

**Community Management through
a Small Business Approach
to Forest Conservation in Dominica**

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Paper prepared for the IDRC Workshop on Common Property
Resources, Winnipeg, Canada, September 1991.

This case study was developed with support from the
International Development Research Centre (IDRC).

The activities described in this study were implemented by
the Caribbean Natural Resources Institute in collaboration
with the Government of Dominica and Cottage Forest Industries, Ltd
with support from World Wildlife Fund-US and the U.S. Forest Service.

Correct citation:

Geoghegan, T. 1991. Community management through a small business approach to forest conservation in Dominica. Paper presented at the IDRC Workshop on Common Property Resources, Winnipeg, Canada, September 1991. CANARI Communication no. 37:10pp.

Introduction

In the Caribbean, as elsewhere, inappropriate exploitation of natural resources critical to national development has led to degradation of the resource base, often without providing adequate economic compensation for local populations. Resource exploitation systems that combine ecologically sustainable technologies with local "ownership" are required to meet national goals of long-term resource conservation and socio-economic development, especially for rural populations. The Cottage Forest Industries Project in Dominica, West Indies, provides a model of one such system.

Background and Project Rationale

The island of Dominica, (751 km²) with its rugged topography, high rainfall, and little-developed tourism industry, remains among the most rural countries in the insular Caribbean, with agriculture the predominant economic sector. Government's tourism marketing strategy is based on the island's scenic beauty, particularly its mountains, rivers, and centrally located lush forests. Despite widespread conversion of forest to agricultural land in recent years, and intermittent periods of heavy logging, Dominica's forests remain remarkably intact, with perhaps as much as half of the land still under original forest cover (Shanks and Putney, 1979; De Milde, 1987).

The value of the timber resource is quite high, with a variety of quality hardwoods growing in large numbers. A significant portion of Dominica's prime forest is located on Crown lands, much of which has been set aside as Forest Reserve, where the Forestry Division has authority to regulate cutting. However, a disproportionate amount of harvesting takes place on private lands, particularly those being converted to agriculture, and on these, Government has no regulatory control.

On both public and private land, timber has been exploited using two distinct technologies: mechanized harvesting, employing skidders and other forms of heavy equipment, as well as construction of extensive road systems through the forest; and individual, "small-scale" sawyers, employing chainsaws or Alaskan mills to cut the logs on site, which minimise damage to surrounding vegetation. Because of the difficult terrain and climate and local economic factors, none of the efforts at mechanized logging have succeeded, despite subsidies, incentives, and external development grants. During the past year, the last two mechanized operations went out of business, and currently all timber harvesting in Dominica is being carried out by small-scale sawyers.

Historically, the small-scale sawyers have worked independently, allowing them freedom and flexibility to take on other income-generating activities, but severely constraining their ability to influence prices or compete for larger contracts. In 1979, following a devastating hurricane, a number of individual sawyers grouped together, under the leadership of a dynamic sawyer/entrepreneur, in order to obtain contracts from Government to salvage fallen timber. Despite a number of setbacks and a perception of preferential treatment by Government of the mechanized operations, the Small-Scale Lumber Producers Group remained together for the next several years and was able to obtain a few larger contracts and exert some control over prices.

At the same time that the Small-Scale Lumber Producers Group was getting together, the Eastern Caribbean Natural Area Management Programme (ECNAMP) was promoting and seeking support for a project to test and demonstrate the economic and ecological viability of a small business approach to forest resource conservation and development. The project concept was based on the principle of enlightened self-interest: that is, that individuals, when provided with some security and control over resource exploitation and adequate knowledge and information, would opt for timber exploitation methods that assure the sustainability of the resource.

Project Objectives and Description

In 1987, with funding from World Wildlife Fund/U.S. and support from Dominica's Forestry Division, ECNAMP, which changed its name to the Caribbean Natural Resources Institute (CANARI) in 1990, initiated the Cottage Forest Industry (CFI) Project. The aim of the project is to promote sustainable utilization of forest resources in the following ways (Putney, 1989):

- by increasing the value of the resource and secondary cottage industries to rural communities, thereby creating a vested interest in conservation and decreasing the incentive to convert forest lands to agriculture;
- by reducing waste and impact on soils and residual vegetation through improved harvesting technologies;
- by maintaining the productivity of forest lands through a reforestation and silviculture programme carried out by the sawyers themselves; and
- by deriving more value from less timber through promotion of high value added secondary industries.

