

# MERGE

MANAGING ECOSYSTEMS AND RESOURCES  
WITH GENDER EMPHASIS

Case Study No. 4  
November, 2002

## **Making Visible the Invisible The Process of Institutionalizing Gender in Ecuador: The Case Studies of The Arcoiris Foundation, ECOCIENCIA and the Quichuan Institute of Biotechnology.**

*Paulina Arroyo M. and Susan V. Poats  
with Bolívar Tello, Rosa Vacacela and  
Rocío Alarcón*

Published by



UNIVERSITY OF  
FLORIDA

Supported by

**THE WILLIAM AND FLORA HEWLETT  
FOUNDATION**



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The John D. and Catherine T. MacArthur Foundation

# GENDER, COMMUNITY PARTICIPATION AND NATURAL RESOURCE MANAGEMENT

## Case Studies Series

### Published by

MERGE (Managing Ecosystems and Resources  
with Gender Emphasis),  
Tropical Conservation and Development Program  
Center for Latin American Studies  
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The MERGE Case Studies Series on Gender, Community Participation and Natural Resource Management, supported by grants from the John D. and Catherine T. MacArthur Foundation and WIDTECH, is designed to show how a gender focus has been relevant and useful in natural resource management projects. The cases focus on concrete examples from extension, applied research, and participatory planning activities involving rural communities, especially those in and around protected areas primarily from projects in Latin America with which the MERGE program has collaborated. The format lends itself to practical applications as well as training in gender and natural resource management. The cases are translated into English, Portuguese and Spanish, and are available on the Internet (<http://www.tcd.ufl.edu>).

The following are the first case studies of the Series:

1. **Conceptual Framework for Gender and Community-Based Conservation.** by Marianne Schmink, 1999
2. **Gender, Conservation and Community Participation: The Case of Jaú National Park, Brazil.** by Regina Oliveira and Suely Anderson, 1999
3. **Working with Community-Based Conservation with a Gender Focus: A Guide.** by Mary Hill Rojas, 2000
4. **Making Visible the Invisible. The Process of Institutionalizing Gender in Ecuador: The Case Studies of The Arcoiris Foundation, ECOCIENCIA and The Quichuan Institute of Biotechnology.** by Paulina Arroyo M. and Susan V. Poats with Bolívar Tello, Rosa Vacacela and Rocío Alarcón, 2002

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Translation by David Salisbury

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# Making Visible the Invisible

## The Process of Institutionalizing Gender in Ecuador: The Case Studies of The Arcoiris Foundation, ECOCIENCIA and The Quichuan Institute of Biotechnology

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*Paulina Arroyo M. and Susan V. Poats<sup>1</sup>  
with Bolívar Tello, Rosa Vacacela and Rocío Alarcón<sup>2</sup>*

### **Institutional Context**

The MERGE program (Managing Ecosystems and Resources with a Gender Emphasis) of the University of Florida promotes collaborative projects between institutions focused on research, training and action in the field. From 1995 until 1997, MERGE formed part of a comprehensive program between Brazil, Peru and Ecuador. This program's goal was the development of research and training methods for gender analysis and community participation in natural resource management. In Ecuador, the Latin American Faculty of Social Sciences (FLACSO) served as a partner for MERGE in this MacArthur Foundation funded program. FLACSO, MERGE and The Antisana Foundation (FUNAN) organized the course entitled "Communities, Gender and Sustainable Natural Resource Management." This course trained a diverse group of professionals who would soon be promoters of gender analysis within the field of conservation and management of natural resources.

The goal of this paper is to analyze and compare three case studies of non-governmental organizations that began integrating a gender emphasis into their established programs of conservation and community development. The lessons learned from these cases enrich our experiences of incorporating gender in our own diverse agendas.

The three institutions analyzed are the Arcoiris Foundation, the ECOCIENCIA Foundation and the Quichuan Institute of Biotechnology. These three cases were chosen for four rea-

A lesson learned from these case studies is that the successful institutionalization of gender relies heavily on the personal commitment and interest of individuals, and positive individual and institutional attitudes towards gender issues.

sons: 1) each institution agreed to collaborate in this comparison, 2) each institution had personnel already trained in gender analysis, 3) each had initiated a formal process of incorporating gender into its policies and fieldwork plans, and, 4) the individuals promoting the process-Bolívar Tello, Rocío Alarcón and Rosa Vacacela- were trained in the FLACSO/MERGE course.

This document is based on interviews with the aforementioned individuals along with their own written contributions. The cases were then written up, returned to and revised by the individuals. Arroyo and Poats conducted the comparative analysis.

A lesson learned from these case studies is that the successful institutionalization of gender relies

heavily on the personal commitment and interest of individuals, and positive individual and institutional attitudes towards gender issues.

### **Why is it important to incorporate gender issues into an institutional mission?**

The formal adoption of the gender perspective into institutional goals has a long history in rural development and farming systems research. The diverse organizations immersed in these fields have learned how to train their personnel about the role of a gender focus in agricultural analysis. These organizations adopted internal policies and programs that formalize the institutionalization of gender: from the mission statement to actions in the field.

Independent of the growth of gender analysis within the study of agriculture, more recently conservation organizations have adopted policies actively involving local people in biodiversity conservation and natural resource management projects and programs. Field technicians recognize the need to adopt participatory methodologies involving local people in order to succeed in community-based conservation. Focusing on gender improves the analysis of local contexts while ensuring a more even participation of stakeholders. A gender focus in community-based conservation improves our knowledge of human actions in the management and conservation of natural resources (Campbell y Rojas, 2000).

After using gender methods in the field, many conservationists realize that a gender focus should be integrated into the entire institution promoting the conservation work. This integration demands the creation of a mission statement promising both a participatory and gender focus. The following cases teach us both the steps needed and some diverse approaches to the institutionalization of gender.

### **Communities, Gender and the Podocarpus: The study of gender incorporation into the Arcoiris Foundation<sup>3</sup>**

#### ***What is the Arcoiris Foundation?***

- The Arcoiris Foundation is a private organization, created in 1989, by a group of high school and university students and volunteers. The formation of the group was based on the goal of conserving the Podocarpus National Park in the provinces of Loja and Zamora Chinchipe.
- The goal of The Arcoiris Foundation is "to contribute to the conservation of the environment, biodiversity and natural resources of the Podocarpus National Park (PNP) and the southern region of Ecuador, through programs of environmental education, community development, research and public action." The foundation has a board of directors formed of external members and representatives of local society.
- While the organization has a regional focus, it has a national presence as a member of The Directorate of the Ecuadorian Committee for the Defense of Nature and the Envi-

ronment. Locally, the Arcoiris Foundation is an active member of the Committee for the Defense of the PNP.

- The Arcoiris Foundation carries out several regional conservation projects with the support of international organizations. Projects have focused on the PNP and the native forests of Loja province since 1993. The PNP projects are coordinated with the support of The Nature Conservancy (TNC) and the Loja projects are in conjunction with the Andean Native Forests Program, the United Nations Small Grants Program, The Ecuadorian-Canadian Development Fund and the CARE Foundation through the FORDES program.

