Community Impacts of Ecotourism: A Case-study of a Women’s Artisan Cooperative in Monteverde, Costa Rica

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Abstract This paper investigates the community impacts of ecotourism in Monteverde, Costa Rica by surveying women who work for a local artisans’ cooperative, CASEM (Comite de Artesania Santa Elena Monteverde), producing crafts for ecotourists. The survey addresses issues of long-term sustainability of ecotourism in Monteverde through questions focused on income changes, occupation, and attitudes toward tourism and conservation. Thirty-three women responded to the surveys and the results demonstrate an overall increase of income for women and their spouses, an increase in employment among the women surveyed, and a decrease in income inequality of the respondents as a consequence of CASEM. Attitudes toward conservation appear extremely positive and do not appear to be directly related to tourism revenues, although this is difficult to conclude with certainty. A majority of the surveyed women believe that tourism and CASEM affect many aspects of their lives from income to family, community, quality of life, and environment. I conclude that most survey respondents feel that the current impacts on their lives from ecotourism in Monteverde are mostly positive.
Introduction

Ecotourism can be defined as a form of tourism wherein nature is the primary attraction. This unique form of tourism is commonly established in environmentally and economically sensitive or fragile areas; it is usually implemented in the third-world countries as a source of economic development by marketing undeveloped forests, oceans, and other pristine environments. The fragility of these areas is a relative concept and should be understood to apply to not only the biophysical components of the environment but also the human and social components (Price 1996).

Many past studies on tourism focus on the tourist rather than the host (Chambers 1997). However, ecotourism and ethnic tourism, which tend to involve a sense of the socially and environmentally responsible tourist, have drawn the attention of anthropologists, environmentalists, and economists to study some community impacts (Hitchcock 1997, Chambers 1997). In different case-studies examining societies impacted by ecotourism, the questions of long-term sustainability and community involvement have become central questions in evaluating the long-term success and continuation of this form of tourism as a mode of development (Harrison 1996, Newcomer 1999, Spinrad 1982).

As compared to some traditional modes of development, such as resource exploitation, mass tourism and industrial development, ecotourism is a promising alternative means of economic support for coupling economic growth and sustainable development. If one is to understand ecotourism as a unique form of tourism, striving to minimize impacts and achieve sustainability, one must first understand the concept of sustainability. Sustainable development is defined as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (WCED 1987). The current pattern of development in Latin America is said to be unsustainable (Kaimowitz 1997). In the pursuit of economic growth, some developing nations have rushed into land conversion, agricultural development, and export-based economies. Many of these strategies fail to incorporate long-term social and environmental planning in order to ensure long-term productivity. In Amazonia, the ideology of converting “empty non-productive” forests into a short-term and immediately “profitable and productive resource” led to wide-spread deforestation, displacement of indigenous people, and irreversible soil erosion (Dore 1997). Many of these development and land-use strategies were found to be unsustainable.
Within the last two decades Costa Rica has become an extremely popular ecotourism destination and in 1992 was named the number one ecotourism destination by the U.S. Travel and Adventure Society (Honey 1999). Prior to the 1980’s, Costa Rica led the world in the highest rates of deforestation (sdnp.undp.org 31 December 2001). However, a long history of environmental awareness and conservation among the public coupled with economic motivation from pharmaceutical companies and increasing levels of ecotourism led the government to adopt a policy of sustainable development (sdnp.undp.org 31 December 2001). Aside from its relative wealth and political stability, ecotourists are drawn to Costa Rica for its system of private, state, and national parks that encompass 25% of the national territory (infocostarica.com 17 January 2001). Within Costa Rica an increasingly popular ecotourist destination is Monteverde.

My objective is to examine some of the host community impacts of ecotourism through a case-study approach with a women’s artisan group which is in conjunction with a community cooperative in Monteverde, Costa Rica: Comité de Artesanas Santa Elena Monteverde (CASEM). The focus of this study is to evaluate a) whether CASEM has increased the income of the families involved, b) whether CASEM has changed the women’s desire to work, c) what the attitudes of the women who work at CASEM are to the environment.

