

TECHNICAL BRIEF

Resilience Programming in Support of Reforestation: Emerging Lessons from Haiti

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Field Technician for the USAID Reforestation Project delivering an outdoor training on agrosylvopastoral systems in Milot, October 2020. *Photo Credit: Chemonics*

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Introduction

The USAID Reforestation Project is a five-year cooperative agreement between USAID and Chemonics. It aims to reverse the long-term trends of environmental degradation and tree cover loss in the Nord and Nord-Est departments of Haiti through resilience activities that create sustainable reforestation, while building the assets of communities. The project's objective is to increase tree cover in target areas

while reducing the threat of deforestation, improving resilience to economic and natural shocks, and improving environmental governance and coordination.

Over three years of implementation and after reviewing the results of a detailed household resilience survey, the project team has gathered several key insights and best practices to inform and strengthen programming. These insights help the project better enable beneficiaries to respond to shocks and stresses, which in turn directly reduces the threat of deforestation.

This brief focuses on three key lessons learned — the importance of social capital for resilience, leveraging social capital to establish community buy-in, and linking resilience activities to specific shocks. The project team applied this learning to implement a refined reforestation approach, which may be relevant to other projects incorporating components of resilience-building, sustainable landscape management, and reforestation. The purpose of this brief is to document these insights and their relevance for this and other projects moving forward.

Approach to Resilience

The project's approach to measuring and building resilience is based on understanding and building absorptive, adaptive, and transformative capacities, which influence decision-making, capacity to deal with stresses and shocks, and ultimately well-being outcomes of individuals and households.¹ Absorptive, adaptive, and transformative capacity can be measured with a variety of indicators, including financial assets, livelihood indicators, governance indicators, psychological capacities, and social capital.² As detailed in this brief, the project has highlighted social capital, which widespread research underscores as a significant influencer of household and community resilience.³

To understand the aspects of household and community resilience in its target communities' the project completed a comprehensive resilience baseline survey. The resilience aspects surveyed included perceived and experienced shocks, coping strategies, livelihood practices, types of capital available, resilience capacities, community profiles, and well-being outcomes. The survey instrument consisted of 13 modules and 252 questions, resulting in a potential 160,524 data points. The minimum sample size, calculated for the estimated 800,000-person population size of the project zone of influence, was 566, and 637 surveys were included in the analysis, 338 with services and 299 without services (i.e., the control group). The survey was conducted throughout five watersheds within the project zone of influence, and within each village agriculture-oriented households were randomly selected. The survey data was disaggregated by elevation, which allowed the Haiti Reforestation Project to identify differences between those living in highland and lowland areas.⁴

¹ Resilience Evaluation, Analysis and Learning (REAL) (2018). "Resilience Measurement Practical Guidance Note Series: Resilience Capacity Measurement"

² REAL (2018). "Resilience Measurement Practical Guidance Note Series: Resilience Capacity Measurement"

³ International Livestock Research Institute (ILRI) and Tango International (2016). "The Effects of Social Capital on Resilience Capacity"

⁴ Chemonics International, Inc. (2020). "USAID/Haiti Reforestation Project Resilience Baseline Survey"

Key Lessons Applied

Leveraging and building social capital for increased resilience

The resilience baseline survey measured three categories of social capital — bonding, bridging, and linking. The disaggregation between highlanders and lowlanders allowed the project to identify high levels of social capital among highland respondents as compared to lowland respondents, including bonding, bridging, and linking social capital, as well as strong community bonds, measured through a variety of indicators, shown in Table I on the next page.

Table I. Social Capital Data

<p>Community characteristics: <i>The presence and strength of community bonds and social resources.</i> Group membership. More than 70% of highlanders reported participating in one or more groups, such as farmer groups, women’s cooperatives, and religious groups, compared to 47% of lowlanders. Borrowing finance. Both highlanders and lowlanders reported that the most common source of loans to deal with shocks and stressors was a friend or family member (28.1% of loans for highlanders, 24.8% for lowlanders), followed by microfinance institutions (14.8% of loans for highlanders, 24.9% for lowlanders). The third most common sources of loans were village-based savings groups for highlanders (9.7%) and moneylenders for lowlanders (7.2%).</p>	<p>Bonding social capital: <i>Bonds between community or group members within a village, which the survey identified as providing and receiving help.</i> A high number of respondents in the highlands (84.9%) reported helping other residents in their village (primarily via work sharing), as compared to 65.7% of respondents in the lowlands. Additionally, 66.8% of highlanders reported receiving help (work sharing) from within their village, as compared to 41.5% of lowlanders.</p>
<p>Bridging social capital: <i>Connects members of one community or group to members of other communities and groups outside their village, which the survey identified as providing and receiving help.</i> In the highlands, 46.5% of respondents reported providing help to residents outside their village, compared to 31% of respondents in the lowlands. In the highlands and lowlands, respectively, 36.6% and 35.3% of respondents reported receiving help from others outside their village.</p>	<p>Linking social capital: <i>Vertical links between individuals and authority, which the survey identified as having a personal connection to government officials or NGO staff.</i> In the highlands and lowlands, 95.8% of and 89.9% of respondents, respectively, answered yes, they or someone in their household personally know an elected official. Meanwhile 59.8% of respondents in the highlands and 42.8% of respondents in the lowlands said yes, they could ask the official to help their family or village if needed.</p>