#### ***For the Conservation of Podocarpus!***

The enthusiastic students who founded The Arcoiris Foundation in 1989 never imagined that they would one day say: "We are the oldest, most experienced conservation organization in Loja that applies the gender variable". The initial activities of Arcoiris focused on the spread of environmental education in Loja's urban sector. The environmental education campaign promoted the benefits gained from the PNP. The Park includes a vast forest area (150,000 hectares) located in the provinces of Loja and Zamora Chinchipe and has been identified as an important biodiversity refuge. After four years of action and intervention supported by TNC, Arcoiris received a grant to expand environmental education in the area. These funds helped forge links with both the PNP buffer zone communities and other rural development institutions.

#### ***Initial Contacts with the MERGE Program***

The young professionals of Arcoiris recognized their lack of background in the social sciences along with the need to learn new methodologies centered on community-based conservation and alternative economic strategies. Therefore an important step for Arcoiris was Bolívar Tello's (a forester and founding member of Arcoiris) participation in the Gender, Communities, Population and Environment workshop in May of 1995. This workshop was conducted by TNC, FLACSO, the MERGE program and FUNAN during the TNC conservation week in Quito.

Shortly after this event, MERGE, FLACSO and FUNAN repeated the workshop, training

three Arcoiris technicians (biologists and foresters). These individuals quickly incorporated their newfound knowledge into both environmental education and community extension programs. Despite the training, there was still some doubt as to how to proceed with community-based conservation and how to confront multiple stakeholders working in the area.

Later, in 1996, Bolivar Tello, trained in the TNC workshop, participated in the Communities, Gender and Sustainable Natural Resource Management specialization course (2 months fulltime) p organized by MERGE/FLACSO. This training started the process of institutionalization of gender in Arcoiris. TNC's flexibility and decision to finance a community development position, without strict guidelines, allowed technicians latitude in trying out new gender, development and conservation ideas.

### ***How did a gender focus contribute to the evolution of the Arcoiris community development program?***

The innovative technicians trained by MERGE used the participatory methodologies and gender analysis techniques to formally create the community development branch of Arcoiris. Immediately, the technicians used the gender perspective to design and manage new community development projects with an emphasis on strengthening community organization and natural resource management. The gender focus within community-based conservation allowed technicians to identify projects stimulating income generation while reducing pressure on natural resources.

One of these cases involved an irrigation project in progress. From the start, the women did not participate in project meetings or installation activities. Gender analysis identified the women's desire for a smaller irrigation project enabling them to water their gardens as opposed to the larger system geared towards irrigating the men's open fields. The project adjusted to create two separate irrigation systems, fulfilling both women's and men's priorities. In addition, a group of promoters, both women and men, became skilled in the facilitation of gender workshops within the context of the project.

Organizing the 1997 course: The Importance of Gender in Rural Development, with the National University of Loja established Arcoiris

as a gender promoter at the institutional level. The workshop was not without challenges requiring a radical restructuring of traditional academic teaching methods. At the outset, the course was viewed with skepticism. Foresters, agronomists and other natural scientists dominated the audience. However, after two weeks, the MERGE participatory methodology and the gender and natural resource management concepts grabbed the attention of students and professors. Currently, the University is trying to teach the course every year, as a requirement for students in the natural sciences.

A bi-product of the course was the 1997 initiative forming discussion groups integrating different Loja institutions with different levels of gender analysis knowledge. Ten organizations in Loja were identified as working with gender analysis. Currently, the discussion group meets periodically to promote the increasing incorporation of the gender focus into these institutions.

The Foundation has invested heavily in the training of community promoters in facilitation skills (applying tools learned in the MERGE/FLACSO course) and natural resource management with a gender emphasis. This worthwhile investment has empowered both women and men to become community leaders. One women promoter said she found the opportunity to break cultural barriers and train men an incredible experience. Over time, in the promoter courses, women began asking

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the most questions.

Similarly, in a beekeeping project, initial activities involved both men and women. As the project evolved, women demonstrated their superiority in hive management and honey processing. Currently, the project has been successful in the marketing of bee honey from native forests bordering the PNP.

### ***Challenges in the Institutionalization of Gender***

The slow road to the adoption of the gender perspective by institutions has been challenging to technicians promoting gender emphasis and analysis. The integration of the gender focus has been uneven across the landscape due to the lack of knowledge of technicians in other areas. The Arcoiris Foundation promotes development projects in two geographic sectors. One sector is the buffer zone of the PNP and the

other lies in the western forests of Loja. Technicians trained in gender manage the first sector's projects. However, the second sector's technicians have not received any formal training in gender issues. This dichotomy of experience creates a lack of uniformity in project quality with regard to gender.

Another challenge has been to work with the foundation's directors and transmit the concept and importance of gender focus. The personnel trained in gender analysis have great power within their community development department but little political power at the institutional level. This fact produced an awareness and acceptance on the part of the directors to design a conceptual framework and methodology that will include a gender emphasis while guiding the current and future conservation and development activities of Arcoiris. The elaboration of the framework, initiated by department technicians, includes the formal incorporation through training of the concepts and methodologies of gender, participatory extension and facilitation. Afterwards, the framework will be discussed with other departments with the goal of refining it and incorporating it into the whole institution.

In addition, while the Foundation has completed community projects, it has to cope with the pressure to produce concrete results in a short timeframe, in accordance with donor demands. However, Arcoiris has found that the process of quickly incorporating gender is complex and requires a lot of inputs.

Arcoiris also wrestles with the challenge of assuring employee stability while maintaining continuity in the application of institutional concepts and methodologies. One example demonstrating progress in the administration's gender awareness is that women and men with children now receive a maternity/paternity bonus.

### **What does the future hold?**

Much progress remains to be made. The principal challenge is to ensure recognition of the gender work done within the institution. The director shows great interest in gender after witnessing donors' commitment to continue funding gender projects. Taking advantage of this enthusiasm requires the continued promotion of community projects with gender emphasis. In addition, it is vital that all personnel take responsibility for the institutionalization of gender. However, above all, the Arcoiris Foundation,

currently in this crucial stage of institutional development, needs to devise its own strategic plan. The greater the success of the projects, the greater demand for more projects and thus the greater demand for a transparent policy on conservation and development with a gender focus.