Monteverde, Costa Rica has been cited as an idyllic example of an ecotourism project which conserves the natural environment and benefits the local community with the potential for contributing to the sustainable development of this community (Price 1996, Baez 1996, Boo 1990). Many statistics and observations have been reported to support this idea of a successful ecotourism project in Monteverde (Baez 1996, Boo 1990, Newcomer 1999). However, in the literature I found on tourism in this region, nowhere did I encounter the opinions of local residents regarding impacts of tourism on their community. This study examines some of the opinions and changes that tourism has brought to Monteverde by asking some of the women of CASEM about economic changes and attitudes toward tourism and environmental conservation within their community. Some of these factors may help to determine the potential of maintaining ecotourism and sustainable development in Monteverde.

Methods

Study Area   Tourists from all over the world come to Monteverde to observe the diverse flora and fauna and varying life zones or to enjoy canopy tours and eco-adventures. From 1974
to 1992, a 578 percent increase in annual tourism was observed (Baez 1996). Today, many local residents are employed in the ecotourism industry, producing crafts at CASEM, guiding tours, managing biological reserves, conducting research, running hotels, working in restaurants, driving taxis, and teaching Spanish. Community cooperation and conservation have become a way of life.

Monteverde is about 1700 meters above sea level and around 150 kilometers northeast of Costa Rica’s capital, San Jose. The entire community, funded, supported, and inspired by non-governmental organizations, Quaker groups, foreign students, local residents, the local high school, and tourists, has established over 69,000 acres of contiguous conservation area (monteverdeinfo.com 31 December 2001). There are six major life zones, more than 100 species of mammals, 400 species of birds, 120 species of reptiles and amphibians, and thousands of species of insects (Baez 1996). Because of these high levels of diversity and low levels of development, Monteverde and its neighboring community Santa Elena are host to over 50,000 ecotourists annually (Baez 1996).

I have taken a case-study approach to investigate some community impacts of ecotourism by surveying individuals from a women’s organization in Monteverde, Costa Rica. This organization, CASEM manufactures ecological crafts for tourists such as wooden boxes, hand-painted shirts featuring local fauna and flora, stuffed quetzales, and other crafts based on the ecotourists adventures. CASEM was founded in 1982 by eight women and now employs 130 women and 10 men (monteverde.info.com, 31 December 2001).

**Land Use** Land in Monteverde is used in many different ways. Much of the land is set aside or has been purchased with the aid from both public and private groups for land conservation, biological/ecological study and tourist adventures. Land is used for butterfly farming and ecotourist enterprises as well as dairy farming, coffee plantations, agroforestry projects (incorporating forest conservation and agricultural development), traditional family farms and organic vegetable farming. All of the different land uses contribute to the diverse economy that can be subsistence-based or for revenue. A community cooperative has been established to include the coffee industry, CASEM, and the dairy factory.

**Survey Methods** My objective is to assess changes in income and attitudes associated with tourism and conservation by surveying CASEM associates. I created the survey (see Appendix 1 for sample survey in English) to investigate personal and family income changes associated with
CASEM as well as attitudes toward tourism and conservation. The survey was pre-tested on a group of randomly selected Berkeley students to help maximize clarity of phrasing and sequencing of questions for the women to follow in a self-guided format. This survey was then translated into Spanish with the help of a professional translator, Sonia Garcia. I emailed the Spanish version of the survey to Patricia Jimenez Castillo (a Monteverde resident and researcher) and Nery Gomez (director of CASEM) for a proof reading and revision. Nery Gomez distributed the final drafts of the surveys in Spanish to over 50 women in CASEM, who took them over a period of three months.

**Results**

Thirty-three women who work for CASEM responded to the survey (Appendix 1).

