

AN EVALUATION OF CONSERVATION AND LIMITED DEVELOPMENT PROJECTS AS A STRATEGY FOR COMMUNITY-BASED FOREST CONSERVATION AND MANAGEMENT

Final Report for the Community Forestry Research Predissertation Fellowship

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INTRODUCTION

Conservation is often a top-down endeavor in which scientists and other “experts” develop and implement single-objective conservation plans focused on maximizing the protection of biodiversity or ecological integrity. An alternative to this paradigm is to pursue conservation objectives in a community context where other local objectives are incorporated into the conservation plan and/or where local stakeholders participate in the development, implementation, or evaluation of the plan.

This second approach is my principal research interest and the focus of my graduate work as a Community Forestry Research Predissertation fellow. In this report, I summarize the evolution, implementation, and results of my research conducted under this fellowship. I will begin by discussing the rationale for my research, my research questions, and the importance of these questions to my chosen community. Next I will discuss my research methods and present the results of my summer field work. I conclude with some reflections on my research experience and the use of participatory research techniques.

My initial proposal to the CFRF program was to study the ways in which citizens could participate in ecological monitoring of conservation assets as a way both to collect useful ecological data and to increase the public’s awareness of local ecosystems. I envisioned testing the effectiveness of participatory evaluations experimentally by working with scientific experts as well as “lay experts” such as hunters and amateur naturalists.

My first challenge was to identify suitable sites and communities for this study. From my prior work experience, I had contacts within the land trust community and was familiar with a specific land protection strategy that integrates conservation and development in rural and semi-rural landscapes. I call these “conservation and limited development projects,” or CLDPs for short. I felt that these sites would offer an ideal setting to study participatory evaluations because they usually contain valuable natural resources and are well known by both scientific and lay experts.

CLDPs also interest me in their own right as an example of what Baker and Kusel (2003) call “investment strategies”—in other words, strategies to move beyond discourse to action, in this case by influencing the use of the land. When successfully implemented, CLDPs can be a model for achieving ecological conservation, community-driven land use planning, and participatory land management. In addition, these projects are usually economically self-sustaining. As I learned more about CLDPs, I became interested in focusing my work on the projects themselves, and reshaped my research plan to reflect this interest. My approach, however, builds upon my

initial idea by taking a participatory approach to the evaluation of CLDPs, in which both the project participants and myself as an outside researcher evaluate the projects.

BACKGROUND: CONSERVATION AND LIMITED DEVELOPMENT PROJECTS

A CLDP is a land transaction—usually conducted or facilitated by a land trust—that uses revenue from limited ecologically-sensitive land development to finance the protection of land. CLDPs represent one strategy for incorporating multiple objectives—not just conservation—into conservation-oriented projects. The impetus for such multi-objective projects is often driven by financial considerations (i.e., the need to raise money to finance conservation), but it may also be driven by local community considerations, such as the need to incorporate affordable housing, recreational opportunities, taxable property, or other locally important assets into conservation projects.

In a typical CLDP, a land trust or other party will acquire control of a site of conservation interest, design and sell a small amount of developable land to raise money, permanently protect the remainder of the site, and establish a legal and structural framework for long-term stewardship of the land. CLDPs are especially relevant to the field of community forestry because:

- a. They are often initiated by local landowners or nonprofit organizations to protect land and meet other local needs.
- b. They tend to integrate homeowners into natural landscapes, thus potentially increasing their knowledge of and interest in local forests.
- c. Conserved land in CLDPs is often co-managed by the residents and a land trust through various legal and organizational structures.

The rationale for my study of CLDPs stems from three principal factors. First, CLDPs appear to be a promising technique not only to meet conservation goals but also to make new development more compatible with local land use objectives and to integrate new residents into rural landscapes. Second, CLDPs are a controversial technique, both within and outside of the conservation community, and are the subject of current debate among policy makers as well as conservationists (e.g., Stephens and Ottaway 2003). Finally, despite the clear need for research to inform current decisions and the future use of CLDPs, these projects have received scant attention in the published literature.