## **Weaving gender into ECOCIENCIA: The institutionalization of gender in ECOCIENCIA<sup>4</sup>**

### **What is ECOCIENCIA?**

- ECOCIENCIA is a private Ecuadorian scientific non-governmental organization founded in 1989. ECOCIENCIA's mission is to conserve biodiversity and create harmonious human-nature relationships through scientific research, environmental education and the recuperation of traditional knowledge for natural resource management.
- ECOCIENCIA works nationally on research, conservation and development projects. In the Cotacachi-Cayapas Ecological Reserve ECOCIENCIA collaborates with the SUBIR project, an integrated conservation and development project focusing on buffer zones of critical Ecuadorian protected areas. The project is trying to demonstrate that biodiversity conservation can be combined effectively over the long-term with sustainable community development. SUBIR is managed by CARE in coordination with the Wildlife Conservation Society, the Ecuadorian Institute of Forests and Natural Areas (INEFAN)<sup>5</sup>, local communities and local NGOs, and is financed by (USAID<sup>6</sup>).
- Rocío Alarcón, an ethnobotanist, directs the ECOCIENCIA research department. She has 20 years of experience in natural resource management and biodiversity research. She also participated in the 1996 Specialization Course led by FLACSO and UF in Quito in 1996 "Communities, Gender and Sustainable Management of Natural Resources". Rocío was the key individual responsible for the incorporation of the gender variable within ECOCIENCIA. Fortunately, the directors and technicians of ECOCIENCIA supported the process.

The institutionalization of gender into ECOCIENCIA is full of lessons for other envi-

ronmental organizations thinking of incorporating a gender focus. ECOCIENCIA was an organization focused exclusively on biological research and biodiversity conservation. After years of pursuing this course, the need to work with rural communities became evident. After entering the social field, lack of experience forced researchers to inquire into anthropological concepts and participatory methods. In this way, they learned of gender analysis and its implications. Following this, the institution decided to begin integrating a gender focus at all institutional levels.

The following case relates the history of this process in ECOCIENCIA, the changes that occurred during the process and the future challenges ahead.

### ***Flirting with the gender concept***

ECOCIENCIA has talked of gender since 1994 because of the institution's profound interest in the topic. Yet, there was no real understanding of the term. Two male scientists had studied abroad, come in contact with the term and mentioned it as something to remember when conducting research or starting projects. However, no concrete steps had been taken to use the concept in training and projects, much less in its adoption by the entire institution.

These scientists supported the process of assimilating gender into the institution though each admitted that they would not use gender within their own work. The executive director at the time recognized the doubts that existed within the research department and the importance of training to dispel them. In addition, the research department was the only one that incorporated local people into ethno-biology and biological inventory activities. The department saw this incorporation as an excellent opportunity to involve women and men into resource management. Finally, the personal motivation of the department's director was pivotal. She worked in the field using a gender focus. However, it is important to point out that she did not formally recognize the concept, but rather that women and men had and displayed differing knowledge of different resources.

That same year ECOCIENCIA elaborated a document about how communities are affected by protected areas. The case study was the

community of Cofán de Sinangoé in the Cayambe-Coca Ecological Reserve. This investigation reflected the knowledge of both women and men and analyzed both from a biological and ethno-botanical perspective the who knows what? of habitats. The institution unanimously approved this idea but the gender analysis tools needed were still lacking. However, there was no lack of interest as the institution had both personnel interested in using gender tools in the field and personnel interested in integrating the gender focus into the institution. There were no barriers to introduce gender. In addition, beginning the process would allow for gender incorporation into the program for male and female parabiologists.

### ***The MERGE Training***

The first concrete step towards the institutionalization of gender began with an invitation from FLACSO and MERGE for ECOCIENCIA to participate in the 1996 Communities, Gender and Sustainable Natural Resource Management regional specialty course. An important and attractive aspect of the course was the methodological content on gender analysis. Particularly exciting, for the ECOCIENCIA participant (Rocío) was the use of Social Transects during the field visit to Carchi province, a tool that integrates both biological and social science (see Box 1) ECOCIENCIA proceeded to practice this methodology with the communities they worked with.

The combination of two very experienced professionals of different disciplines created an opportunity to innovate with participatory methods with a gender focus. This reinforces the hypothesis that professionals experienced in their discipline (social or biological) are needed to innovate on tools and methodologies. However, intensive long-term training is needed to encourage innovations between experienced professionals.

Another advantage of the course was the lack of prejudice between professors and students, nationals and internationals, or old and young. Figure No. 1 illustrates the interaction that occurred. On one level were the international and national instructors imparting valid theoretical knowledge. On another level were the most experienced participants with their

1994... During this period..., there was no lack of interest as the institution had both personnel interested in using gender tools in the field and personnel interested in integrating the gender focus into the institution.

### Box 1. The Integration of Biological and Social Knowledge in the Elaboration of Social Transects

During the Carchi trip, the group worked on the transects with anthropologist Jorge Recharte. "Transects are commonplace in biological research but Jorge, an anthropologist, had another perspective on the transect. In Carchi, we did a transect of the edge of a forest, on a farm or home garden. Our perception was that the people had lost the entire natural habitat. But, when we did the transect, strips of forest skirted the edges of the farms, thus we worked with the people to find out the significance of these forested edges. Course participants thought the edges nothing more than a living fence demarcating the land, but the local people had a totally different perspective. This forest was a source of high quality firewood due to its diversity of species. The edge was a retreat for wildlife, an important source of food during certain parts of the year. In addition, the edge protected crops inside the farm. At the conclusion, we found four or five reasons for the edge. These findings, discovered after applying various methodologies, validated the course content. Although, our perception was that the farms were not important due to their monoculture systems, we learned that there is biodiversity in the system. Out of this came the questions: Who has decision-making power over the biodiversity? What does biodiversity mean? It meant a great deal of things for the local people. It was an amazing experience to work with someone with a different perspective but with whom I shared a common goal. We were able to share our different thoughts on landscape and biodiversity. An idea blossomed of connecting the El Angel Ecological Reserve with the farm edges to better feed the farmers. We could build animal trails to create more interaction between the reserve and the farms. At the conclusion, we were able to integrate local concepts of development and conservation into the transect methodology. (*Text of the interview with Rocío Alarcón*)

years of wisdom and fieldwork, knowledge of the nation's history and ability to innovate with the knowledge gained from the instructors. On another level was the young student group with their enthusiasm for learning and their fresh ideas brought from the universities. In the middle stood a group of young professionals with field experience and many theoretical and methodological uncertainties.

Therefore, an invaluable nexus of knowledge was formed, the best training environment possible. A rich discussion of concepts and methodologies ensued. One bi-product of this was the creation of like-minded groups who still work together. This serves as an informal communication network.

