

# PROTECTED AREAS: A STRATEGY TO PROTECT LOCAL LIVELIHOODS IN THE AGE OF GLOBALIZATION<sup>1,2</sup>

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**By**

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## **Abstract**

Social science oriented literature on protected areas has hitherto focused mostly upon how protected areas have been implemented at the expense of the interests of people living in and around the protected area and have often resulted in conflict. This paper reports on a case from Nicaragua which viewed in the above context is counter-intuitive, namely a case of small-scale farmers struggling to have their area, Miraflor, declared a protected area. This paper explores the underlying reasons for this apparent paradox of farmers wanting to have their land recognized as protected area and thus accepting all the restrictions on land use, this entails. Based on fieldwork conducted in the area in 1999 and 2001, the paper proposes that small-scale farmers conceived the strategy of having their area declared a protected area in an effort to make it less attractive to resourceful landowners who had started buying up of land from small-scale farmers during the period of liberalization in the 1990s. Thus, protecting the area becomes a strategy to also protect the livelihood of small-scale farmers. The paper describes how individual and collective interests are formulated and negotiated, the roles played by farmers’ own organizations as well as by national agencies external NGOs and donor organizations and concludes by discussing the potential threats, which may prevent this strategy from leading to genuine protection of natural resources.

## **Introduction**

Social science oriented literature on protected areas has hitherto focused mostly upon how protected areas have been implemented at the expense of the interests of people living in and around the protected area. As stated by Ghimire and Pimbert, the establishment of protected areas has “customarily led to extensive resource alienation and economic hardships for many social groups” (Ghimire and Pimbert, 1997:2) and thus has often caused conflict. In recent years, such conflicts have nurtured the increasing recognition of the need for more people-centred approaches to the planning and management of protected areas. As an example, IUCN’s World Commission for Protected Areas states in its Draft Strategic Plan that “...successful management of protected areas requires the support and involvement of local

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people ... WCPA advocates approaches to protected area management which involve working for, with and through local communities, not against them” (WCPA 2001:8). Desirable as this may be, the initiative to establish protected areas is, however, still assumed to originate from outside the area itself, either nationally or internationally.

This paper explores a Nicaraguan case which viewed in the above context is counter-intuitive, namely a case of small-scale farmers struggling to have their area, Miraflor, declared a protected area. In seeking to explain this apparent paradox, the paper proposes that having their area declared a protected area and thus restricting the ways it can be used, was conceived as a strategy to make the area less attractive to resourceful people who had started to buy up land from small-scale farmers. The paper illustrates how local small-scale farmers have called upon and forged alliances with external institutions and interests to help them protect valuable natural resources in their area, but also as part of a political and discursive strategy to ensure their access to other resources such as land, externally financed initiatives and political recognition and voice. Finally, it discusses the potential threats, which may prevent this strategy from leading to genuine protection of natural resources.

### **Miraflor becomes a protected area**

Miraflor is an area of approximately 5700 hectares situated in the mountains northeast of the Nicaraguan town Estelí. It contains dry plains at about 5-700 m a.s.l. as well as mountainous cloud forest and a cool, humid plain, *el plan helado*, at altitudes of about 1400 m a.s.l and provides the home to around 1000 households. In the lower parts of the area, primarily large-scale farmers keep cattle while further up the slopes, smaller-scale farmers grow shaded coffee, maize and beans, and in the upper part also vegetables are grown. Before the period of agrarian reforms, Miraflor was considered part of the agrarian frontier. Land was owned by a few big landowners who kept cattle and used the upper parts of the area for summer grazing and increasingly also grew coffee through various systems of tenant farming<sup>4</sup> and sharecropping<sup>5</sup>. This changed during the 1980s when land was expropriated and after a brief phase of land held in production cooperatives, primarily cultivating potatoes and coffee, land was allocated to former tenant farmers and sharecroppers as well as people coming from other parts of the country. Thus, Miraflor saw a growing population during the 1980s, which resulted in rapidly increasing rates of deforestation due to local needs for agricultural land, firewood and building materials as well as opportunities for incomes from sales of timber and firewood. Moreover, farmers who had benefited from the agrarian reform received massive technical and economic assistance during the 1980s for their potato and coffee production encouraging high levels of use of agro-chemicals.

