



Case report

Multiscale forest governance structures within a transboundary biosphere reserve in Central America

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ABSTRACT

This case report examines the successes and limitations of the forest governance structure within Trifinio Fraternidad Biosphere Reserve in El Salvador, Guatemala, and Honduras. Plan Trifinio, an interstate agency that manages the biosphere reserve, works with international, national, municipal, and local institutions to promote reforestation and agroforestry with varying degrees of success. Because of Plan Trifinio's complexity, bureaucratic and cumbersome processes can create long intervals between the formulation of initiatives and the final approval of development projects. Despite these concerns, the trinational organization has minimized conflicts and generated better opportunities for sharing information and cooperation.

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1. Introduction

At the global scale the emphasis in forest governance has changed from state-centered structures to governance structures which rely on mixed approaches that include public and private stakeholders. Large expanses of land in Central America are governed through various forms of state, communal, and private management, but communal approaches to land and resources management and the decentralization of governance structures have received increasing attention as a mode supporting local participation in decision-making. Several studies that discuss the effects of decentralization on forest management have emerged, however few studies include issues such as equity, democratization, or global economic linkages that often influence forest governance. The process of implementing changing governance of resources can yield varied degrees of effectiveness. Local elites may control decentralized institutions and use them for their own benefit, or central government corruption may be simply replaced by municipal government corruption. Wittman and Geisler (2005) found that decentralization of forest management can diffuse centralization to the municipal government and may weaken village-level forest governance institutions. Better forest conditions have been shown to associate with stronger local institutions (Tucker, Randolph, & Castellanos 2007), while Pagdee, Kim, and Daugherty (2006) highlight the importance of features such as membership, participation, congruence between social and biophysical boundaries on forest management.

This case report examines multiple scales of forest governance institutions within Trifinio Fraternidad Biosphere Reserve in El Salvador, Guatemala, and Honduras, the only trinational biosphere reserve in Latin America and at the center of the Northern Triangle region. This transboundary biosphere reserve was established in 2011

and is maintained by Plan Trifinio, an interstate agency under the direct supervision of the vice presidents of the three countries that works with international, national, municipal, and local institutions to promote economic development through sustainable resource management. The objectives of this case report are to examine the successes and limitations of the innovative organizational structure of Plan Trifinio in promoting sustainable forest management and forest restoration projects in the region. During an eight-month sabbatical leave from the university, I was a Peace Corps Response Volunteer (PCRV) serving in a small village adjacent to Laguna de Metapán, a small closed-basin lake in the Department of Santa Ana in northeastern El Salvador. Plan Trifinio was my official counterpart agency as a PCRV. In addition to Plan Trifinio, I worked with various other governmental and nongovernmental organizations in nine different communities surrounding Laguna de Metapán to develop sustainable approaches to natural resource extraction and pollution mitigation. As a PCRV and Plan Trifinio representative, I was able to examine the multiscale governance structures that promoted sustainable forest management and forest restoration in the biosphere reserve. This region of the Northern Triangle has often been neglected as a research location for studies of deforestation trends and human-environment interactions although the region has increased in population by greater than 30% per decade. The majority of people in the rural communities continue to use fuelwood and extract timber for household uses from adjacent forests.

2. Multiscale forest governance structures in the Trifino region

The Trifinio region covers approximately 7500 km² at the borders of El Salvador, Guatemala, and Honduras. The three countries meet at Montecristo (2400 m above sea level). This region has a diversity of forest types, including cloud, mixed pine and oak, subtropical dry, transitional, and secondary forests. The region is comprised of ap-

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proximately 750,000 people within 22 municipalities in Honduras, 15 municipalities in Guatemala, and 8 municipalities in El Salvador. Approximately 70% of the people live in rural communities and most people rely on forests for fuelwood and timber. For several decades, these three governments have been interested in protecting the natural environment that surrounds Montecristo. Forest management plans developed in one country can influence the neighboring countries because they share the same watershed. An innovative, transboundary and multiscale forest governance structure was proposed with the implementation of Plan Trifinio.

Plan Trifinio began towards the end of the Guatemalan and El Salvadoran civil wars when the regional peace talks culminated with the signing of the Esquipulas peace agreements in 1987. In the years following the Esquipulas peace agreements, the Organization of American States and the Inter-American Institute for Agricultural Cooperation supported the development of Plan Trifinio. Plan Trifinio works towards the sustainable, economic development of the transnational region. Plan Trifinio allows for joint cooperative actions to be carried out by the three countries with an emphasis on the natural environment of the region. Additionally, it serves as an approach towards the integration of Central America. One of the initial proposals, an international park shared by the three countries, focused on the sustainable management of the natural resources to promote economic development based on citizen participation, decentralization, sustainable management of resources, and equity. Many of the first projects within Plan Trifinio concentrated on the loss of forest cover.