#### **The impact of MERGE training on ECOCIENCIA**

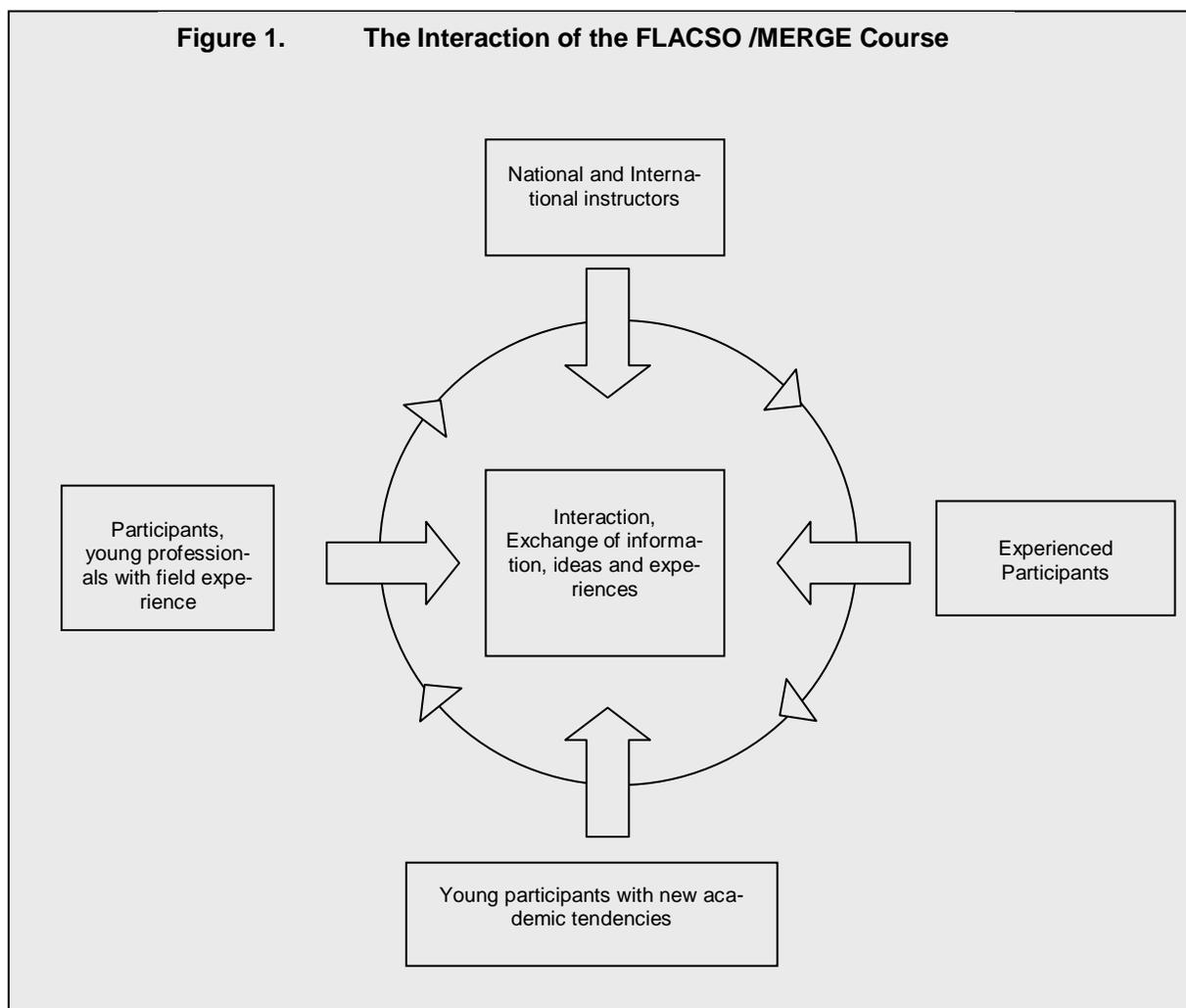
During the course, Rocío and other participants shared new ideas with the 15 biologists of ECOCIENCIA's research department. Participants discussed how to incorporate the course ideas into their work. During the course, situations arose back at ECOCIENCIA requiring immediate attention which served as opportunities to apply newly learned skills. For example, in the community of Cuellaje, north of the Cotacachi-Cayapas Ecological Reserve, there was an opportunity for fifteen women with an ethnobotanical garden and gene bank. ECOCIENCIA

applied some new tools to strengthen the group and in particular, raise the self-esteem of the women. In this way, the group worked independently and trained other groups in the reserve buffer zone.

But progress has not been made without difficulties. The ethnobotanical garden created conflict between women and men during the actual course. Many ideas were generated to support the Cuellaje group through informal conversations and sharing ideas with a veteran of gender analysis and women's empowerment, also participating in the course.

In the words of Rocío, "*The application of the advice helped as the group is still working two years later. The women earn income; have a beautiful garden with inputs from the buffer zone and a gene bank. They have reached agreements with the men, who now help capture water and build garden terraces. The husbands have accepted the idea because they value the increased income and realize that the women are not wasting their time. They constructed a meeting area so that the women no longer meet in the street, and take care of the children while the women meet. In summary, the interaction with course members during the conflict allowed the formulation of strategies to manage it.*"

At the conclusion of the FLACSO/MERGE training program, ECOCIENCIA decided to take the following steps:



1. Change the institutional mission/vision to incorporate gender concepts.
2. Change the administrative procedure manual to incorporate gender issues.
3. Accompany these actions with a training process for institution personnel.
4. Formulate projects incorporating a gender perspective.

### ***How did the process of institutionalization continue after the course?***

Before the course there was just one social scientist collaborating with the institution. After the course came the revolution:

- ECOCIENCIA simultaneously started projects incorporating more people from the social side while obtaining PNUD financing to apply a gender focus and validate it in community projects.

- The SUBIR project asked ECOCIENCIA to elaborate a proposal for a gender strategy. This was accepted by the project and shared with CARE International in Denmark and with other actors. Afterwards, ECOCIENCIA took charge of the gender component in all activities of the SUBIR project.
- In the field, ECOCIENCIA works with 15 parabiologists. After the FLACSO/MERGE course the established network was broken and local community technicians accepted a woman parabiologist. During the first congress of parabiologists and paratechnicians, groups of women were given the floor and were listened to in the debates.
- ECOCIENCIA began training technicians of other institutions through the SUBIR project. Such is the case with 15 technicians of Foundation Jatun Sacha<sup>10</sup>, a private NGO also involved in the SUBIR Project. Immediately, Foundation Jatun Sacha and

ECOCIENCIA applied gender tools within the SUBIR project. To date, ECOCIENCIA has trained 80 people from within and outside of the institution.

- In the high altitude region of the Cotacachi-Cayapas reserve a workshop was organized for community members. At the start, the technicians asked: What right do we have to enter a community with a gender message? This was overcome, however, the workshop was carried out and women and men signed a document recognizing that both sexes' environmental knowledge should be recognized before making environmental decisions. For example, in the national arena, as part of the SUBIR project, ECOCIENCIA created a group of toquilla straw weavers and cultivators. This action was not undertaken to promote any feminist concept, rather, it was to create opportunity for women in toquilla straw production.
- Work began with both women and men to identify species needing protection in forest-use zones. The extraordinary results showed men wanting to protect hunting areas while women focused on understory areas. In general, men wanted to protect the canopy and timber while women were interested in the understory and its useful species (lianas, shrubs and herbs). After conducting this exercise with men and women, zones of forest-use were designed based on the concerns of both women and men. This is the first time that forest use maps reflected both perspectives. The conclusion is that, after recognizing the resource protection knowledge of both men and women, the protection for all of the biodiversity is assured.
- Ethnobotanical studies show that plots worked just by one gender have a lower level of biodiversity than one worked by both. Meanwhile in plots worked by both genders, women know the herbs and short cycled plants while men know more about coffee and cacao production. Therefore, the ideal model is to join both gender's knowledge to work in one place and obtain food security. This is the hypothesis applied in the SUBIR project: The integration of women and men's work and knowledge for improved farm production.
- In addition, from the biological perspective, transects have found 220 more species of birds and almost that many more mammals in plots worked by both genders than plots

worked by men or women alone. In plots worked by both genders, the women insist on a three or four meter border filled with different varieties of plants. This creates a habitat capable of attracting more mammals and people, especially women, can hunt field mice for food without needing to travel far.