Miraflor was severely affected during the period of ‘resistance’ in the latter part of the 1980s and many of those who had benefited from the agrarian reform felt threatened to sell off their land. Following the change of government in 1990, the technical and legal support to beneficiaries of the agrarian reform ceased and farmers are left in a situation of great

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<sup>4</sup> I.e. the system known in Spanish as *el colonato* where tenant farmers are allocated plots of land at the margins of the big land owner’s land in return for working for the big land owner.

<sup>5</sup> In the sharecropping system, *la mediería*, which is still widespread in Nicaragua, a landowner provides land and at times also purchased inputs, whereas the sharecropper provides all labour inputs. The produce is commonly divided equally among the landowner and the sharecropper.

economic and legal insecurity. As elsewhere in Nicaragua (Baumeister 2001; Baltodano 2001), land sales continued during the 1990s,<sup>6</sup> either because land reform beneficiaries had become heavily indebted due to the sudden reduction of economic and technical support to agriculture<sup>7</sup> or because they feared that former landowners would return and claim back their land. It is estimated<sup>8</sup> that as much as 70 percent of the agrarian reform beneficiaries in Miraflor have either lost or sold their land during the 1990s and today, only 10 percent of the households living in Miraflor are beneficiaries of the land reform taking place before 1990.<sup>9</sup> An additional five percent of the households currently living in Miraflor have received land through the land reform, which took place as part of the peace agreement from 1990 and onwards intended at the social 're-insertion' of ex-combatants from both sides of the war. Of the beneficiaries of the agrarian reform currently living in Miraflor, only a fraction (10 percent) have land titles in their own name. The remaining agrarian reform beneficiaries have an agrarian reform title in the name to the former cooperative (55 percent), an agrarian reform title in their own name (21 percent) or do not have any titles on their land (14 percent). Thus, a quarter of the agrarian reform beneficiaries indicated to feel tenure insecure with respect to the majority or all of their land as compared with this being the case for only 3 percent of landowners who had inherited or bought their land.

Due to its high agro-ecological potentials e.g. for the production of vegetables and coffee and for cattle production, as well as its proximity to Estelí and the Pan-American highway, Miraflor is attractive for investments. Several commercially oriented and resourceful farmers, many of whom do not stay in Miraflor but have caretakers, have bought up land during the 1990s.

It was in this context, that, in 1991, the first steps were taken towards having Miraflor declared a protected area by the natural resource commission of the UCA-Miraflor (*Unión de Cooperativas Agropecuarias Miraflor*) – a union of cooperatives in Miraflor which had been established in 1990 in an attempt to protect the interests of the members of the cooperatives, i.e. land reform beneficiaries, in Miraflor. As a farmer and former member of a local natural resource commission explained<sup>10</sup>, it was becoming increasingly clear to people that they had to halt the deforestation in order to conserve both the climate and the flora and fauna of Miraflor as well as to stop using high levels of agro-chemicals as drinking water was getting contaminated. Thus, in parallel with a vision-based planning process concerning the development of Miraflor initiated by in the area by UCA-Miraflor, UCA-Miraflor approached the Estelí district council to jointly explore the possible developments for Miraflor, taking into account its high agricultural potential and the environmental damage caused by high levels of

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<sup>6</sup> Baltodano (2001) quotes the Ministry of Agriculture and Forestry (MAGFOR), stating that more than 1 million manzanas (1 manzana = 0.7 hectare) of land redistributed during the land reform of the 1980s have been returned to their previous owners.

<sup>7</sup> Of the present population, 14 percent of the household indicated to have sold or lost land during the past 20 years. Approximately 30 percent of these households had sold or lost their land due to debts whereas another 30 percent had sold or lost their land due to the war or perceived threats.

<sup>8</sup> This estimate is based on an interview with Julio César Gómez Guevara, former chair of the Natural Resource Commission of the Unión de Cooperativas Agropecuarias (UCA), Miraflor. The interview was conducted November 1999.

<sup>9</sup> This and the following information, unless another source is indicated, about the population of Miraflor stems from a household questionnaire survey, *Encuesta sobre el nivel de bienestar, el manejo de recursos naturales y las practicas organizativas*, which I conducted in 2001 on a random sample of the resident population of Miraflor of 306 households.