Through the project a non-profit corporation, Cottage Forest Industries Ltd, was established to purchase raw lumber from small-scale sawyers for drying, dressing, and resale, with long-term plans to eventually provide design and marketing services for furniture makers and other wood craftsmen.

In 1988, the leader of the Small-Scale Lumber Producers Group was employed as the CFI Project Manager. The structure of the corporation was modified to allow greater involvement from the sawyers upon whom the project's success depended. Sawyers willing to adhere to strict silviculture guidelines, to donate a few cents per board foot of wood sold to a reforestation fund, and to volunteer 40 hours of free labour per year to the corporation's conservation efforts, could become "members" of the corporation. The corporation buys lumber only from members, with a guaranteed purchase price which is set and periodically reviewed by the members themselves. A Board of Directors was established that included two sawyers selected by the Project Manager, and four *ex officio* members - the Director of the Forestry Division, the Director of the National Development Corporation, a representative of the Dominica Conservation Association, and the Project Manager.

CFI Ltd. applied for incorporation in 1988, submitted a request to Government for a concessionary lease on a piece of land suitable for its processing and marketing facilities. Pending a response from Government, temporary facilities were established on property leased to CFI by the Project Manager. A drying and storage shed and solar kiln were set up at the temporary site, basic equipment for dressing the raw lumber was purchased, and the Company began to buy and sell lumber, using a revolving capital fund provided by the Weyerhaeuser Foundation.

Through the CANARI/WWF project, the issue of forest conservation was also being addressed. A well respected expert in tropical forestry, from the Institute of Tropical Forestry in Puerto Rico, donated his time to the project, and developed a proposal for a pilot demonstration project in sustainable forest management. This proposal called for the establishment and management, by CFI sawyers in cooperation with the Forestry Division, of about 400 acres as an experimental harvest plot on Crown lands (Wadsworth, 1990). The proposal was enthusiastically endorsed by the sawyers, and accepted in principle by the Forestry Division, which set about identifying an appropriate site.

Project Status and Constraints

The sawyer membership in CFI now stands at 50, or more than half the full-time professional sawyers in Dominica (Gordon, pers. comm.). About 35 of the members actively participate in CFI activities. At the Company's last Annual General Meeting, the structure of the Board of Directors was modified to increase the sawyers' voice in the Company. The Board now includes four sawyers, who are elected by the sawyer members, and one representative of the furniture-makers industry, as well as the original *ex officio* members.

The major incentive for most sawyers to join CFI has been the guaranteed market and price. However, the development of CFI has been greatly hindered by delays in establishment of permanent operating facilities and initiation of the demonstration plot project. A series of bureaucratic obstacles presented enactment of the lease agreement on the site for the permanent facilities for four years; a 25-year lease was finally signed earlier this year. In the meantime, the Company has continued to operate on the property leased from the Project Manager. These facilities do not provide adequate storage capacity and

the climate is not conducive for air drying the lumber. The purchase of proper processing equipment has also been delayed pending establishment of the permanent depot. Due to these constraints, the Company has not been able to purchase all the wood harvested by sawyer members, who have thus had to market a portion of their wood directly or else reduce their harvest. Maximum "throughput" at the temporary facilities has also not been sufficient for the Company to meet the break even point in sales, and it has had to rely on a series of loans and bank overdrafts to sustain operations. A recent business analysis has determined that the company should be able to meet its costs and overheads at the new facility, which is now under construction (Grant and Charles, 1991).

Similar delays have been encountered in establishing the sustainable harvest demonstration plot. After discussions between the Forestry Division, the sawyers, and the CFI forestry advisors concerning the requirements for the site, Forestry personnel selected a 420-acre plot. The plot was visited by several sawyers and the CFI staff forester consultant, who found the quality and volume of the available timber inadequate. The Forestry Division then selected another site that the sawyers also considered inadequate. At that point, one sawyer began his own reconnaissance of potential sites on Crown land and eventually identified one he thought had good potential. The area was inventoried by a consultant employed by the project and three sawyer assistants (Tuxill, 1991), and the results of the inventory reported back to the group. Based on these results, the sawyers decided to make formal application to Government for the lease of the area. Negotiations are now underway, and the outcome looks favorable for securing an agreement to establish the demonstration plot on the site within two to three months.