- The biodiversity hypothesis has changed after the MERGE experience and has been validated by biologists, foresters and agronomists because of its study of space with a gender focus.

The institution started with the word gender rarely spoken and now the variable has been incorporated at every level of the institution. ECOCIENCIA decided not to create a special gender program because the gender focus responsibility is everyone's, not just one department's or individual's. The ECOCIENCIA model is interesting because one group of actors has integrated the focus bit by bit, each time assuming more responsibility in a) the application of the gender focus and b) supporting the institutionalization of gender, though not applying it directly.

### ***The future of ECOCIENCIA and gender work***

There is much still to do even though concrete changes are now part of the process:

1. The institutional mission/vision has changed to reflect a gender policy.
2. The administrative procedures manual has been modified to incorporate issues of gender equality.
3. Each department designs projects with gender analysis.
4. Foundation ECOCIENCIA now seeks gender focused training opportunities for technicians.

In 1998 ECOCIENCIA questioned why do we add this variable? and what effects does it have? The response from within was: the institution is convinced, especially the 30 members of the research department, that economic, social and environmental sustainability depend on the gender variable. Thus, the institution will continue to apply gender analysis. On one hand, personnel need to continue to be trained. On the other hand, the results need to be measured to learn more about the variable and its application. Currently, the SUBIR project is managing a model analyzing the effects of incorporating a gender focus. This involves comparing and

measuring the changes in the communities that worked with SUBIR to the changes in the communities that have not worked with SUBIR.

In addition, the following themes need to be researched in greater depth:

- **Conservation, biodiversity and natural resource management with a gender focus.** It is necessary to ask: why conservation? and for whom?
- **The application of gender in social development.** Although ECOCIENCIA works in the social development sphere, it is principally from a conservation perspective. More study needs to address the development perspective and how gender can support the development process connected with biodiversity. The historical tendency of the country is the exploitation of natural resources and the empowerment of targeted groups that are not necessarily women. For example, the sale of timber impoverishes local groups and the most negatively affected are women and children. In the Amazon, oil and monocultures cause a loss of biodiversity while local people become poorer.
- **The planning and focus of gender.** For example, how to integrate the gender variable into management plans. Analyze how gender can contribute to the sustainability of those plans.
- **Continued interaction with other course participants to measure the effects of gender on conservation and development.** This means case study analysis in the Amazonía, Sierra, Coast and Galápagos regions. The analysis must demonstrate the effect of the gender variable in each region while recognizing distinct conditions, actors and interests. For example, research could measure the effects of gender in the oil exploitation of Amazonía, or analyze how gender influences the use of the páramo in the Andean region.

Because of the MERGE training, a discussion group formed consisting of five people working in gender analysis in the field. The group promotes an interchange of ideas and experiences of gender to support the group and the Foundation. This year the group met four times and the group plans to continue to meet.

ECOCIENCIA has entered into a never ending process. Gender is increasingly integrated into politics and work plans of the institution. The ECOCIENCIA case is a model with

concrete examples for other research and conservation organizations to follow. Projects end and technicians change jobs but the profound impacts of the gender focus remain.

### **Dreaming of Gender<sup>7</sup> The integration of gender into The Quichuan Institute of Biotechnology of Ecuador<sup>8</sup>**

#### ***"We are a group of dreamers...."***

The women and men of the community of Yanayacu, in the extreme south of Pastaza province, are rescuing and enlightening their ancestral knowledge through a gender focus. This knowledge is needed to manage the biodiversity within their 120,000 hectare territory. The Quichuan Institute of Biotechnology (IQB) is helping make this a reality. Indigenous professionals manage the Institute, an NGO founded in 1992. All of the professionals are from the natural science disciplines with the exception of one social scientist - an anthropologist.

Since its creation, the IQB has pursued the construction of a sustainable development model based on the management of community territories, their ecosystems and biodiversity. This objective is realized with indigenous knowledge (both recuperated ancestral knowledge and current knowledge) and participatory methodologies applied to natural resource management.

The professionals of the IQB never received formal training in gender analysis but the nature of their work with indigenous communities facilitates recognition of gender variation in the knowledge and management of biodiversity and territory. Despite this, they wanted to fundamentally integrate a gender focus into their work.

The IQB is an organization without a bureaucratic structure, administrative personnel capital investments. The organization is interwoven into the communities where the members live and work. Extension agents usually come from the communities they work in and generate projects through the IQB. Therefore, free communication between collaborators is crucial to interchange methodologies and experiences. This accumulation of experiences enables the IQB to advance in the biodiversity conservation field even as it ensures ancestral rights and re-

IQB policy requires personnel to apply new knowledge in the field and throughout the institution.

recuperates the traditions of the indigenous communities.

### ¿How MERGE training changed the IQB's methods?

In 1996, FLACSO and UF trained two institute technicians through the Regional MERGE Specialization Course called "Communities, Gender and Sustainable Natural Resource Management." The two participants from the Institute were Víctor Vacacela, a forester, and Rosa Vacacela, an anthropologist. Each absorbed the gender concepts through the lens of their distinct professional backgrounds. IQB policy requires personnel to apply new knowledge in the field and throughout the institution. This policy encouraged Víctor and Rosa to lead a training workshop on gender and resource management for the indigenous technicians of IQB and collaborators from other institutions like the Organization of the Indigenous People of Pastaza (OPIP). This workshop spread the concepts of gender analysis throughout the IQB technical staff. The MERGE course allowed technicians to strengthen their approach towards the recuperation of gendered knowledge in order to improve the conservation and administration of Amazonian biodiversity.

Applying a gender focus helped the IQB formulate new strategies for more efficient biodiversity conservation. The strategies also promoted participation and the ancestral knowledge of both women and men. The incorporation of a gender focus within IQB projects revealed that women have more knowledge of fruit and palm species of the forest. A process of species selection for cultivation had been started but was stalled because of uncertainty about which community members to include. After conducting workshops in the community, the IQB established that women had more knowledge of species. Thus, women and children collected and selected seeds while young men climbed to collect the larger trees' seeds. The final selection of quality seeds and the cultivation of plants was done only by the adult women considered by family and community to possess *paju*<sup>9</sup>.