<sup>10</sup> Interview with Noel Buscardo, Puertas Azules, November 1999.

use of agro-chemicals during the 1980s. These joint considerations continued until 1993, when farmers organized in UCA-Miraflor made the request to the National Assembly of Nicaragua that Miraflor should be included in the National System of Protected Areas (SINAP – Sistema Nacional de Áreas Protegidas). This became a reality in 1996 when Miraflor legally received status of a protected area (MARENA-PANIF, 2001). The Nicaraguan legislation concerned with protected areas and their management was, however, not finalized until 1999 with a decree 14-99 which describes different management categories, inspired by the IUCN categories, the modalities of co-management and the process of developing management plans. Thus, using these specifications, Miraflor is one of the first protected areas in Nicaragua and Central America as a whole to be assigned the status as a ‘protected landscape’, corresponding to IUCN category V.<sup>11</sup> By 1994, only nine protected areas in Central America were assigned as Category V areas, which, in terms of area, corresponded to 0.01 of the total area of the region (Green and Paine, 1999). Moreover, the Ministry for the Environment and Natural Resources (MARENA – Ministerio de Ambiente y los Recursos Naturales) has assumed the role of facilitating the development of a management plan, a first draft of which (Marena-Panif 2001) was presented and discussed among the various stakeholders early 2001.

As a protected area, the case of Miraflor is exceptional in a number of ways, but first and foremost because the initiative to declare Miraflor a protected area came from the resident population itself. In the following, the motives for taking this step will be further discussed.

### **Motives for wanting Miraflor to be declared a protected area**

Everywhere in the world, there is evidence of farmers protesting against restrictions put on them with respect to where and how they should produce. In this light, the experience of Miraflor is intriguing in the sense that farmers through their organization have asked for such restrictions to be put in place and enforced by the Ministry of the Environment and Natural Resources.

Part of the explanation of this move doubtlessly has been the increased consciousness of the negative environmental impacts of the agricultural production techniques employed during the 1980s. Miraflor is an area with plenty of small springs from where the population gets its drinking water. Yet, today as much as one third of the resident population has experienced their water supply to be either contaminated due to the high levels of use of chemicals, notably fungicides, or to dry out due to water increasingly being used for irrigation of vegetables. Moreover, as much as 30% of the farmers in Miraflor have experienced health problems following their use of agro-chemicals, and several incidences of poisoning causing death were reported. Also the climate is said to have changed markedly during the past decade. Earlier, it was rare that the upper part of Miraflor was not wrapped in clouds at least part of the day. Now even the upper part of Miraflor increasingly experiences clear days with high temperatures from morning till evening and people ascribe that change to the extensive

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<sup>11</sup> According to IUCN’s 1994 *Guidelines for Protected Area Management Categories*, a protected landscape or seascape is defined as an “area of land [...] where the interaction of people and nature over time has produced an area of distinct character with significant aesthetic, ecological and/or cultural value, and often with high biological diversity. Safeguarding the integrity of this traditional interaction is vital to the protection, maintenance and evolution of such an area” (IUCN, 1994; MARENA-PANIF, 2001).

felling of cloud forest to give way for agricultural production. In itself, however, increased consciousness of previous production practices being unsustainable does not explain the wish to have the area declared a protected area.

A second part of the explanation relates to the precarious economic situation facing small-scale farmers following the change of government in 1990s, which among other things removed subsidies on chemical inputs and credits. By forming a cooperative union, the cooperatives of Miraflor increased their visibility and 'reach-ability' for external donor organizations. Moreover, by adopting in the post-Rio era identity of an organization working in favour of sustainable natural resource management by small-scale farmers, UCA-Miraflor successfully managed to attract donor funding to finance what they call the Agroecological Project of Miraflor, a broad-based development project which in addition to seeking to protect and improve the environment, aimed at increasing the productive and economic sustainability, provide credit and agricultural extension, improve health and education services etc. (MARENA-PANIF, 1999), and thereby partly compensate for the otherwise difficult economic situation characterizing Nicaraguan small-scale farming during the 1990s. Among the donors supporting UCA-Miraflor<sup>12</sup> are the European Union (funding to support the general development of the area since 1994) (Bachmann, *undated*) and FINNIDA, supporting MARENA, initially in partnership with UCA-Miraflor, to enhance the capacity to manage Miraflor as a protected area. In this way, the status as a protected area served as a vehicle to attract external funding to finance development activities taking place in the area, either activities related specifically to its status as a protected area or more general activities meant to act as incentives for the local population to conserve natural resources.

