Soil Restoration and Management of the UNESCO MAB Maya and Trifinio Reserve Ecosystems, Guatemala

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INTRODUCTION

Human and wildlife well-being are indispensably linked to forest ecosystems, soil and water resources management. Nevertheless, the impacts of anthropogenic activities and extreme weather events affect the global environmental sustainability, as well as life quality of vulnerable populations residing in or near natural sites. In order to investigate this issue, this research focuses on two UNESCO MAB sites, Maya Biosphere Reserve and Trifinio, located in Guatemala, Central America.

OBJECTIVES

General Objective:
To evaluate the progress of the components of the National Forest Landscape Restoration Strategy.

Specific Objectives:
To determine the environmental impacts of the socio-economic development from sources that generate income, employment, goods and services .

To evaluate the livelihood and biodiversity at the local level, the impact on native species, the provision of goods for subsistence (food, medicine and firewood), and the use of native species that contribute to the maintenance of ecosystem services.

To determine territorial forest governance oriented to the development of technical, administrative and financial capacities of government institutions, non-governmental organizations, indigenous peoples, the private sector, local governments and academia.

METHODOLOGY

Approaching and defining the aforementioned problem in two axes: (1) deficit of forest cover and the gap that exists between the law, the policy and the restoration strategy in UNESCO MAB Maya and Trifinio.

Delimitation of the problem: According to the document "Predicted and Determined Contribution at the National Level" (INDC) (2015). "Guatemala is particularly vulnerable to the effects of Climate Change, the country has great natural and cultural wealth. It is among the 19 mega diverse countries of the planet, with 33.7% of its territory with forest cover.

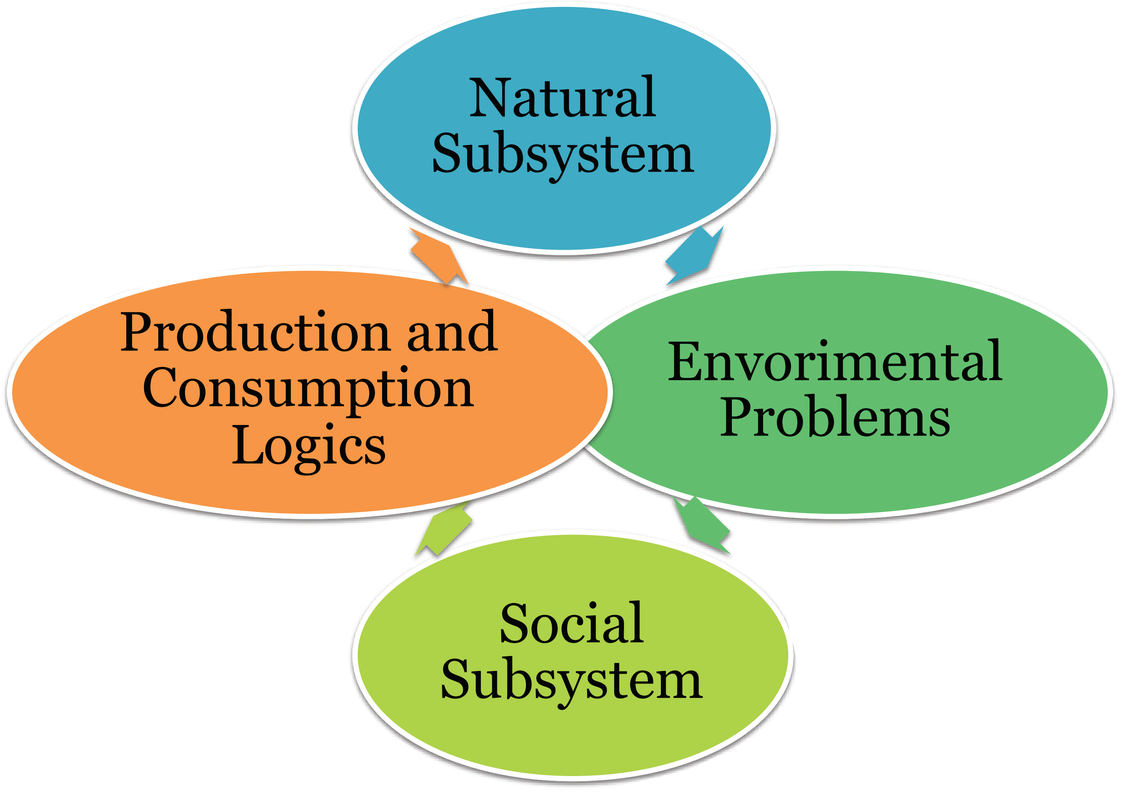

Figure: Production System and interference in the environmental subsystem.
Source: Own elaboration based on Present and future challenges in society-nature relations in Guatemala IARNA, 2017.

Hypothesis: Restoration within the framework of the forest ecosystem is an adaptation and mitigation mechanism that mitigates the effects caused by climate change. Therefore, restoration processes and projects advance according to the characteristics of each territory, in which multiple factors (social, political, cultural and economic) converge.

MAIN RESULTS

Despite the available literature on this topic, it is not possible to measure the impacts and effects of human intervention; but it is considered that the satisfaction of the needs of humanity also responds to a consumption logic and production system, as mentioned by the Institute of Research and Projection on Natural Environment and Society (IARNA) Challenges present and future in the relations between society and nature in Guatemala (IARNA, 2017).
The Figure shows how the production system influences the natural subsystem and generates environmental concerns.

CONCLUSIONS

This work represents the consensus of modifying the traditional development model focused on economic, social and environmental sustainability, where countries agree to focus their efforts on ending extreme poverty, fighting against inequality and injustice, and combatting the effects generated by climate change and desertification of soils in the MAB areas of Guatemala, as in any other ecosystem anywhere in the world.

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