Once the IQB realized these facts, it reorganized activities in the genetic resources management program, dividing work between women and men according to ability and knowledge. The inclusion of the MERGE gender focus, established a gendered and generational division of access, use and control of existing resources within both community space and ecosystems.

The IQB also identified gender differences in planting crops and seed bank and nursery construction. At the beginning of the project, women were solely responsible for all activities. After gender analysis, the IQB redistributed responsibilities according to the ability and knowledge of the women and men. Thus, the men's activities relied more on physical force: transporting seeds, soil preparation and digging holes for tree planting. Women, on the other hand, were responsible for planting and seedling care since only they possessed the "*paju*".

This did not change the concept of conservation but it did change the strategies used to carry it out. In addition, ancestral knowledge to strengthen biodiversity conservation was recuperated while participation of women and men expanded. The 1993 Yana Yacu community chacra (family garden) resource inventory indicated a lack of diversity through the loss of traditional chacra management. IQB recognized women's knowledge of phytogenetic resources in the chacras. However, a gender analysis of the inventory and the access, control and use of chacra resources revealed that elderly women had the greatest knowledge of these resources and resource management.

The IQB undertook the task of rescuing the elderly women's knowledge of traditional chacra management systems. These Quechua-Amazon systems have a significant diversity of flora and fauna that is vital to each family's economy. The family manages the chacra and creates an extremely diverse type of secondary forest, full of fruits, palms and medicines. Families initially cultivate short-cycle plants like *cassava*, fruits and spices while on the edge spiny palms, a longer-cycle plant, are used to control pests and disease (for example *Bactris gasipaes*, *Astrocaryum vulgare* among others). While harvesting short-cycle crops, the family plants new long-cycle crops in the whole chacra until it becomes a *ushun*. In an *ushun*, one can plant fruits, some palm species, medicinal plants and plantains.

After eight years of growth, the secondary forest or *purum* becomes a habitat rich in large tree, palm and fruit species. An impressive variety of wildlife is also drawn to forage for fruit in the *purum*. Men manage the space outside the *purum* but women harvesting for the family control the interior. The *purum* is also where young boys learn to hunt, a skill vital to the survival of both family and quichua tradition. Thus, the chacra not only maintains biodiversity but also gives women power over resource access and

control. Eventually the commercialization of chacra products might give women income to improve their social status in the community.

The IQB technicians did not immediately identify all of the subtleties in this complex process. The team anthropologist, a woman, understood the importance of the women but the agronomists, all men, had difficulty seeing the magnitude of the women's role and how to encourage this role for community benefit. During the IQB internal workshop, it was impressive to see that those technicians reluctant to recognize the women's role became proud of their successful application of the gender focus in their projects.

Another example of the gender focus revealing the overlooked is the management of *moritia flexsosa*. This plant creates habitats important for the reproduction of mammals, birds and reptiles. Men find these areas to be excellent for hunting while women find the same places to be ideal for seed collection. These two uses can cause conflict when fruit and seed collection require the cutting of palms. The standing palms attract game, and thus their cutting negatively impacts hunting. The IQB technicians analyzed this potential gender conflict in a series of workshops.

Within the workshops, the community analyzed each resource according to gender use. The community developed a phenological calendar for plants and fruits while identifying reproductive habits of fauna (principally parrots, turkeys and tapir). Finally, the women and men of the community created a calendar of resource use to avoid future conflict.

### ***What does the future hold?***

The institutionalization of the gender focus in the IQB extends from the community to the internal organizational structure of the quichua people. This extension is constructed through successful project implementation by technicians trained in gender analysis. Currently, the gender focus is applied throughout the projects. Since the IQB has no administrative body, gender has not altered the institutional mission. In this case, the goal is to create a theory of natural resource management with a gender focus from the indigenous perspective.

The following are some of the dreams of the professionals of the IQB:

- To continue with gender training, not only for the IQB but also for the four institutions that collaborate with the IQB.
- Elaborate management plans for three quichua communities located in areas crucial for biodiversity conservation. This requires resource management with a gender focus.
- Formulate a model for biodiversity management of the quichua territory in Pastaza.
- To continue with gender focused biodiversity management of wild medicinal plants in botanical gardens managed by women and supported by men.
- To continue researching in three additional communities the gender differences in ancestral knowledge of biodiversity.

The act of making the invisible visible through gender analysis is critical to the IQB goal of biodiversity conservation and ancestral knowledge recuperation in the Amazon. In this way, the technicians can continue dreaming of how to promote conservation through the recuperation of ancestral knowledge of both indigenous women and men.

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### **Comparative analysis of the three cases**

The goal of this chapter is to present how three organizations dedicated to biodiversity conservation though community participation incorporated the gender perspective in their institutions, programs and projects. The efforts made by each institution serve as models for those interested in similar initiatives. In this comparative analysis it is important to remember three crucial elements of learning: the methodological or tools and concepts learned; the institutional which refers to the relations between the individual and their colleagues; and the personal which focuses on the individual, their spouse and family. Methodological training is necessary to analytically reflect on the institutional, and to assimilate experiences to the personal. In the same way, our personal perceptions can influence how we approach the methodological and institutional (Rani Parker, 1995). It is through the analysis of these elements that we understand how gender institutionalization affects the institutional, the methodological and the personal in these three separate cases.

We focus the comparative analysis on several themes common to the three cases. Although it is possible to analyze the cases from

other points of view, we have selected those themes we consider most important to the lessons learned.

### ***Institutional Mission and Motives for Gender Institutionalization***

Each of the institutions studied was created before coming into contact with the MERGE program in November of 1994. The three institutions share the goal of biodiversity conservation within their respective mission statements, explicitly or implicitly (in the case of IQB). Nevertheless, each institution carries out this goal in distinct ways. Arcoiris integrates sustainable development principles and actions within its conservation programs. The IQB focuses on the development and preservation of indigenous communities to achieve biodiversity conservation in the Amazonia ECOCIENCIA, while not having an explicit goal of community development projects, respects the knowledge of women and men and values active participation in conservation programs.

Gender focus and the emphasis on its integration in institutional programs and projects came after the formation of these institutions. Each institution developed a process of incorporating the gender focus for similar reasons: they wanted to make biodiversity conservation work more efficient through active community participation. After applying the gender perspective in the projects, the institutions noticed a more equitable participation and the discovery of the least visible groups within the communities. Although donors of the organizations put an emphasis on the incorporation of the gender perspective in the projects, none of these institutions began the process due to external pressure.

### ***The People Carrying Out the Process***

A comparative study from 1989 demonstrates that in that era, the sex of the person driving the gender incorporation process is an important variable influencing the methods and intensity of the gender integration (Poats and Russo, 1989). In these three cases, the most intense training and integration of the gender focus is led by women. The majority of these women fulfill leadership roles in their organizations.