1. **Income and Employment** All women are now currently employed by CASEM and eleven have supplemental jobs outside of their work for CASEM as Spanish teachers, hotel workers, agriculturalists, beauticians, seamstresses, and domestic workers. Seven of the thirty-three women were employed prior to CASEM sewing, doing domestic work, picking coffee, teaching Spanish, selling used clothing, and working in a painter’s shop. The average monthly income women generated by working for CASEM is now $40.50, while the average monthly income from supplemental jobs is now $102.41. The current total monthly income (including income from CASEM and from supplemental jobs) of the surveyed women is $74.64.

Comparing income of women who worked before CASEM Prior to working at CASEM, seven of the thirty-three women were employed and their pre-CASEM average monthly income was $81.66, while the post-CASEM average monthly income of these seven women is $151.72. Although the average change in income is positive, four of the seven women had negative changes in income after working at CASEM. Because the sample size is so small, it is difficult to see any pattern from statistical results. The mean post-CASEM income of the twenty-six women who had no job (and therefore no income) prior to CASEM is $53.85.
Income Inequality  Few of the women held all of the income prior to CASEM due to the fact that only seven women of the thirty-three were employed (Fig. 1). After CASEM, all surveyed women were employed and the income is more evenly distributed when comparing this distribution to the pre-CASEM data. In order to compare the incomes of all thirty-three women who are now employed, I have chosen to assign a zero value to the non-working women for a pre-CASEM monthly income figure instead of excluding them entirely from the income analysis. The comparison in income inequality of all surveyed women before and after CASEM is calculated with the Gini Coefficient. The Lorenz Curve is the corresponding graph to the Gini Coefficient (Figure 2). The straight line plotted on the Lorenz Curve is the equality comparison line. If income within the sample is egalitarian, then the curve should match the straight line, every individual holding an equal share of income. If the income distribution is extremely unequal, the curve will be a ninety-degree angle with only one person holding all of the income.
The Gini Coefficient for pre-CASEM data is 0.8956, which is very high. After CASEM, the Gini Coefficient is lower at 0.58149. Both Gini values are high, signifying a high degree of inequality (see Table 1 for comparative Gini values, Goertzel 2001).

<table>
<thead>
<tr>
<th>Country</th>
<th>Gini Coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Argentina</td>
<td>0.49</td>
</tr>
<tr>
<td>Bolivia</td>
<td>0.51</td>
</tr>
<tr>
<td>Brazil</td>
<td>0.61</td>
</tr>
<tr>
<td>Chile</td>
<td>0.58</td>
</tr>
<tr>
<td>Colombia</td>
<td>0.56</td>
</tr>
<tr>
<td>Costa Rica</td>
<td>0.42</td>
</tr>
<tr>
<td>Mexico</td>
<td>0.52</td>
</tr>
<tr>
<td>Venezuela</td>
<td>0.05</td>
</tr>
<tr>
<td>Region</td>
<td></td>
</tr>
<tr>
<td>Eastern Europe</td>
<td>0.28</td>
</tr>
<tr>
<td>Industrial, high-income developing countries</td>
<td>0.35</td>
</tr>
<tr>
<td>East Asia and Pacific</td>
<td>0.39</td>
</tr>
<tr>
<td>South Asia</td>
<td>0.36</td>
</tr>
<tr>
<td>Middle East and North Africa</td>
<td>0.4</td>
</tr>
<tr>
<td>Sub-Saharan Africa</td>
<td>0.46</td>
</tr>
<tr>
<td>Latin America</td>
<td>0.5</td>
</tr>
</tbody>
</table>