Meanwhile, most of the active conservation aspects of the project, as well as training for the sawyers in sustainable forest management, have been on hold. The sawyers have however benefitted from the process, by being centrally involved in selecting the site, participation in the forest inventory, and negotiation directly and equally with government officials. All the sawyers are eager to establish the plot and begin the selective harvesting. The demonstration plot will provide only a limited supply of wood to sawyers. The company is also seeking other concessions from Government to cut on land earmarked for road construction, agriculture, and other purposes.

Despite these constraints and the slow pace of the project, membership in CFI has continued to grow, and the majority of members remain committed and active. Credit for this is certainly due to the dynamic qualities of the Project Manager, but also to several of the sawyer members, who have assumed a leadership role in the group. Support is also maintained through monthly meetings that give sawyers an opportunity to discuss their problems, receive reports of research being carried out through the project, and participate in Company decision-making.

Community Management Aspects

The sawyers participating in CFI come from all parts of Dominica. Although there is a heavy concentration of sawyer members living in two or three villages, CFI cannot be considered a community project in a geographic sense. The project is community-based, however, in the sense that the sawyers comprise a professional grouping that is able to

make a significant impact on the conservation and use of Dominica's forest resource. Representing a large percentage of the country's sawyers, CFI can be viewed as a nation-wide community (Berkes and Walters, 1991).

Chainsaw timber harvesting is a valued skill in Dominica, and can provide a good livelihood for an experienced sawyer. Many of the sawyers participating in CFI are at the top of their profession. They generally employ two helpers each, own their equipment, and often drive late model pick-up trucks. Many sawyers come from several generations of timber harvesters and are extremely knowledgeable about forest composition, characteristics of various species of wood, and the wildlife that inhabits Dominica's forests. The project consultants, who generally have come from other parts of the world, have relied heavily on the knowledge of the sawyers in species identification and determination of timber volume and quality. The sawyers in turn are eager to increase their knowledge of forestry and particularly sustainable management practices. For that reason, excellent relations have been established between the sawyers and the project's technical advisors.

The CFI sawyers clearly have the knowledge, skills, and access to information to actively participate in the management of the forest resources upon which they depend, and they are currently involved in such management at several levels. First, they are able to influence the price of lumber, and keep it high enough to provide an incentive for sustainable harvesting. Second, they are involved, with the Forestry Department, in the sustainable management of the demonstration plot on Crown lands, which is seen as a model for eventual management of all Crown lands available for logging. Third, through the technologies they employ and the silvicultural practices to which they adhere, they are minimizing damage to the forest associated with timber harvesting, both on public and private lands. And finally, they are influencing, through demonstration and lobbying, national policy and public and private sector practices related to forest utilization.

Project Impact

Although the project has yet to fully meet its original objectives, it is at last beginning to have a significant impact, both in Dominica and throughout the Caribbean. Through the Tropical Forestry Action Programme, Dominica is currently preparing a national forest action plan that has been heavily influenced by the CFI approach. While the Forestry Division has long promoted the small-scale sawyer approach, until recently mechanized logging was also viewed as a viable model. This is no longer the case, and small-scale logging is now widely seen as the most appropriate model for Dominica. The influence of the project has been such in recent months that the last of the mechanized logging operations made an effort to stay afloat by replacing its heavy equipment for chain saws and dispersed teams of sawyers.

The conservation aspects of the project, and its potential to develop and demonstrate sustainable harvest techniques for tropical forests, have attracted a great deal of international attention. There has been interest in replicating aspects of the project in other countries of the region. World Wildlife Fund/U.S. has continued to support the project, despite its slow rate of progress, and funding and technical assistance have also been

secured from other sources, such as the U.S. Forest Service. The project site is visited by representatives of international aid agencies and other funding agencies, and these visitors interact regularly with the sawyer members.

Lessons Learned

- 1. When given a reasonable amount of security and control over their situation, resource users will join together in management regimes, even if it means sacrificing some individual short-term gains.**

The original incentive for most sawyers to join CFI was to receive a guaranteed price for their lumber. As independent sawyers, they were able to exert little control over market prices that were largely set by the purchasers. With the demise of the mechanized logging operations, demand now often exceeds supply, and sawyers are often able to get a higher price when selling directly to the wood users. Most sawyers in the group value the security provided by CFI's steady market, and continue to remain in the Company and sell to it as much of their harvest as it can purchase.