The third and perhaps most interesting but also less evident motivating force for wanting to make Miraflor a protected area and particularly for wanting a relatively strict management plan to be agreed upon, seems to relate to fears among UCA farmers of being squeezed out of business by an emerging small but powerful group of resourceful landowners who during the 1990s have been buying up land in Miraflor. The hypothesis forwarded in this paper is that in conceptualizing a strategy for attracting external support and avoiding the dangers being squeezed out of farming, UCA-Miraflor had come to the conclusion that the comparative advantage of capital constrained, small-scale farmers, was to be found in labour-intensive, low- or no-external input farming. In this view, having Miraflor declared a protected area would limit the options for expansion of the agricultural area as well as introduce legal restrictions with respect to the use of external inputs and the introduction of exogenous species, e.g. of forages. This, in turn, would reduce, if not remove, the incentives for resourceful farmers to buy up land in the area and thereby modify the market regime, which after liberalization was working against small-scale farming.

### **Organizing and competing to influence the management plan for Miraflor**

Until 1998, everything seemed as if the strategy of UCA-Miraflor was going to succeed. However, MARENA increasingly experienced resistance against Miraflor as a protected area, particularly from medium and large-scale landowners who emerged in Miraflor during the

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<sup>12</sup> UCA-Miraflor has also received financial support from Germany, The Netherlands, Sweden and Switzerland (MARENA-PANIF, 1999).

1990s.<sup>13</sup> Many of these new and highly commercial farmers are absentee landlords, living e.g. in Estelí where they hold other professional positions and form part of politically and economically important networks. In 1998, they formed an association called the Association of Environmental Producers of Miraflores<sup>14</sup> and thereby constituted themselves as a legitimate collaboration partner to MARENA. The declared objective of APROAMI is to “promote self-reliant community development to achieve sustainability for the protected area Miraflores and to improve the well-being of producers and inhabitants” (MARENA-PANIF, 1999). By 1999, APROAMI had 64 registered members who initially, all medium and large-scale farmers who initially had been sceptical towards their idea of declaring Miraflores a protected area (*ibid.*) Asked about who were the people against Miraflores as a protected area, a land reform farmer who had been an UCA member until a few years ago explained that ‘that is the people with money... they are worried because they know they are a minority, but they are the ones who can take their car and transport a load of firewood, those who have the resources for using lots of agro-chemicals...’.<sup>15</sup> Of the resident population, less than 1% of the households stated to be members or associated with APROAMI (Ravnborg, 2002). By comparison, 26% of the households stated to be members of UCA-Miraflores.<sup>16</sup>

During 1998, APROAMI managed to position itself so that MARENA-PANIF became increasingly responsive to the views of its members at the expense of those of UCA-Miraflores. As an example, an organization of voluntary forest guards (Organización de Guardabosques Voluntarios) was established in 1998. Although members of the natural resource commission under UCA-Miraflores also acted as forest guards, MARENA-PANIF gave in to pressures from APROAMI that it was necessary to create an independent organization of forest guards. In 1999, the organization of voluntary forest guards became legally recognized as ‘the only’ forest guard organization in Miraflores (Official letter, June 10, 1999, from MARENA-Estelí to the managerial board of the voluntary forest guards). In 2000, the MARENA-PANIF supported organization of voluntary forest guards counted 88 members,<sup>17</sup> among them APROAMI members and resident farmers who had left UCA-Miraflores in 1996 following disagreements on UCA’s financial management. All voluntary forest guards received uniforms, and training, and some were even sent to Managua and to CATIE in Costa Rica for training. Thus, this group of forest guards became a vehicle for building more popular support for APROAMI at the expense of UCA-Miraflores whose forest guards were no longer legally recognized.

A key instrument in the management of a protected area is a management plan, which should be developed under the responsibility of MARENA. The objective of a management plan is to outline the development of the protected area in the short, medium and long term, stipulate the activities which can and cannot be performed within the protected area and thereby form the framework for the formulation of annual operational plans (MARENA-PANIF, 2001). In view of the resistance of Miraflores as a protected area, MARENA decided to embark upon a more participatory process for the development of a management plan for Miraflores. This process consisted of three workshops held between May and December 1999. At the first

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<sup>13</sup> Interview with Julio César Gómez Guevara, Coordinator for Protected Areas and Biodiversity in MARENA-Estelí, November 1999.

<sup>14</sup> APROAMI – Asociación de Productores Ambientalistas de Miraflores.

<sup>15</sup> Interview with a Sontule farmer, March 2001.