RESEARCH QUESTIONS

Given this need for research on CLDPs, my study focuses on a practical evaluation of CLDPs from three different angles: first, as a conservation strategy for protecting biodiversity and ecosystem functioning; second, as a means to facilitate community-based land use planning; and, third, as a way to encourage participatory forest management and education, especially among urban migrants to rural landscapes. By evaluating CLDPs in many contexts and across many different geographical and organizational settings, this work should help conservationists and local communities improve the use of this tool.

As discussed above, there has been very little work (and no scholarly research) done to assess the effectiveness and limitations of CLDPs. Therefore, my research is exploratory in nature: although I seek to answer specific questions about CLDPs using a carefully defined methodology, given the lack of previous work on this subject, I have little basis upon which to formulate educated hypotheses. As Gillham (2000) points out, over-adherence to the “natural sciences style” hypothesis-testing paradigm can inhibit the effectiveness of complex “real-world research” by limiting the researcher’s ability to understand the richness of his subject and, in some cases, by directing his attention toward less relevant questions. Therefore, instead of formulating and testing hypotheses, I decided to cast my work in terms of two research questions:

- 1) How well do different types of CLDPs meet the stated conservation goals of the sponsoring organization?
- 2) How are CLDPs perceived by land trust members, local communities, and other stakeholders—and how do these perceptions differ?

This second research question ties into my initial CFRF project proposal by comparing the perception of CLDPs’ conservation outcome among local scientific experts, other local residents, and myself as a researcher using a uniform methodology.

INITIAL CONTACTS

My research proceeded in two stages: an exploratory initial contact stage and a detailed study stage. In the initial contact stage, I interviewed more than 75 individuals in my “community of interest” (including land trust staff members, other conservationists, and developers). One purpose of these interviews was to establish research questions and a methodology that would generate research outcomes of use to this target audience.

A second purpose of the initial contact stage was to learn about the experience of a wide range of organizations in conducting CLDPs, and to use this information to compile a nationwide database of CLDPs. The database records basic information on each project such as its sponsor, conservation goals, size, location, community context, and type and amount of development.

METHODS

From the more than 100 CLDPs in the database, I selected ten representative projects for detailed study using the methods described below. The projects range in size from 70 to 4,400 acres, and are all located within the eastern United States, from Maine to North Carolina. During the summer of 2004, I traveled to all ten project sites to explore my research questions. I used a composite case study method to study the ten selected projects, with the goal of being able to generalize from the ten study sites to CLDPs in general.

My research uses a mixed-methods approach, combining interview data with ecological assessments, and combining quantitative and qualitative data sources. To answer the first research question (conservation outcome), I developed a conservation assessment methodology based on the scientific literature and shaped through both my initial conversations with my

community of interest and through a subsequent vetting process with conservation scientists. The conservation assessment methodology includes three components:

- a. **Potential conservation value:** whether a project seeks to fulfill an important conservation need, as measured by the ecological value of the site and the degree of threat to the resources on the site.
- b. **Negative impact avoidance:** how well the project avoided negative impacts to the conservation assets from land conversion, fragmentation, and water resource degradation.
- c. **Positive project impacts:** how much the project contributed to habitat restoration or ecologically-sound land management.

The data that I used to implement the conservation assessment methodology were derived from three overlapping sources: field observation from local trained naturalists, personal field observation, and pre-existing studies.

To answer the second research question (perception of CLDPs), I interviewed a range of stakeholders involved in each project. Stakeholders included project participants (typically professionals such as land trust staff members, developers, and landscape architects), elected and appointed local officials, current CLDP residents and landowners, and local citizens. During each interview, I asked open-ended questions in a conversational format before concluding with a formal survey of fifteen questions that could be answered using the Likert scale (1-5). This interview structure provided a standardized rating system to compare CLDP perception among different stakeholders and among different projects while still allowing me to use a conversational style to uncover the richness of detail associated with each project.