Table 1. Comparative Gini values (www.goertzel.org/Brazilian Computers.htm)
Figures 3 and 4 illustrate the income breakdown of men versus women before and after CASEM. From these charts it appears that incomes of men as a category and women as a category have increased and both more men and more women are working now than were working before. Twenty-nine of the surveyed women reported that they are currently married;
one woman reported that she is widowed and three women reported that they are unmarried. Of the thirty married or widowed women, seventeen women reported figures for their husband’s income now, while fourteen women reported figures for their husband’s income before. Some women reported that their husbands’ incomes varied or they couldn’t remember figures. Some men work for themselves or for subsistence. To evaluate changes in income with respect to family and gender, I performed t-tests in which I included only the income figures for men who’s before and after figures were reported, which yielded 12 men. The mean change in income for women was $57.29, and the mean change in income for men was $69.70 (t=0.26, n=44, p>0.05). The mean change in family income is $104.55 (t=0.08, n=33, p>0.05).

**Occupation** Currently, twenty-five women report that without CASEM they would need to find another job. I assume that if women would like to work now and most can list alternative jobs that are possible to obtain, then it was a choice not to work prior to CASEM rather than not being able to find a job. To analyze whether CASEM has affected the women’s desires to work, I performed a chi-squared analysis (Table 1).

<table>
<thead>
<tr>
<th>Worked</th>
<th>Chose (or would choose) not to work</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Before CASEM</td>
<td>7</td>
<td>26</td>
</tr>
<tr>
<td>After CASEM</td>
<td>24</td>
<td>9</td>
</tr>
<tr>
<td>Total</td>
<td>31</td>
<td>35</td>
</tr>
</tbody>
</table>

Table 1. Women’s change in desire to work

If my assumptions about women’s willingness to work are true, then CASEM changed the women’s desire to work ($\chi^2=17.58$, df=1, p<0.001).

2. **Attitudes and Opinions**

**Tourism and CASEM** Survey responses show that a majority of women felt that both tourism and CASEM affected all elements of their life (Table 2).
Tourism affects the money I make. Tourism affects the quality of my life. Tourism affects my family's quality of life. Tourism affects my community. Tourism affects the natural environment. CASEM affects the money I make. CASEM affects the quality of my life. CASEM affects my family's quality of life. CASEM affects my community. CASEM affects the natural environment.

<table>
<thead>
<tr>
<th></th>
<th>Tourism affects the money I make</th>
<th>Tourism affects the quality of my life</th>
<th>Tourism affects my family's quality of life</th>
<th>Tourism affects my community</th>
<th>Tourism affects the natural environment</th>
<th>CASEM affects the money I make</th>
<th>CASEM affects the quality of my life</th>
<th>CASEM affects my family's quality of life</th>
<th>CASEM affects my community</th>
<th>CASEM affects the natural environment</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Yes</strong></td>
<td>81.82%</td>
<td>69.70%</td>
<td>69.70%</td>
<td>78.79%</td>
<td>60.61%</td>
<td>93.94%</td>
<td>72.73%</td>
<td>72.73%</td>
<td>78.79%</td>
<td>33.33%</td>
</tr>
<tr>
<td><strong>No</strong></td>
<td>18.18%</td>
<td>24.24%</td>
<td>27.27%</td>
<td>21.21%</td>
<td>30.30%</td>
<td>3.03%</td>
<td>15.15%</td>
<td>18.18%</td>
<td>9.09%</td>
<td>45.45%</td>
</tr>
<tr>
<td><strong>Don't Know</strong></td>
<td>0.00%</td>
<td>6.06%</td>
<td>3.03%</td>
<td>0.00%</td>
<td>9.09%</td>
<td>3.03%</td>
<td>12.12%</td>
<td>9.09%</td>
<td>12.12%</td>
<td>21.21%</td>
</tr>
</tbody>
</table>

Table 2. The effects of Tourism and CASEM

The only exception is CASEM’s affect on the environment. More women felt that CASEM did not affect the environment. Some women wrote in comments explaining their yes or no answers (please see Appendix 2 for complete survey responses).