<sup>16</sup> In 1999, the official membership of UCA-Miraflores was 323 persons (MARENA-PANIF, 1999)

<sup>17</sup> Lista de Guardabosques, MARENA-Estelí – Áreas Protegidas y Biodiversidad. 2000.

workshop, all but three participants were UCA members whereas the second workshop marked a radical shift with more APROAMI farmers participating and ‘gradually taking charge of the meeting with MARENA participating as observers and resource persons’ as expressed by the regional MARENA coordinator for Protected Areas and Biodiversity.<sup>18</sup>

Following this workshop, UCA-Miraflor decided to withdraw its collaboration with MARENA-PANIF. They felt that MARENA was accepting a course of action which did not lead to an actual protection of Miraflor. MARENA management, they claimed, had become so flexible that more and more permits were issued, allowing people to burn their land and to cut down trees, and turning the blind eye to increasing sales of firewood out of the area. All this, UCA-Miraflor claimed, happened due to the new alliance between the well-educated leadership of APROAMI and the external PANIF advisor to Miraflor. Hence, rather than fighting from within to get their views heard and loyally reported in the participatory process facilitated by MARENA, UCA-Miraflor decided to opt out in 1999.

This, however, did not imply that they dropped arguing in favour of Miraflor as a protected area. On the contrary, while APROAMI was making an effort to relax the level of restrictions to be included in the management plan for Miraflor, UCA-Miraflor engaged in a process of strengthening the technical arguments for a rather restrictive management plan. As an example, they contracted external consultants to make inventories of rare species of orchids, birds and other flora and fauna. Also they contracted consultants to help develop techniques for organic growing of e.g. potatoes and tomatoes to ensure that restrictions with respect to the use of external inputs would be accompanied by viable technical alternatives. Moreover, they seized every opportunity to cast doubts on the extent to which MARENA was sincerely working in favour of environmental protection, given their relaxed attitude on issues such as deforestation and burnings. Besides expressing these doubts to the Minister of Environment and Natural Resources at a public occasion with the presence of external donors to the environmental sector,<sup>19</sup> UCA-Miraflor also raised this issue formally to the members of the National Assembly (Lacayo and Montalvan, 2000:48). On this background, MARENA asked for a meeting with UCA in March 2001 to explore the possibilities for resuming collaboration – before the visit of the Minister of Environment and Natural Resources to Miraflor and before the presentation of the draft management plan for Miraflor.

### *The management plan*

The key element in the management plan is a zonation of Miraflor into five zones for which specific management principles should apply. The five zones are:

1. Zone of agricultural use
2. Zone of pastoral use
3. Zone of intensive protection, distinguishing between
  - the temperate, humid zone
  - the warmer, dry zone
4. Rehabilitation zone
5. Zone designated for special use

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<sup>18</sup> Interview with Julio César Gómez Guevara, Coordinator for Protected Areas and Biodiversity, MARENA-Esteli, November 1999.

<sup>19</sup> Interview with Porfirio Zepeda, February 2001, UCA-Miraflor.

The key elements of the proposed management norms are described in table 1.<sup>20</sup>

In their presentation of the management plan,<sup>21</sup> MARENA emphasized:

- that not only is it necessary to protect but also to recuperate/rehabilitate 4000 hectares<sup>22</sup> of forest in order to ensure that the forest maintain its environmental function, e.g. to ensure connectivity between the present patches of (fragmented) forest, to conserve biodiversity;
- that it should not be permitted to cut down more trees;
- that coffee cultivation should not be permitted in the forest because it destroys the undergrowth which is very important in itself in terms of biodiversity and in order to conserve the fauna of the forest; and
- that it should not be permitted to introduce new species of forage in the pasture zone.

The reaction from APROAMI was to cast doubts on the validity of the concept of a protected landscape, recommended as the suitable protection category by MARENA. Obviously, one of the contested points in this context is the need to recuperate or rehabilitate, i.e. take out of agricultural production, 4000 hectares of land, to ensure the integrity of landscape ecological functions. Moreover, prior to the official presentation of the draft management plan, APROAMI had sought to influence MARENA to abstain from restricting the use of chemical inputs in the agricultural and pastoral zones and to entirely prohibit their use in zones of rehabilitation, but with no success. Thus, at the presentation, APROAMI clearly indicated that in their view, the negotiation on these management categories and their associated management principles was far from over and that what ever restrictions were put in place, these should be accompanied by alternatives and economic compensation.

UCA-Miraflor, on the other hand, claimed that the need for protection and rehabilitation was even bigger than that indicated in the draft management plan. The management plan refers to a forest inventory, which identified 288 species of which 27% were endemic to Nicaragua and Central America (MARENA-PANIF, 2001), while UCA-Miraflor contested the quality of this inventory and claimed the number of species, also of endemic species, to be much higher. UCA-Miraflor would like to see MARENA assuming a much stronger and stricter role. Finally, UCA-Miraflor rejected the need for compensations. As the president of UCA-Miraflor, said: “In my point of view, we have to protect the natural resources and that is what I am doing and I can’t complain because, really, the one who is gaining, even economically, is me”.