The second research question (perception of CLDPs) provided an important counterpoint to the first question (conservation success of CLDPs, as measured using criteria derived from conservation science). This question allowed me to explore how different community stakeholders define conservation compared to how conservationists define it; for example, local stakeholders often focus foremost on aesthetics whereas many conservationists focus on biodiversity or ecosystem functioning. These differences often pose a challenge for conservation organizations in how they relate to the communities they serve. In addition, this question was one that members of my target audience had posed during initial interviews: namely, how conservation organizations can pursue sound multiple-objective projects without alienating donors, public officials, and local citizens.

DATA COLLECTION EXPERIENCE

My data collection experience involved participatory self-evaluations of CLDPs by their proponents as well as evaluations by stakeholders unaffiliated with the projects and by myself as an outside researcher. Overall, participants were quite willing to share their experiences and opinions regarding the CLDPs, and many were willing to spend time in the field with me. I believe that one factor for this willingness to participate was an understanding that my research would produce results of interest to them in the form of shared knowledge about CLDPs and guidelines for better use of this technique in the future. Although my “community” was not

rooted in one geographic place, it did achieve the desired mutualism between researcher and community that should characterize participatory research.

Based on the apparent success of this approach, I believe that participatory research should be defined broadly. In other words, a participatory approach is valuable not just when one is working in traditional geographic or cultural communities, but also within “communities of interest”; it is valuable not just as a stand-alone research paradigm but also as a technique to be used in conjunction with more conventional research techniques in a wide range of settings.

RESULTS

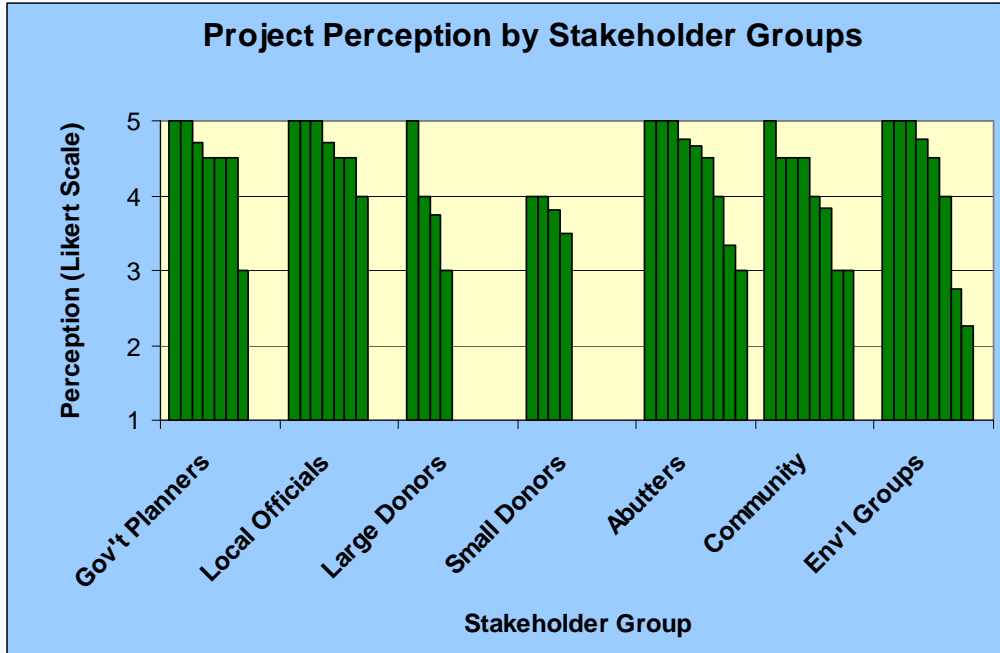
Overall, my work showed CLDPs to be a very promising strategy for advancing community-based conservation and land management. All ten projects protected significant biodiversity and ecosystem functions, and all ten were embraced by the local community, though in different ways and to different degrees. The following discussion summarizes the outcome of the conservation assessment and the perception assessment.