The Haiti Reforestation Project has leveraged the complementary relationship between social capital and resilience⁵ to inform and focus programming in the highlands. Capitalizing on the existing social capital in the highlands, and building on it when possible, is an essential element of the project’s approach to reducing deforestation threats. The project builds resilience capacities in various ways (supporting income generation, facilitating asset protection, and promoting adaptive agriculture techniques). Project activities that build on social capital are already present, drawing on existing networks and connections

⁵ ILRI and Tango International (2016). “The Effects of Social Capital on Resilience Capacity”

for community learning, resource sharing, and cooperation in pursuit of mutual benefit among stakeholders. Community-based organizations (CBOs) are a large part of this, as the survey results showed that formal and informal groups exist in all project zones and that households rely on these groups and other social connections for support and opportunities. CBOs provide an effective entry point for implementing project activities that build social capital. The team designed project activities to build new social capital to further develop intra-household, community, and stakeholder bonding — deepening and expanding existing relationships within communities, among communities, and with community-based public and private entities. These activities, informed by and focused on social capital, promote stronger support systems and information-sharing networks for individuals and communities, supporting individual and community access and participation in income-generating activities and equipping individuals and households to face shocks and stresses. Specific interventions implemented and prioritized based on these findings are listed in Table 2 below.

Table 2. Project Activities Informed by Social Capital

Project Objective: Bonding social capital. The objective of bonding social capital is to conduct joint sessions with household members of the identified group, to promote their working together, and to bond with a broader group of neighbors in the same community.

Example activity: Promoting adaptive techniques in livestock associations. To promote a more resilient livestock sector, given its critical importance as a productive asset for farms and households, the project promotes forest-friendly animal husbandry through improved livestock and pasture management, and capitalizes on bonding social capital to do so. Using the strong bonding social capital in communities, the project works with farmer and livestock associations in activities to support the adoption of improved animal management and agroforestry enterprise techniques. The project leveraged existing social bonds to promote adoption of livelihood techniques meant to increase resilience capacities. The presence of bonding social capital promotes increased implementation and sharing of these adaptive techniques, and preliminary results have shown increased adoption of e techniques, such as diversifying livelihoods and building livestock assets, in target communities.

Project Objective: Bridging social capital. Bridging social capital activities bring together identified groups/households from neighboring communities to learn from each other and establish mutually beneficial working relationships

Example activity: Producer group exchanges. The project supports local producers in targeted, high-value, non-wood agroforestry product value chains (e.g., coffee and cacao), by connecting producers to useful resources and tools to overcome production and commercialization constraints and improve access to markets. To help producers capitalize on commercialization opportunities, the project has connected members of cooperatives/micro-, small, and medium-sized enterprises (MSMEs) with groups from different value chains conducting similar commercialization activities. In March 2020, the project organized a meeting with staff of the Rassemblement des femmes engagées de Ouanaminthe (RFEO), a women’s honey production organization, and Rassemblement des Femmes Vaillantes de Limonade (RAFAVAL), a women’s cocoa processing and marketing organization, which has led to partnership between the two with RFEO now selling honey through RAFAVAL’s premises. These exchange programs promote and reinforce bridging social capital between MSME and cooperative groups operating in similar value chains, supporting skill building and information and resource sharing.

Project Objective: Linking social capital. Facilitating the development of linking social capital aims to create and strengthen the relationships between community-based groups and entities from the public and private sector to share knowledge and resources.

Example activity: Promote tree production with CBOs and government authorities. To increase tree cover, which can help mitigate the impact of environmental shocks and stressors, the project has and will continue to work with a range of stakeholders to increase tree cover in targeted areas. In 2019, the project brought senior technical staff from the Ministry of the Environment together with Apapanne (a sub-awardee and local agriculture organization). Apapanne staff advised the government on pest repellent techniques to better protect seedling plants, which were successfully implemented by the ministry for better pest control. By introducing proven tree production techniques, in settings that bring together individuals, local authorities, and CBOs, the project has capitalized on and strengthened linking social capital to support informed and collaborative decisions and help build resilience capacities.