### **Protecting livelihoods or protecting landscapes?**

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<sup>20</sup> Obviously, a contentious issue is the exact assignation of each part of Miraflor to these management zones. This was not stipulated in the draft version of which management plan which I have available. In my coming visit to Nicaragua (May 2002), I will make a follow-up on the progress with respect to the management plan.

<sup>21</sup> April 4, 2001, in the Alcaldía Municipal, Estelí.

<sup>22</sup> 4000 hectares correspond to between 15% and 30% of the total area, depending how the protected landscape is delimited.



The protected landscape category with its emphasis on the interaction between people and nature and the ideas of stakeholder involvement in the formulation of management plans, provides an arena within which the different stakeholders seek, at least discursively, to position themselves in relation to each other as well as in relation to national policies of environmental protection and global environmental and development concerns. As we have seen, however, the motives underlying this positioning by no means are only environmental. The fact that cooperative farmers in an area of a neighbouring district, sharing many of the same characteristics of high agricultural potential, a land reform and cooperative history, are currently exploring the possibilities for having their area declared a protected area bears witness to the development potentials, which this strategy is considered to entail. From a conservation point of view, the question therefore is whether genuine protection of Miraflor as a landscape and of the patches of diversity rich-forest within it are likely outcomes. In other words: 1. Does MARENA have the political will and strength to ensure that the management plan in its final version will be sufficiently unambiguous in its formulation of management norms as well as to actually enforce the management plan? 2. Can UCA-Miraflor convince its member farmers that strict environmental protection in terms of low or no external input farming and forest protection is in their strategic interest, partly because of easier access to external funding for development activities, partly because of the comparative advantage that small-scale farmers, often suffering from under-employment have in labour intensive organic farming as compared with caretaker farming undertaken by capital- strong absentee landowners? And finally, 3. to which extent have the concerns of the poor been taken into consideration?

While the first question is hard to answer at this early stage of the process, there are indications that UCA farmers are significantly more likely to practice erosion control, to have made efforts to improve their soil like avoiding to use burnings as part of land preparation, and to use organic fertilizers than are farmers who are not members of UCA-Miraflor.<sup>23</sup> Although UCA members are less likely to use pesticides and chemical fertilizers than non-UCA members, these differences are not statistically significant.<sup>24</sup> However, as these figures demonstrate, there is still a long way to go before organic farming is the rule rather than the exception for the majority, even among UCA farmers.

With respect to the third question, the poor in Miraflor have been conspicuously absent in all the deliberations on Miraflor as a protected area. Although UCA-Miraflor claims to be representing the poor, this seems to be a relative truth, which only applies in relation to the emerging resourceful farmers. According to a poverty profile developed for Miraflor as a quantification and 'measurement' of local perceptions of well-being and poverty (Ravnborg, 2002), 46 percent of the households who are members of UCA-Miraflor belong to the category of non-poor households, while 39 percent of the member households belong to the

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<sup>23</sup> Sixty-three percent of households who are members of UCA-Miraflor and cultivate own land or sharecrop practice soil erosion control as compared with 42 percent of households who are not members of UCA Miraflor. With respect to households who have made efforts to improve their soil (avoiding to burn as part of land preparation, using organic fertilizers etc.), the percentages are 60 percent for UCA members and 43 percent for non-UCA members. Finally, 39 percent of UCA-members use of organic fertilizers as compared with only 17 percent of non-UCA members (all differences are significant at 0.05 level or less using Pearson's chi-square test).

<sup>24</sup> Seventy-five percent of households who are members of UCA-Miraflor use pesticides as compared with 85 percent of non-UCA members and the corresponding percentages for the use of chemical fertilizers are 64 percent and 68 percent for UCA and non-UCA members, respectively.

category of less poor households and only 16 percent of the member households are categorized as the poorest households. The category of poorest households contains as much as 41 percent of the total number of households in Miraflor while the category of less poor households contain 39 percent and the category of non-poor households contains only 20 percent of the households in Miraflor (*ibid.*).