Trifinio-Fraternidad Biosphere Reserve is the first trinational biosphere reserve in Latin America and emerged from the initial proposal for an international park. It is a major contribution to the implementation of the Mesoamerican Corridor and is home to a large number of endemic species that inhabit the tropical humid forest. The biosphere reserve has cross-border core areas that protect large parts of tropical forests and also is the source of the Lempa River, which crosses the three countries before reaching the Pacific Ocean. Three million people depend on the waters of the Lempa River for their livelihood. The management of this new biosphere reserve is coordinated by Plan Trifinio under the direct supervision of the vice presidents of the El Salvador, Guatemala, and Honduras.

The organizational structure of Plan Trifinio requires that the vice presidents of the three countries are part of the trinational commission and play an important role in implementing policy and minimizing conflict between the countries. The vice presidents work with the Trinational Executive Secretariat that consists of a rotating Executive Secretariat and the three National Executive Directors from each country. The vice presidents regularly visit the region to attend strategic planning meetings and promote development plans in the Trifinio region. The vice presidents and the Trinational Executive Secretariat develop projects in collaboration with the Trinational Technical Entity and the Consulting Committee. The Consulting Committee consists of departmental governors, mayors, the Trifinio Associations for Sustainable Development (ATRIDESts), nongovernmental organizations, and other civic organizations in the Trifinio region. Because the organizational structure of Plan Trifinio includes local citizenry and individuals at the highest levels of government, the trinational projects approved by Plan Trifinio have successfully received funding from the Central American Bank for Economic Integration, government development agencies in Western Europe and North America, the Organization of American States, and the International Union for Conservation of Nature.

Several European countries funded a pilot project in 1989 to strengthen Plan Trifinio by developing an extensive reforestation program. Technical experts realized that the implementation of reforesta-

tion projects needed to address the issue of land ownership because the majority of the areas targeted for reforestation were privately owned, which determined to a large extent the process and development of the pilot projects. Ultimately, a socioeconomic analysis was conducted and a regional development plan was established that identified multiple projects to invest that primarily focused on employment generation in rural, mountainous areas adjacent to the territory with the highest biodiversity. The existing level of poverty and the lack of access to economic capital among the population placed increasing pressure upon the sustainable management of natural resources that are crucial for rural communities in the region.

Within these rural communities, ATRIDESts emerged to enhance local participation and create dialogue with governmental and nongovernmental institutions to support practices for the sustainable use of natural resources and other needs within the communities. The ATRIDESts empowered local, community-level citizen group to voice suggestions and concerns on forest restoration programs and other development programs related to the sustainable use of natural resources, including mining issues, environmental pollution, and food security. In many communities, these ATRIDESts participated in capacity building programs supported by several development organizations, including the Tropical Agronomy Center for Research and Teaching (CATIE) and the international humanitarian organization CARE. While working with the communities of Laguna de Metapán, I participated in several workshops sponsored by Plan Trifinio seeking the input of local citizens on various projects that influenced the natural resources of the area. For example, I participated in workshops on the promotion of agroforestry and permaculture, the management of different zones within a biosphere reserve, the design of a visitor's center for a nearby state park that sought to celebrate the local natural and human resources, the environmental impacts of mining activity in Guatemala, and the importance of forests in promoting adequate water resources. Local communities voiced concerns directly to municipal and state government agencies and often international NGOs, creating a link across scales of governance from the local to the international. The municipal representatives view Plan Trifinio as an opportunity for participation and management to promote local development and their municipal agendas. Each municipality has its own plans, and any initiative within the area can be adopted for the purposes of cooperation and more participatory management processes. Community organizations and municipal alliances can respond in a strategic manner to local needs by acting under central government guidance. Participatory local development is a strong component for future resources management plans. ATRIDESt representatives comment that they have been functioning well and recognize that many of their ideas have had relevant local impact. Because of the connections across scales of governance, Plan Trifinio has successfully promoted household stoves that reduce firewood use, community tree nurseries, forest protection, permaculture, small-scale tree planting, agroforestry practices, and campaigns to raise awareness of environmental management and conservation.

3. Conclusions

Because of Plan Trifinio's complexity, bureaucratic and cumbersome processes can create long intervals between the initiatives and the final approval of development projects. Due to a lack of resources a permanent technical team for ensuring a sustainable and continued management of natural resources in the area has not been fully established. Although there are several indicators that Plan Trifinio is effective, the Trifinio Commission's limited economic resources and the low level of direct investment from national and international

government resources all serve to decrease possibilities to promote sustainable natural resources in the Trifinio region.

Despite these concerns, the trinational organization of Plan Trifinio has minimized conflicts and generated opportunities for sharing information and cooperation among the three countries and people within the 45 municipalities of the region. For the limited number of outreach staff who provide support and technical skills on the sustainable use of forests, the experience has been positive in terms of coordination and support at the executive level of the three countries. The active participation of the vice-presidents and the national executive directors of the three countries has generated positive outcomes in the Trifinio region. The investments made in the region are dependent upon the vision and strategy adopted by the central governments via their ministries. Also, empowering local citizens to make deci-

sions on projects in the Trifinio area could serve as a model for sustainability projects in other regions. Overall, the efforts of Plan Trifinio have been positive in the level of trinational institutions created, successful project implementation, and the local participation generated within the region.

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