When asked whether they think tourism will increase, decrease, or stay at the same levels in the future, 82% of women reported that they think it will either increase or stay at the same levels, while 9% felt tourism will decrease and 9% were unsure. When asked whether they would like to see tourism in its present conditions continue, 70% of women reported that they would like to see tourism in its current conditions continue, 18% reported they would not like tourism to continue in its current conditions and 12% did not know.

**Biological Reserves and Conservation** The surveyed women were asked to state what the forests might be if they were not biological reserves. Most women did not know what they would be (Figure 4), although when asked if they would prefer biological reserves or the uses they mentioned, 73% of women said they preferred reserves while 24% did not know whether they preferred reserves or the alternative uses they mentioned.

![Figure 4. If the forests were not biological reserves, what do you think they would be?](image-url)
When asked why the women preferred reserves to alternative land uses, 78% responded with ecological or conservation motivations, 14% cited tourism as an explanation, and 8% or respondents who preferred reserves did not know why they preferred reserves to alternative uses (Figure 5).

**Discussion**

Most of the surveyed women do not predict much fluctuation; particularly decline, of tourism levels, and a majority of women report that they would like to see tourism in its current conditions continue. I believe that most of these women express general satisfaction with current tourism levels because many local residents have an economic stake in the tourism revenues, and tourism levels have remained fairly limited to maintain the integrity of the community and environment. Monteverde, as a community, has been struggling to decide whether to pave the road coming into their community, thus opening the town to easier access for tourists. Thusfar the residents have voted against the road construction and many people remain hesitant over a drastic increase in tourism levels. I believe at this point in time, the surveyed women express contentment over the current conditions due to consistent and manageable tourist levels, a stake in the tourist revenues, and the benefits of forest conservation.

Conservation seems to be extremely important to the residents of Monteverde. If these women are representative of the community and most women report conservation motivating factors other than economics, then community support for conservation may not be highly dependent on ecotourism. However, if ecotourism revenues were not contributing to the
financial support of reserves, guides, hotels, restaurants, shops, and artisans, would the support for environmental conservation be as strong as it seems to be now? An interesting way of examining whether income from tourism affects support for environmental conservation would be to ask members of the community who gain income from tourism the same set of questions as members of the community who do not gain income from tourism. It would have been interesting to have polled a more diverse group of people for comparison. Also, future studies may want to investigate future levels of tourism and future attitudes toward tourism and conservation.

I believe that in order to ensure community support of conservation and ecotourism, members of the community need to be given an economic stake in the tourism industry. CASEM is one organization that gives local residents, specifically women, an opportunity to benefit economically (and non-economically) from the influx of ecotourists. However, the economic impact will have further social and cultural effects. I believe that families become accustomed to increased income and standard of living, putting pressure on the family to remain a two-income household. However, for some women it may not be as much need as a desire to be more financially independent, to work in a space outside the home, to increase feelings of autonomy, or other non-economically driven factors.

CASEM is one organization that has affected the income of some local residents thus altering levels of income equality. The Gini coefficients from this study are higher than the Gini coefficient for Costa Rica as a whole and higher than every reported region in the world. However, it should be noted that these numbers for other regions are for reference and scale rather than direct comparison, as the sample sizes and study methodology are incompatible. The high pre-CASEM Gini value may be explained by the large number of unemployed women. The high post-CASEM value may be due to a few women having high-income supplemental jobs and some women reporting high incomes “last month”. It should also be noted that the survey asked the women to report income figures from CASEM “last month” whereas it asked them to report peak tourist season and low tourist season average monthly income figures for supplemental jobs. Because the survey did not ask for income to be reported in the same manner for work done at CASEM and work done outside of CASEM, some women may have reported figures differently. Also income figures reported for CASEM in one month “last month” are used as average monthly income figures which may not be accurate because the sales vary depending on
tourist season and the types and amounts of crafts the women choose to produce at any given time.