Understanding levels of social capital within target communities, through a comprehensive baseline survey, enables program design to use and develop social capital and capitalize on the complementary relationship between social capital and resilience capacities for lasting positive impacts on well-being outcomes. Specifically, social capital-informed interventions support development of critical relationships to share information and resources, to call upon in the face of environmental shocks and stressors, and use the existing bonds as entry points and impact magnifiers for activities, all contributing to effective enhancement of household and community resilience. The inclusion of social capital considerations in the project's interventions are crucial for successful resilience enhancement, as past research has shown that resilience programming must not only include livelihood diversification approaches, but also interventions focused on and informed by social capital in order to build resilience in comprehensive and lasting ways for households and communities.⁶ These social capital-focused resilience activities contribute in crucial ways to the projects overall objective of reducing deforestation and increasing tree cover, as households with enhanced resilience are better equipped to protect the natural resource assets of both their household and community.

The power of understanding social capital: Paying attention to how information flows is as important as the information itself. Undertaking social capital analysis identifies for development projects the right entry points to inject information.

Leveraging social capital to establish community buy-in

As previously mentioned, the survey revealed that CBOs exist in all project zones and that households rely on these groups and other social connections for support and opportunities. These social connections can be leveraged to facilitate community buy-in to project activities to ensure that they are community-led and sustainable. Achieving community buy-in for sustainability is particularly relevant in areas where people's livelihoods are tied to the landscape and natural resources, as is the case in Haiti with smallholder farmers relying on forests and other natural resources and ecosystem services. As reforestation or other forms of landscape restoration and protection are long-term efforts, they need long-term community commitment and support. Leveraging and building on the existing social capital found in CBOs helps establish community buy-in.

⁶ Mercy Corps (2013). "What Really Matters for Resilience"

Additionally, to ensure project activities will target communities with strong social capital and to facilitate community buy-in, project sites should be chosen at the community level. Initially, the project team had been selecting sites and targeting interventions at the sub-watershed level (500-1,000 hectares) which encompassed several communities. Over time they realized that it was difficult to mobilize stakeholders at this level and for stakeholders from different communities to agree and coordinate on reforestation and other project activities. Instead, interventions should be targeted at the community level where there are fewer stakeholders and consensus building is more effective. When operating at this level, many stakeholders were neighbors, members of the CBOs, or even family. Therefore, there was already a degree of bonding social capital present. Additionally, these stakeholders lived near the project site and were therefore intrinsically linked to the project activities. Furthermore, the large territories within sub-watersheds originally targeted made the coordination and accountability of sub-watershed committees problematic due to lack of existing bridging social capital. Sub-watershed committee members, who are typically local government actors, community leaders, and members of CBOs, from different communities were unable to effectively make decisions and govern sub-watersheds without competing interests. There was limited accountability among committee members who lived in different communities, even if they lived in the same sub-watershed. Additionally, the distance between stakeholders posed logistical challenges to carrying out committee coordination and responsibilities. In contrast, local actors in the same community or micro-watershed typically had a common interest in maintaining the integrity of their respective watersheds, and easy access to each other, thereby increasing motivation to carry out committee responsibilities without the logistical access constraints.

To further encourage communities to buy-in to reforestation, the project facilitates a collaborative land mapping process whereby CBOs and other community stakeholders and leaders demarcate land use (e.g., agricultural plots, charcoal production), natural resources (e.g., forested areas, water springs), and areas in need of rehabilitation (e.g., eroding slopes, dwindling forest resources) in their micro-watershed. Stakeholders prioritize areas of their micro-watershed that need protection or rehabilitation. Stakeholders decide which forestry and landscape management systems or techniques are most appropriate for their community and on their individual land. The project then supports them in the design and execution of interventions. Engaging stakeholders in the design process and allowing them to choose which forestry systems will be most beneficial in terms of income generation and livelihood co-benefits, encourages community buy-in and the likelihood that stakeholders will commit to reforestation activities. Later, when households begin to see income generation and livelihood co-benefits from the management systems and activities they selected, they are more likely to commit to them. To further support sustainable community-led reforestation, the project also works with stakeholders to build resilience to shocks.

Linking resilience-building activities to the specific shocks target populations face

The resilience baseline survey also revealed several important insights about the types of shocks experienced by highlanders and lowlanders. Table 3 below provides an overview of findings from the most prominent shocks experienced – represented with the percentage of highland and lowland respondents who identified the shock as relevant. For example, highlanders were more concerned about diverse environmental shocks, such as landslides, hurricanes, and earthquakes, as well as agricultural-specific shocks, such as crop disease and pests, increased cost of inputs, and decreases in crop prices. Meanwhile, lowlanders reported a much higher concern for youth unemployment, loss of youth jobs, and overpopulation. However, both highlanders and lowlanders reported economic shocks as by far the

most important, relative to other types of shocks. Further, respondents were more concerned about covariate events that impacted their community, than idiosyncratic shocks that affected individuals. The most concerning shocks were food prices, drought, climate change, and lack of public services.⁷ These findings have allowed the project team to better link specific resilience-building project interventions to the specific shocks beneficiaries in highland and lowland areas experience and prioritize and scale accordingly.