In each of the institutions, the people who initially emphasized the importance of gender did not have a significant exposure to the concept previous to MERGE training. Curiously,

three of the four people trained had natural science backgrounds (two foresters and a botanist). The exception is an anthropologist. The sex of the people trained is balanced, with two women and two men. Each person trained by MERGE was charged with incorporating gender at the institutional level.

In each of the three institutions, the personality of the individual and their role within the institution has been factors influencing how gender is incorporated. On the other hand, the sex of the individual appears to not be a factor. In the case of Arcoiris, MERGE extensively trained a forester, Bolívar Tello, who became the project director most active in the integration of the gender focus. However, Bolívar did not have the authority to influence projects beyond his own department nor the overall policies of the institution. Yet, as a founding member, he did have direct access to the executive director and the board, and was able to sensitize them about gender and its importance.

The trainee that took on the challenge of promoting gender analysis in ECOCIENCIA, is an ethnobotanist, Rocío Alarcón. She is both the research department director and a founding member of the institution. Rocío Alarcón has enough institutional clout to influence the directors of the institution. Above all, she focused her efforts on department personnel, teaching them the importance of the incorporation of the gender focus in research and fieldwork. In this way, Rocío is making sure that the gender focus will be used in the field, in the workplace and at administrative levels.

The Quichuan Institute of Biotechnology has two individuals trained by MERGE in gender analysis. Each accepted the challenge of training all members of the institution and its collaborators. Due to the IQB's lack of centralized and vertical administration, there is a highly fluid interaction between professionals and field technicians. The forester, Víctor Vacacela, and the anthropologist, Rosa Vacacela, have more maneuverability to promote gender analysis within the institution. However, they are restricted by a lack of financial resources.

In summary, the personalities and motivations of each individual have stimulated the promotion of gender analysis. The receptiveness of the institutional directors facilitated the individual efforts, but the tenacity of Bolívar, Rocío, Víctor and Rosa has much to do with the results.

### ***Creation of a Support Network***

The support networks and interchanges of experiences are crucial to the process of institutionalization of gender. The MERGE/FLACSO course created a support network and started the interchange of experiences between participants of different professions and institutions. It is for this reason, at least in Ecuador where the majority of participants live, that participants still remain in contact. These sporadic interchanges provide support to projects and the interchange of ideas and experiences. In fact, this chapter is the product of a network of people trained by MERGE and we continue to work in the field of sustainable conservation and development with a gender focus.

The three institutions have put a great deal of emphasis on continued communication and the creation of support networks for gender focused activities. In the city of Loja, Arcoiris pushes other rural conservation and development organizations to integrate a gender focus in their work. Activities such as this have created a discussion and training network of gender analysis. In the same manner, the IQB trains personnel of collaborating institutions and broadens its support network in the city of Puyo and the communities it works in. ECOCIENCIA promotes training and interchange through the SUBIR project. In addition, ECOCIENCIA is constructing a research network among its collaborators (including CARE).

### ***Director Support and Institutional Level of Commitment***

Each institution analyzed has demonstrated different levels of institutional support and dedication to the topic of gender focus. From the start, even before undergoing MERGE/FLACSO training, the directors and other influential individuals (principally men) within ECOCIENCIA have supported the idea of integrating gender analysis within their programs and projects. For this reason, they strongly supported the training and, following that, the work of Rocío. In this way, ECOCIENCIA demonstrated considerable commitment to the institutionalization of the gender perspective within all areas of the organization. In addition, the directors received acknowledgement for their work from other collaborators (principally CARE) who proposed that ECOCIENCIA take charge of training within its own institution.

Several factors have facilitated IQB's adoption of the gender focus. Víctor and Rosa are founding members of the IQB and have great latitude in the design and execution of their projects. These factors and the horizontal administrative system mean that less effort is needed to convince the leadership of the IQB. The high level of commitment of both individuals in turn increases institutional commitment. However, the constant search for financing inhibits the establishment of a systematic long-term process of institutionalization. To compensate for this difficulty they have created a strong supporting institutional foundation among technicians and external collaborators. Although some resistance was felt early in the process, this was eliminated through training and application of the gender focus in the field.

The executive director of Arcoiris is convinced of the importance of integrating gender into Foundation programs. However, there is still no explicit mandate for all of the departments in the institution. Bolívar has successfully passed his knowledge of gender to the colleagues he interacts with directly and to the community members he collaborates with in his projects. Yet, more resources are needed to develop the process over the long term. Perhaps any existing resistance can be eliminated through more awareness and comprehension of the gender theme.

### ***Institutional and Administrative Gender Policies***

ECOCIENCIA is the only one of the three institutions that has formally changed its mission to reflect the commitment of integrating the gender focus throughout the institution. This institution is even considering the adoption of administrative policies focused on gender issues. An example is the establishment of policies helping employee families. This implies the creation of policies for parents of both sexes. These ideas are still at the discussion stage but are innovative nonetheless. The other two institutions have not reached this level of gender integration. However, this is surely the next step after the gender focus has permeated the work in the field. It is a natural that methodological fieldwork affects the individual and then how the individual relates to her or his colleagues.

### ***Gender Integration in the Field***

All three institutions have a gender integration strategy in common: it is the responsibility of all and not a centralized effort of one person or unit. Arcoiris has not assigned one person to incorporate the gender focus. On the contrary, Bolívar and his team are trying to maintain a gender focus in all projects. ECOCIENCIA also does not have one person or group responsible for gender, instead with the inspiration of Rocío and the support of the other directors; they hired more social scientists into their group. These new people already recognize the importance of gender integration. The IQB has also not counted on one individual or group for gender promotion and integration.

### **Gender Training**

In all three cases MERGE gender training was the critical action in sparking efforts towards the institutionalization of gender. ECOCIENCIA and Arcoiris had developed an interest at an almost theoretical level that after Rocío and Bolívar's MERGE training was grounded in practical application. Víctor and Rosa, after MERGE training, realized that their previous work in Amazonia had a gender focus though it was never formally recognized or articulated as such. This is logical given the participatory nature of their work philosophy requiring active equitable involvement of both women and men.

Each of the four people who trained with MERGE found the training style to have a positive and lasting impact. They found the impact to be at both the personal and professional levels. Rocío expressed it best when she said that the diversity of participants created an ideal combination and a stimulating learning environment. The mix of veterans, young professionals and recent college graduates helped stimulate innovative concepts and methods, this creative energy in turn stimulated participants to pass the acquired knowledge to institutional colleagues.

### **Future Planning**

Each one of the institutions has plans to intensify gender incorporation within their projects and programs. Each person trained has a personal and professional interest in incorporating a

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gender focus into a long-term process. Bolívar remarked that donors' emphasis on the inclusion of gender in projects has brought financial and political support to Arcoiris. This support for bringing a gender focus to natural resource management and community development has allowed Arcoiris to develop long-term processes involving gender. ECOCIENCIA and the IQB are also taking steps to incorporate gender within institutional projects and policies.

### **Lessons Learned**

The three cases provide valuable lessons for other institutions interested in the process of the institutionalization of gender.

