Natural disasters; Environmental and socioeconomic impacts; Vulnerability.

INTRODUCTION

Natural disasters are caused by hydro-meteorological, climatological, geophysical and biological phenomena which adversely impact on the natural and built environment of affected regions. The disasters expose the cumulative effects of decisions (individual and collective) previously taken in terms of land management (including unregulated growth of urban areas), construction techniques, implementation of sanitation infrastructure and low

investment in educational programs, poverty reduction and social integration, among others. Such decisions combined with high intensity natural events (e.g. floods, landslides, storms and earthquakes) provoke an array of socioeconomic and environmental impacts.

A trans-disciplinary approach to the underlying concept of natural disasters suggests that they are characterized by naturally occurring events whose consequences are often aggravated by man-made actions which surpass the capacity of man's built infrastructure to contain. They result in tragic disturbances in the social and environmental sphere together with socioeconomic impacts of extreme severity, such as high levels of material damage, the loss of life and means of subsistence for affected communities, and the spread of infectious diseases due to the degradation of sanitary conditions. They are consequently responsible for a series of adverse environmental and socio-economic impacts due to the way they cause disturbances (or imbalances) in the environmental Systems.

In the last two decades many studies have consistently presented forecasts and demonstrations of an increase in the frequency and intensity of natural disasters (e.g. hurricanes, floods, droughts and associated forest fires, earthquakes, tornadoes, among others), all those related to climate factors and the relation between natural disasters and the macro-economic indicators of different countries.

CLASSIFICATION OF NATURAL DISASTERS

Natural disasters, even when they are classified as small or moderate are responsible for adverse socio-economic and environmental impacts, particularly in underdeveloped regions (or regions in development). This is due to both a lack of preventive action plans and resources and to low resilience, inherent to low levels of social capital which contribute to the prolongation of the adverse effects on the environment and society. This prolonged duration causes a greater spatial dispersal of environmental impacts where natural agents (e.g. water, wind) transport the problem beyond its source and aggravate socio-economic impacts by disturbing economic activity (e.g. agriculture, trade, tourism) and increasing social vulnerability.

It is important that: (i) *environmental aspect* is the element of an organization's activities, products and services which may interact with the environment; while (ii)

environmental impact is any change to the environment, adverse or beneficial, which is a result, fully or partly, of environmental aspects of the organization.

In this context, the environmental aspect is related to the cause of the problem or to an environmental improvement, while the environmental impact is related to the effect of the problem or to an environmental improvement. Therefore, environmental aspects should be identified based on the following factors : (i) social inclusion; (ii) economic development; (iii) use of resources; (iv) transport; (v) environmental and ecological protection.

ENVIRONMENTAL AND SOCIO-ECONOMIC ASPECTS OF DISASTERS

Environmental aspect

The environmental aspect of natural disasters has been widely addressed in the specialized technical ways. The aspect of aims to highlight the strong relationship of interdependence which exists between protection and conservation of bio-physical factors (e.g. land, water, atmosphere, fauna and flora) and socio-economic development. The growth in the development of rural tourism which essentially exploits activities inherent to rural regions is an example which underlines this affirmation.

The environmental aspects (causes of impacts) connected to engineering mega-projects which are likely to cause large-scale population movements, among many other significant negative environmental impacts with a wide variety of consequences. These projects are usually supported by viability studies which point to the generation of multiple positive socio-economic externalities for the regions where they are implemented, such as economic growth resulting from the revitalization of existing activities, the creation of new investment opportunities and employment for the local population.

Socio-economic aspect

The socio-economic aspects of disasters due to the direct impacts on vulnerable communities. These often conceal environmental impacts and therefore are deserving of special attention on the part of agents, politicians and researchers who are responsible for finding solutions to mitigate their effects.

The natural disasters cause significant economic and physical damage whose effects can spread beyond the immediate locality. They also observed that the impact of disasters on economic growth is not always negative and that developing countries are more vulnerable to these disasters as more sectors are affected. To draw the attention to the fact that in underdeveloped regions economic growth rarely occurs after natural disasters as the intensity of the negative effects depends on the structure of the economy. Moreover, it is known that regions with low social capital also have weak economic structures and experience difficulties in securing adequate resources to address the problems caused by disasters.

ENVIRONMENTAL AND SOCIO-ECONOMIC IMPACTS ASSOCIATED TO NATURAL DISASTERS

Environment has to have impacts of various things. They can be classified into three impacts are as; air, water and soil. These have a direct as well as indirect impact on the environment. This is putting a bad impact on environment. Air pollution is accountable for spoiling the atmosphere. It is also responsible for smoke and smog. It is to spoil the air by automobiles.

Pollution of water is to be spoiled by the water biota as well. Water environment is to be impacted by the things present in water. It is about raise in the amount of water pollutants. Pollution is exceed in anything in the environment. Soil is also impacting the environment. Soil biota is to have a negative impact if it is receiving industrial and residential waste. Both kinds of wastes spoil the environment. Noise is almost unavoidable in the modern world. Going out of one's house is stressful, because of noise pollution that exists everywhere. Drivers honk their cars without thinking anything out of it. People in general do not realize that they are contributing to the environmental pollution and ruin the natural state of things.

Economists and social scientists have for the most part not considered disaster issues as a priority. This has changed in recent years as researchers have been analyzing disasters quantitatively in an effort to understand their social, economic and political dimensions. Consequently, there seems to be an ever growing demand for data and information as well as a sound set of methodologies so as to facilitate a thorough investigation of disasters' impact on

national development. The key data issues that complicate the task of disaster impact estimation include data inadequacy, data inconsistency, variations in terminologies used in relation to data attributes and the resulting difficulties in identifying disasters and their effects. The existing methodologies available for estimating disaster impacts face several issues due to the complex nature of impact assessment. Economic models that are used in disaster impact assessment were not designed specifically for disaster analysis and many for the most part do not account for disruptions in economic relationships as a result of disasters.

CONCLUSION

The environmental issue has been largely ignored in conventional economic analysis and decision-making, whose main objective has generally focused on profit maximization. The environmental system is a key development factor and that it has a finite capacity to provide for human needs; in economic terms, it is a scarce resource. Though scarcity of environmental resources and services may be very high in certain regions of the world, the economic value generally placed on them is often underestimated and close to zero. In many cases this has led to an unsustainable path of economic growth. The social dimension has also to be accounted for because humans are integral parts of ecosystems. Humans and ecosphere are partners in ensuring a good quality of life. It follows that protecting natural resources, their composition, structure, and functions, is protecting humans and life on earth.

The improvements have been achieved in the general knowledge of environment-economy interactions from both the scientific/technical and economic viewpoint, including how future generations can be accounted for in decision-making. Considerable work has also been undertaken to analyze the interactions between some social aspects and natural resources depletion, though more investigation is still required in this area. Finally, the decision-making development planning activity has also undergone substantial changes in terms of both the approaches and the analytical techniques. Thus the reflective analysis was carried out - based on a qualitative and quantitative approach - integrating environmental, economic and social dimensions of sustainability as well hydro-meteorological, climatologically and geophysical paradigms of disasters.