Table 3. Linking Project Activities to Shocks Experienced

Category		Highlands %	Lowlands %	Link to Project Activities
Economic Shocks				
1) Increased food prices	Acute	99.4	99.0	Cooperative/group development
2) Increased cost of agricultural inputs	Acute	96.7	89.5	Cooperative/group development
3) No public services	Acute	94.9	94.8	Advocacy by CBOs
4) Youth unemployment	Acute /Idiosyncratic	46.8	59.5	MSME development, private sector engagement (PSE)
5) Decreased price for agricultural products	Acute	46.2	31.4	Cooperative/group development
Climate Shocks				
1) Drought	Chronic	96.7	97.7	Weather forecasting/soil and water conservation techniques
2) Variable rain	Chronic	76.1	72.2	Weather forecasting
3) Hurricane	Acute	47.4	35.3	Weather forecasting
4) Landslide/erosion	Chronic	40.5	27.8	Hillside tree planting/soil stabilization
5) Flooding	Acute	26.6	38.2	Tree and mangrove planting
Biological Shocks				
1) Crop pests	Acute	87.9	83.0	Garden techniques
2) Crop disease	Acute	77.9	64.4	Garden techniques
3) Livestock disease	Acute	68.3	64.4	Fodder crops, deworming, vaccinations
4) Weeds	Acute	63.1	62.1	Garden techniques

Examining findings: linking interventions to shocks

Economic shocks: The rise in food prices, cost of agricultural inputs, and lack of adequate public services were found to be critical economic shocks for both groups. Interventions at the community-level, such as the forming of community-based producer organizations to aggregate products for sale, bulk purchases of inputs, and group management techniques can ease the burden of economic shocks. Efforts to partner with a variety of groups, such as CBOs, MSMEs, educational institutions, or agribusinesses, will build bridging and linking social capital as groups collaborate and identify common incentives. Private sector actors will be further engaged to create access to markets for agroforestry crops and other products stemming from alternative livelihoods practices. Furthermore, new livelihood opportunities will be explored, such as agroforestry enterprise development and beekeeping and honey production.

⁷ Chemonics International, Inc. (2020). "USAID/Haiti Reforestation Project Resilience Baseline Survey"

Climatic shocks: Drought and variable rain were found to be substantial climatic shocks for both types of project beneficiaries. Therefore, the project is now linking beneficiaries experiencing these shocks to activities such as soil-water retention techniques and stabilization of forests and mangroves.

Biological shocks: Crop and livestock pests and disease were found to be significant biological shocks for both groups. To address this, the project is now linking of beneficiaries experiencing these shocks to activities such as integrated pest management and livestock management techniques that will help build resilience.

Building resilience to these shocks is integral to promoting the sustainability of project activities and for long-term reforestation efforts. For example, the production of charcoal is a key source of income for many households in project areas. Building up resilience capacities provides other options to cutting down trees for charcoal to meet basic needs. To achieve this, the project promotes alternative practices, encourages strategic planting of trees designated for charcoal production, and improving the market systems for liquefied petroleum gas cookstoves. The project uses two delivery mechanisms to increase resilience at the household and community levels: 1) community-based group development (previously discussed), and 2) fostering adoption of environmental and livelihoods techniques. The results from the resilience baseline survey enabled the project team to better understand the specific shocks that are most significant to households, disaggregated by highlanders and lowlanders. This allowed the project team to better link the project's environmental and livelihoods techniques to the specific shocks beneficiaries experience and prioritize and scale accordingly. Demonstrating to beneficiaries how specific techniques link to specific shocks that they recognize helps encourage adoption of those techniques. For example, if farming households express concern about drought, project facilitators can explain the link certain soil water conservation techniques have to maintaining moisture in soil to encourage adoption.

Conclusion

The lessons captured provide important inputs for refining the project's approach to better achieve its objectives: reduce the threat of deforestation; improve resilience to economic and natural shocks; increase tree cover in targeted areas; and improve environmental governance and coordination. To date, the project has planted over two million trees with a goal of planting four million trees by project close in 2022. Additionally, project activities have led to nearly 33,000 individuals receiving livelihood co-benefits. By pivoting to a stronger focus on resilience-building activities that strengthen social ties and respond directly to shocks experienced, beneficiaries will be better able to withstand shocks, reduce deforestation threats, and sustainably commit to reforestation activities that support their livelihoods.

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