1. Organizational leadership needs to support the institutionalization of gender. Having a key people who can exert political power within the institution in combination with individuals passionately invested in gender promotion and an effective gender program will improve the possibility of the institutionalization of gender. (Poats y Russo: 1989). Within ECOCIENCIA, Rocío was assisted by the director and other key institutional personnel, who unconditionally supported her work. In addition, her position as research department director and the support of the CARE program for her gender work, were very helpful in the process of the institutionalization of gender. Other factors such as the desire, tenacity, personality and sex of the individual are also crucial to the successful integration of the gender focus.
2. A systematic and continuous gender training program is important to back actions in the field. In addition, it is important to replicate positive experiences and train the trainers. To fulfill these goals funds are needed for adequate training. Training is frequently costly. Although none of the three institutions had a formal gender training program, each person trained by MERGE invested a great deal of effort in the sharing of her or his knowledge with both colleagues and collaborators. The three institutions have also sponsored gender training events. These

have been well received by field technicians, researchers, technicians and institutional collaborators. It will be important to ensure that these efforts are not isolated incidents but rather continued through a more systematic program. This program would not have to be cost intensive.

For example, creating an internal discussion group focused on gender can be very effective while not requiring significant capital investment.

3. Maintaining participation and gender focuses together is better than treating them separately. "Community participation" refers to people. These groups of people are made up of women, men, children, teenagers, the elderly etc. The participation of these groups necessarily implies a gender focus to create a more effective and equitable project participation whether it be in natural resource management, in research or community development. Therefore, one person or group should be responsible for the participatory and gender focus while these focuses should form part of the work of all involved in programs and projects (Hamerschlag and Reerink, 1996). In many cases, the responsibility of everyone is the responsibility of no one. By relying on one person or group, depending on institutional structure, one can improve the monitoring of the impacts of gender and participation. In addition, one can centralize and follow up on training and reflection events. This does not mean that only one person or group should be responsible for gender and participation, rather it means that the monitoring, follow up and evaluation are centralized. In fact, the application of these focuses should be the work of all the directors, technicians and project leaders.
4. The level of institutional commitment to gender should be demonstrated through policies, mandates and actions with sufficient human and financial resources (Poats y Russo: 1989). In many cases it is not enough to train technicians and integrate the gender variable into field work if there is not a serious lasting commitment from the institutional leadership. This commitment must be manifest in the institutional policies, mission, mandate and actions. Hamerschlag and Reerink (1996) offer a list of points to be

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kept in mind to ensure the actual institutionalization of gender:

- a. **Gender Policies and Programs**, should be present in a document describing the values, principles and mission of the institution. This should be elaborated with the active participation of all institutional members and the clear commitment of the institutional leadership.
- b. **Integration of Gender in Planning**, this includes the explicit application of the gender focus in programs and projects and in monitoring and evaluation of these efforts. This goes beyond counting on one person or group and requires action in all programs.
- c. **Gender Training**, should concentrate on awareness, planning and analysis. In addition, training should include the specific tools and methodologies needed for the institutionalization of the gender focus.
- d. **Gender and Hiring**, includes policies of equal opportunity, gender focus, job and compensation description, both women and men in leadership positions, and active strategies to incorporate women into the highest administrative levels.
- e. **Pro-family Policies within the Workplace**, This means work flexibility, maternal and paternal benefits, and support for childcare.

## Conclusion

We have learned from three organizations committed to community participation in biodiversity conservation and natural area management with a gender focus. Each has chosen their own way of demonstrating their commitment, their own way of using the gender focus and have their own preliminary results and lessons learned from the process. There is still a long way to go before the institutionalization of gender becomes a reality. However, these cases show that it is possible, that it is important and that it can contribute to conservation. There are still many unknowns but building on the experience of Arcoiris, ECOCIENCIA and the IQB, other institutions can draft their plan of incorporating a gender focus.

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## Acronyms

- CEDENMA** Comité Ecuatoriano para la Defensa de la Naturaleza y el Medio Ambiente-una agrupación de organizaciones no-gubernamentales ambientalistas del Ecuador.
- TNC** The Nature Conservancy-an international conservation organization working in Ecuador, and other countries through local partners.
- PROBONA** Programa de Bosques Nativos Andinos-Native Andean Forests Program-an international program promoting projects in the andean forests.

**PPD/PNUD** Programa de Pequeñas Donaciones del Programa de las Naciones Unidas de Desarrollo. Small Donor Program of the United Nations Development Program.

**FECD** Fondo Ecuatoriano-Canadiense de Desarrollo. The Ecuadorian-Canadian Development Fund.

### CARE/FORDES

CARE International is an international rural development organization that created a program for strengthening NGO's for development Program for Strengthening Development NGO's (FORDES)

**FLACSO** Facultad Latinoamericana de Ciencias Sociales -Sede Ecuador- The Department of Latin American Social Sciences in Ecuador, A university based in Quito and partner of the MERGE program through the GEMAREN project (Género y Manejo de Recursos Naturales-Gender and Natural Resource Management project).

**MERGE** The University of Florida's "Managing Ecosystems and Resources with Gender Emphasis" program.

**FUNAN** Fundación Antisana- Antisana Foundation-an Ecuadorian conservation NGO and partner of the MERGE program during the project funded by the MacArthur Foundation through TNC.

**SUBIR** Sustainable Uses of Biological Resources Project..

## Notes

<sup>1</sup> Paulina Arroyo and Susan Poats are members of the Grupo Randi Randi, a non-profit organization located in Quito and collaborator with the MERGE program.

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<sup>2</sup> Bolívar Tello is a founding partner of the Arcoiris Foundation (in Loja), Rosa Vacacela is founder and member of the el Instituto Quichua de Biotecnología (in Puyo) y Rocío Alarcón is the president and director of research for ECOCIENCIA (in Quito).

<sup>3</sup> Paulina Arroyoa and Susan V. Poats wrote this case study following two interviews with Bolívar Tello, and both written and oral communication with Fausto López, director of The Arcoiris Foundation.

<sup>4</sup> Paulina Arroyo and Susan V. Poats wrote this case study after interviewing Rocío Alarcón, Director of Research at ECOCIENCIA, and reading her written communications.

<sup>5</sup> Currently the Ministry of Environment.

<sup>6</sup> United States Agency for International Development.

<sup>7</sup> The technicians of the IQB describe themselves as "dreamers" focusing on community work and the recognition of indigenous ancestral knowledge. For the quichuas of Pastaza the muscui or dream, is very important, as it always is realized and all daily activities are guided by the muscui. To dream about gender implies a profound commitment that is carried out and applied in daily life.

<sup>8</sup> Paulina Arroyo y Susan V. Poats wrote this case study after interviewing Rosa Vacacela of the IQB and reading her written contributions.

<sup>9</sup> Paju, word in quichua that translates as "having the knowledge and energy to do something", in this case to select sedes and cultivate plants.