The change in income for women was not significantly different from the change in income for men; however, for both men and women change in income appears highly variable. The t-test is evidence that perhaps inflation and job opportunity are more responsible for income variation than CASEM specifically. Because these men do not work for CASEM and their incomes changed without significant difference from the women’s income change, then it is difficult to draw conclusions about the role of CASEM in income change. Although the income changes between men and women are not significantly different from one another, the average change in income for both men and women is positive. It is not clear, however, that this change can be tied to ecotourism. Also the survey did not address when the change in income occurred. The survey did not ask when women began to work at CASEM or from what year their pre-CASEM monthly income figures were reported. Pre-CASEM monthly income values may have been reported over a spread of 18 years (CASEM was created in 1982 and the survey was administered in 2000). Without incorporating inflation figures into the data, there may be some errors in evaluating income changes over time.

The average family change in income is also positive and when tested against a zero value, the family change in income is not statistically significant. However, data suggests that over time, average family income has increased. This could be due to increased employment opportunity, increased desire to work, inflation, and increased tourism revenues or a number of other explanations. The only conclusion to be drawn from these t-tests is that family incomes of the respondents have increased on average with both genders having a similar increase in income on average.

It is interesting to note that for the seven women earning an income prior to CASEM the average change in income was positive; however, four of the seven women experienced negative income changes. I would guess that some of the women may have been working full time or more often prior to CASEM (i.e. Survey Respondent #1—Spanish Teacher, Survey Respondent #26—Clothing Sales). CASEM affords these women the luxury of working from home, producing crafts of their choice at an individually desired pace. Job flexibility, time, and many other non-economic factors are benefits that are difficult to value.
CASEM associates are not only employed by CASEM but they create this organization and all share equal ownership and decision-making power. This organization has given women the opportunity to produce a craft and partake in social activities while also earning an income and promoting conservation. It is likely that most of their responses toward conservation and tourism are positive because they feel that they have some stake in conservation support and the tourism industry. The host community should hold the power to decide how many tourists they would like, how many their environment and infrastructure can sustain. I believe they should receive benefits, both economic and non-economic, for opening their communities and welcoming tourists.

Ecotourism is a relatively new form of tourism that may encourage tourists to consider the environments and communities that they visit and allow the people of the host communities to hold a larger role in decision-making, negotiation, and profit. Despite intentions of sustainability and the desire to minimize host community and environmental impacts, tourists will have an effect on the economics, social structure, environment, and other facets of the host community. Because the impacts seem to be inevitable, the host community needs to have a strong voice and participation in how tourism develops in their community. The results of this study suggest that members of CASEM have been affected economically and socially as a result of participation in the tourism industry.

**Shortcomings of Survey and Future Studies** The survey asks how much the women made last month at CASEM. Because this is the only question I asked regarding income for CASEM, I used this figure as the “monthly income” figure for CASEM in all calculations. Also because the survey was taken over the course of three months, I may be comparing a high tourist month with a low tourist month. I elected not to address annual income to try and eliminate imprecise guesses and figures. I do not know if that figure would have been easy for the women to answer with accuracy since income from CASEM depends on how many crafts each woman decides to produce in any given period of time that she chooses and how many crafts sell each month. Income is highly variable between tourist seasons and depending upon the ambitions or creativity of the women. For the income questions regarding “other jobs” I averaged the reported figures for peak tourist season monthly income and low tourist season monthly income. These may be more accurate than the one month figure reported for CASEM. The survey did not discriminate how long they had been working at CASEM or from what year were the pre-
CASEM income figures reported. Without this information, I am comparing potentially a spread of eighteen years worth of income information. This also makes it difficult to incorporate inflation figures for comparing before and after CASEM values for women and men.

To minimize survey errors and incomplete information, it would have been useful to pre-test the surveys in Monteverde and administer them in person. Future studies should include a broader segment of the population to compare attitudes of those employed by tourism and those who are not.

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References