The majority of the poor are not organized and therefore they have had few institutional options for expressing their concerns as well as for accessing development projects in general, working in the area. Asked whether they had been involved in projects or activities supported by a long list of external organizations, ranging from government organizations, farmers associations, NGOs, and external donor agencies during the past five years, only 40 percent of the poorest households gave a positive indication as compared with 70 and 80 percent of the less poor and non-poor households, respectively (Ravnborg, 2002). One of the big concerns, particularly for the poorest households with limited land holdings, if any, which poses a potential problem to protection efforts is the increasing difficulties associated with getting firewood. Only 10 percent of the poorest households get firewood from their own land as compared with 42 percent of the less poor and 89 percent of the non-poor households. During interviews both landless and landowning persons indicated access to firewood as a contentious issue, with the landless referring to the increasing difficulties of obtaining permission from landowners to enter their property to collect firewood while landowners complained about the growing problem of people entering their property, stealing their crops and damaging trees so that they would wither and eventually die either to make more firewood available or to accuse the landowner of cutting down trees illegally.

The approach taken by UCA-Miraflor towards the problems of poverty has, in the case of firewood, been to promote the planting of fast growing community woodlots, whereas the approach of APROAMI seems to be to refer to the commonly held view of poverty as the main cause of environmental degradation<sup>25</sup> as if in an attempt to draw away attention from the natural resource management practices of the resourceful landowners at the same time as building a strategic alliance with the poor as well as with donor organizations having poverty reduction and environmental protection high on their agenda. Thus, the extent to which the poorest households seek to maintain their identity as farmers and manage to break their vicious circle of indebtedness and necessity to offer themselves as casual labourers and opt for a strategy of organic production, or whether they prefer the economic security provided by economically strong patrons who offer employment, may become an important element in determining the way Miraflor will be managed as a protected landscape.

## **Conclusion**

In most developing countries, the conditions for small-scale farmers are becoming increasingly precarious due to e.g. policies of economic liberalization coupled with continued protection of agricultural production in many so-called developed countries as well as structural factors making it more difficult for small-scale farmers to access credit, advisory services, etc. With only few opportunities of alternative employment, these forces put the livelihood of small-scale farmers under severe threat.

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<sup>25</sup> Expressed in an intervention by a leading APROAMI member in a workshop held in preparation of the official presentation of the draft management plan for Miraflor, March 2001.

This paper has illustrated how a group of farmers, organized in a cooperative union, are attempting to exchange sustainable productive use of natural resources and actual protection and rehabilitation of biodiversity rich patches of cloud forest in return for legal and management support from the environmental ministry coupled with financial support from external donors. The paper argues that this strategy has been devised to protect their access to land which had come under pressure from the increasing interest of resourceful people in buying up land in the area.

In many ways, these organized farmers have been successful in their strategy and the fact that a group of farmers in a neighbouring district are attempting to duplicate their strategy bears witness to this preliminary success. Two factors seem key in having shaped the success so far, namely the fact that they have had a strong organization which has been able to enter into a political as well as a technical dialogue with outside partners, and that the legal framework for protected areas, in this case particularly the IUCN category of protected landscapes adopted in Nicaraguan legislation, constitutes a space for negotiating the interaction between people and nature as well as for mobilizing financial support.

However, three aspects may seriously limit the positive social and conservation outcomes that this strategy potentially holds for promoting small-scale sustainable agricultural production, namely i) whether MARENA has the necessary political will and strength to ensure that the management plan in its final version will be sufficiently unambiguous in its formulation of management norms as well as to actually enforce the management plan; ii) whether UCA-Miraflor can convince its member farmers that strict environmental protection in terms of low or no external input farming and forest protection is in their strategic interest; and finally iii) whether the concerns of the poor have been taken sufficiently into consideration when devising the strategy of protection? While there is hope of positive responses to the first two aspects, current evidence indicate that the concerns of the poor have not been taken sufficiently into to consideration when devising the strategy of declaring Miraflor a protected area. Finding ways to ensure that the concerns of the poor are brought into the negotiation of Miraflor as a protected landscape appears to be a major future challenge – if not efforts to protect Miraflor may become undermined by illegal resource utilization and conflict.