- 2. Building consensus and support for an innovative project such as CFI requires a long-term commitment by implementing and funding agencies and the communities involved, and an understanding that the achievement of objectives may take many years.**

The origins of the CFI project can be traced back nearly fifteen years, from concepts developed by Dominica's Chief Forest Officer in the late 1970's, through the establishment of the Small-Scale Lumber Producers Group in 1979, and to ECNAMP's efforts to promote the cottage industries approach, starting in the early 1980's. Even after adequate funding was secured from WWF to implement the project (the first grant for project design was awarded in 1986, with subsequent annual grants for implementation), progress has been excruciatingly slow, and it is only in the last year that the project has begun to achieve its original objectives. This extended time frame has been necessary, however, to adequately research and understand the social, economic, management, and conservation issues the project addresses, build support for the concept, test and modify the project design, and establish the economic viability of the company. Progress might have been even slower if external forces and international interest had not created a climate more favorable to small-scale harvesting, tropical forest conservation, and concepts of co-management.

- 3. Unflagging support from a small number of committed individuals can be adequate to maintain group cohesion and progress towards objectives during periods when benefits are not forthcoming and success seems distant.**

Despite the lack of adequate processing facilities, insufficient funds for lumber purchase, and delays in establishment of the demonstration plot, the group remains strong and committed to the project, and the number of members continues to grow. From the start of the project, a few highly motivated sawyers with strong leadership qualities have

dedicated themselves to achieving the project objectives. They have refused to sell their wood outside the company, even when this has caused financial hardship. They have donated time to the construction and maintenance of facilities. They have met with funding agency representatives and worked closely with the project's technical advisors. This dedication has increased the motivation for other sawyers to remain in the group.

4. Although commitment to project goals can sustain efforts over the short term, long term success requires that resources available are adequate to meet economic objectives.

The inadequacy of the Corona site as a processing facility has put severe constraints on progress, as has the lack of Government land earmarked to CFI for harvesting. Discussions at most monthly sawyer meetings have been taken up by these issues, and the group has sent several delegations to meet with government officials to seek resolution. The delays were beginning to have an impact on morale, and it was difficult to provide potential new members with compelling arguments for joining CFI. These issues are now being resolved, but much more delay may have seriously eroded sawyer confidence and support.

5. Close collaboration between project participants, technical advisors, and funding agencies is essential to assure that external support does not encourage dependence and retard the development of community responsibility.

The project has received the services of many short-term technical advisors, is visited regularly by WWF and CANARI staff, and has attracted the attention of others in the fields of conservation and development. The Project Manager has wisely provided numerous opportunities for interaction between these visitors and the sawyer members, including participation in monthly sawyer meetings. Sawyer assistants have worked daily in the field with the project's forestry advisors, providing an opportunity to exchange knowledge and information as equal partners. The results of the various consultancies and surveys have been reported back to the sawyers, who have then used the information in decision-making and implementation. For example, the sawyers waited for the results of a timber inventory (carried out by a consultant and three sawyer assistants) before making a final decision on the area proposed by one member for the sustainable harvesting demonstration plot. This constant interaction has fostered a perception among the sawyers that the project is a true partnership, supported by the special skills, interests, and knowledge of many individuals, not something done for them, but something of which, they are very much a part.

6. The often very specialized local knowledge and skills of the resource users are an important asset to conservation and development projects, and should be taken into account in project design and implementation.

The forest knowledge of the sawyers is extensive and has provided the information base for project design. The specific local knowledge of the sawyers has complemented the specialized forestry knowledge of the project's outside consultants. For example, the consultant who inventoried the proposed demonstration plot relied heavily on the information and advice of the sawyer assistants, not only in identifying local species, but also in estimating relative timber value and even volume (Tuxill, 1991).

Dominica's sawyers possess unusual and specialized timber harvesting skills, being able with remarkable accuracy to rough cut boards in the forest with only a chainsaw. The outside consultant who prepared the design for the wood processing facility, took these skills into account in making his recommendations, which were prepared in close consultation with the sawyers (Darwin, 1989).

7. The conservation aspects of a community management project can foster a feeling of "stewardship" of the resource that can enhance group solidarity and identification with project objectives, especially when reinforced by international attention to the project.

CFI sawyers generally pride themselves on being more conservation-conscious than other sawyers (Berkes and Walters, 1991), and make good use of the knowledge of forest conservation and silviculture they have gained through the project. There are signs that the sawyers are starting to feel they have a special mission to pass on this knowledge. For example, CFI had a booth at a recent trade fair where the sawyers discussed forest conservation and demonstrated their logging skills. The booth was a success, especially among school groups, and the sawyers have been considering starting a school programme. The co-management arrangements being set up for the demonstration plot have increased this feeling of stewardship, as has the impression given the sawyers from technical advisors and visitors to the project that they are doing something special and of international importance.