Major findings from the conservation assessment included:

- a. All ten projects took place on sites with valuable conservation resources that were under at least a moderate degree of threat (most were under severe threat).
- b. The negative impact of CLDPs on conservation resources ranged from almost none (2% of the site directly altered and 5% affected by fragmentation) to a moderate amount (25% of the site directly altered and 40% affected by fragmentation). On the whole, however, the ten CLDPs more closely approximated single-objective land conservation projects than they did developments (even “green developments”) in terms of their negative impacts.
- c. The projects varied considerably in the extent to which they contributed to the restoration and management of conservation assets on the site (such as restorative forestry or invasive species eradication). Many of the projects that performed best in this regard established an on-site manager or conservation center for ongoing land management. These projects also tended to be those that most actively involved landowners in conservation education and land management.
- d. Taken together, findings (a) and (b) suggest that CLDPs may represent one way for land conservation organizations to combine conservation goals with revenue generation and local objectives without significantly undermining conservation outcome.

Figure 1 shows the perception of each project by different stakeholder groups, as reported by my interviewees. According to the data, all of the projects were generally perceived positively, with most scores in the 4-5 range (5 = very positive, 3 = neutral, 1 = very negative). The CLDPs generally received strong support from local planners and other government officials and reasonably strong support from community members. Interestingly, the response from environmental groups shows the greatest spread, with two perception scores in the 2-3 range (somewhat negative). This result suggests that CLDPs may be subject to at least as much criticism from within the environmental community as from outside groups.

Figure 1. Perception of CLDPs by different stakeholder groups, as reported by interviewees and as averaged across all interviewees for each project. Note that the average perception scores for each stakeholder group are sorted from highest to lowest for ease of viewing. Since some projects lacked certain stakeholder groups, some stakeholder groups have a different number of scores shown.



I found that both the physical context and project structure of CLDPs affected their potential to facilitate collaborative land management. The projects that were most effective in this respect tended to integrate development and conservation areas through physical proximity, through ownership arrangement, or through the establishment of lasting organizational structures. For example, conservation land can be co-managed by a land trust and a homeowners association, or permanent on-site organizations can be established for the purpose of education and stewardship.

Finally, I observed that projects in suburban or exurban settings were generally somewhat less effective than their rural counterparts both in achieving a successful conservation outcome and in garnering uniformly positive opinions from local stakeholders. This finding may indicate the challenge of implementing successful multi-objective conservation projects in areas where land prices and development pressures are high and residents' intrinsic connection to the land may be low. These initial results point to several hypotheses that could be evaluated through further research.

REFLECTION

One of the most important goals of my research is to generate results of use to my community of interest. In this regard, I feel that my work has been successful. I presented my initial results to an audience of about 50 at the annual Land Trust Alliance Rally in October, and have been consulted by several land trusts and private developers who are interested in conducting CLDPs. From some of these conversations, I have inferred that one reason why my target audience is

interested in my work is that my research methods combined a collaborative approach to formulating research questions and obtaining data with what they perceived to be a rigorous and scientifically defensible conservation evaluation methodology. If my work had lacked the former, I suspect it would have been seen as irrelevant; if it had lacked the latter, I suspect it would have been seen as anecdotal and insufficiently objective to help inform decisions.

Overall, my experience as a CFRF Predissertation fellow has been a very positive one. I especially benefited from taking part in the workshop in Wisconsin this fall and sharing ideas with the unique set of colleagues that was present. The workshop challenged me to define what it means to conduct research that uses participatory methods as well as more conventional ecological methods.

Thank you for the opportunity to participate in this program.

REFERENCES

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