**Table 1**

**Proposed key management norms for the zones identified in the draft management plan for Miraflor**

Zone of agricultural use	Zone of pastoral use	Zone of intensive protection – the temperate, humid zone	Zone of intensive protection – the warmer, dry zone	Rehabilitation or recuperation zone	Zone designated for special use
<ul style="list-style-type: none"> <li>• organic farming should be promoted</li> <li>• only burnings undertaken according to the established guidelines should be permitted</li> <li>• containers for agro-chemicals should not be deposited in or close to waterways</li> </ul>	<ul style="list-style-type: none"> <li>• only burnings undertaken according to the established guidelines should be permitted</li> <li>• only certified agro-chemicals should be used</li> <li>• the expansion of pastures is not permitted</li> </ul>	<ul style="list-style-type: none"> <li>• research should be conducted on how to rehabilitate the ecology of the zone</li> <li>• environmental education programmes should be developed</li> <li>• tourist activities should be developed according to established recommendations</li> <li>• only the regulated use of non-threatened forest products is permitted, and only if accompanied with new plantings</li> </ul>		<ul style="list-style-type: none"> <li>• research should be conducted on how to rehabilitate the ecology of the zone</li> <li>• environmental education programmes should be developed</li> <li>• reforestation should only be done with native species</li> </ul>	<ul style="list-style-type: none"> <li>• the construction of research, education, tourist and control facilities is allowed</li> <li>• construction activities, involving moving soil and sanitation facilities need the environmental impact assessments to be conducted</li> </ul>

<ul style="list-style-type: none"> <li>• only certified agro-chemicals should be used</li> <li>• no expansion of the agricultural area is permitted</li> <li>• the introduction of new agricultural species should be carefully regulated</li> <li>• contour farming should be practiced on sloping land</li> </ul>	<ul style="list-style-type: none"> <li>• the use of native forage species should be promoted</li> <li>• the introduction of new forage species should not be permitted</li> </ul>	<ul style="list-style-type: none"> <li>• the inclusion of forest area into agricultural or livestock production should be avoided</li> <li>• restrict the grazing of animals in secondary forest</li> <li>• restrict the conversion of fragments of forest into coffee plots due to the loss of biodiversity in the undergrowth</li> </ul>	<ul style="list-style-type: none"> <li>• restrict the use of agro-chemicals close to forest patches</li> <li>• restrict activities which affect the processes of natural succession in the forest</li> </ul>	<ul style="list-style-type: none"> <li>• no extraction of forest product would be permitted</li> <li>• no visitors will be allowed into the area</li> <li>• agricultural and livestock activities are prohibited</li> <li>• the use of agro-chemicals is prohibited</li> </ul>	
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## References

Bachmann, Felicitas. Undated. El aporte de una estrategia de género para el uso sostenible de los recursos naturales. Un estudio de caso de Nicaragua. Centro para el Desarrollo y el Medio Ambiente, Suiza.

Baltodano, María Eugenia. 2001. *Documento de avance. Información base del sitio de referencia del proyecto CIAT Laderas, Nicaragua*. Draft. CIAT Laderas, Managua, Nicaragua.

Baumeister, Eduardo. 2001. "Peasant initiatives in land reform in Central America". In Ghimire, Krishna B. (ed.) 2001. *Land reform and peasant livelihoods. The social dynamics of rural poverty and agrarian reforms in developing countries*. Pp. 65-85.

Ghimire, Krishna B. and Michel P. Pimbert. 1997. "Social Change and Conservation: An overview of issues and concepts". In Ghimire, Krishna B. and Michel P. Pimbert (eds.). 1997. *Social Change and Conservation. Environmental Politics and Impacts of National Parks and Protected Areas*. London: Earthscan Publications Limited. Pp. 1-45.

Green, Michael J. B. and James Paine. 1999. "State of the World's Protected Areas at the End of the 20<sup>th</sup> Century". In: Stolton, Sue and Nigel Dudley (Eds.). 1999. *Partnerships for Protection. New strategies for Planning and Management for Protected Areas*. WWF and IUCN. London: Earthscan Publications Ltd. Pp. 18-28.

MARENA-PANIF. 1999. *Inventario de Instituciones y Proyectos que Inciden en el Territorio de las Áreas Protegidas Miraflores-Moropotente*. Estelí: Ministerio del Ambiente y los Recursos Naturales – Programa Ambiental Nicaragua Finlandia.

MARENA-PANIF. 2001. Plan de Manejo del Paisaje Terrestre Protegido de Miraflores-Moropotente (Primer Borrador). Dirección General de Áreas Protegidas, Ministerio de Ambiente y los Recursos Naturales (MARENA).

Ravnborg, Helle Munk. 2002. "Perfiles de Pobreza para la Reserva Natural Miraflores-Moropotente, Municipio de Estelí, y el Municipio de Condega, Región I, Las Segovias, Nicaragua". *CDR Working Paper 02.5*. Copenhagen: Centre for Development Research.