8. A small pilot project in community management that addresses a critical national issue can have significant impact both on national policy and resource exploitation patterns, given sufficient understanding of the project's aims and accomplishments.

Recently, there has been a tremendous amount of attention focused by funding and international aid agencies, tropical countries, and the public in general on tropical deforestation. In Dominica, where poverty remains acute and the ingredients for mass tourism are lacking, the forest resource is particularly valuable, and the need for its conservation of increasing concern. The country's forests are currently the target of several major international assistance projects, including development of a national forestry action plan through the Tropical Forestry Action Programme. Since the CFI project provides an actual demonstration of a sustainable management system, its influence on planning and policy has been very great. A project addressing a less "popular" issue would undoubtedly not have such an impact. It should also be noted that the structure of the Board, which includes the Directors of Forestry and the National Development Corporation, articles in the media, participation in the Trade Show, and representation on the forestry action plan advisory board, have all publicised CFI's aims and activities, and enhanced its image within Dominica.

9. For co-management to be successful, the legal management agency and the co-managing resource users must be equal partners, from the start, in determining the management arrangements.

Forestry's initial proposals for suitable areas for the demonstration plot were made without sawyer input and were heavily influenced by the requirements of a separate forest management project, sponsored by an international organisation. These were unacceptable to the sawyers and delayed starting the sustainable harvesting project for a year. Once the sawyers became involved in the selection of the site, the impasse was broken and an area acceptable to both parties was identified. The final arrangements for the management of the plot will also require equal involvement and support of both parties. It should be noted that efforts to establish co-management arrangements can be considerably complicated in cases of multiple international assistance projects with often conflicting objectives, approaches, and time frames.

10. Where government lacks the authority to adequately manage resource use, private initiatives that incorporate a conservation component can provide an effective alternative.

A major constraint to forest management in Dominica is that the Forestry Department has no control over cutting on private land, where most harvesting takes place. CFI sawyers who have pledged to adhere to the project's silvicultural guidelines currently make up a large percentage of active harvesters, and thus can provide some check on wholesale deforestation on private lands. Several sawyers already have started applying sustainable harvesting techniques and other conservation practices on their own property. Although it is not now taking place, it may eventually be possible for CFI and private landowners to develop co-management arrangements for sustainable harvesting similar to those to be effected with Government for the demonstration plot.

11. A small scale approach to resource management may be more profitable than large scale operations.

The small scale sawyer approach is more viable than mechanised logging under the conditions that prevail in Dominica. Incentives and other financial assistance were provided for the mechanised timber harvesting operations which all failed. This was mainly because these operations were inappropriate to the mountainous terrain and unfavourable conditions created by heavy rainfall. Small scale sawyers using light equipment had more flexibility and less overhead. The viability of this approach was also greatly improved by the co-operative venture of significant numbers of sawyer leaders via the CFI. Mechanized harvesting also created more damage in the natural forest whereas small sawyer operations cause minimal destruction and have greater potential for balancing conservation with forestry development.

Literature Cited

- Berkes, F. & B. Walters. January 1991. Report on the Cottage Forest Industries Project (CFI), Commonwealth of Dominica. Draft report prepared for the Caribbean Natural Resources Institute.
- Darwin, B. June 1989. Technical review and recommendations for the Cottage Forest Industries Project, Dominica, WI. Consultancy report prepared for ECNAMP.
- De Milde, R. 1987. Inventory of the exploitable forest of Dominica. Technical Report TCP/DMI/4505. Food and Agricultural Organisation of the United Nations. FAO Office, Bridgetown, Barbados.
- Grant, G.T. & D. Charles. 1991. Draft Business Plan, Cottage Forest Industries. Report prepared by the Katalysis Foundation for the John D. and Catherine T. MacArthur Foundation.
- Putney, A.D. 1989. Getting the balance right. WWF Reports. June-July 1989. pp. 19-21.
- Shanks, D.L. & A.D. Putney. 1979. Dominica Forest and Park System Plan. Eastern Caribbean Natural Area Management Program and Dominica Forestry Division. Roseau, Dominica.
- Tuxill, J. July 1991. Report on a baseline forest inventory conducted by Cottage Forest Industries Ltd. at Bois Diable/Fond Melle, Dominica.
- Wadsworth, F. 1990. A proposal to sustain timber productivity in Dominica. Unpublished report to CANARI.