Perceptions and experiences with ‘participatory approaches’ in the CATIE/Norway project in Guatemala

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Declaration

I, Karol Alpízar Ugalde, hereby declare that this master thesis is a product of my original study and that all sources of information used are duly acknowledged. This work has not previously been submitted to any other universities for any academic degree or published in any place.

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Abstract

Field-based experiences and the criticism of the ‘technology transfer approach’ in agricultural research and extension were basic to the emergence of the ‘participatory approaches’, whose main ambition is all stakeholders’ participation.

The Multi-stakeholder participatory development of sustainable land use alternatives for degraded pasture lands in Central America (CATIE/Norway-PD) project has based its activities on ‘participatory approaches’ with the aim that it will help to reach its goals and also to develop and strengthen stakeholders skills.

The aim of this exploratory study was to find out to what extent the participatory approaches have contributed to the project development, to identify farmers and women’s attitudes and perceptions about the project and find out what they have learned. Micro-ethnography was carried out together with semi-structured interviews with open-ended questions. Thirty-three informants including livestock farmers (mainly men), women and project staff were interviewed.

The result of this study shows that dialogue has been important to establish rapport between the project and members. ‘Gifts’ exchange has been useful to create relationships between the farmers and the project, this exchange has taken two forms: ‘reciprocity’ and ‘pooling’. The competition over material resources makes easier the ‘knowledge’ exchange than ‘inputs’ exchange among project members and non-members. The activities for the farmers have been ‘demand-based’. The farmers are satisfied with the activities done, knowledge learned and agree that they will keep working taking into account farm improvement and technologies suggested by the project. Works with women’s groups have been included in the project. The activities carried out in the La Sardina women’s group have not been based on the women’s demand, so that although they said that they had gained knowledge that has helped them to improve, they think that they get less support from the project than the male farmers group and the are not satisfied with the activities done.

This study indicates that use of participatory approaches has been important to carry out project activities. In the case of CATIE/Norway-PD project it has helped the project to be on the way to reach its goals as well to contribute to develop stakeholders’ skills.
# List of contents

**Abbreviations and acronyms** ................................................................. 8

1. **Introduction**......................................................................................... 9
   1.1 Objectives and research questions....................................................... 10
   1.2 Ethical and practical considerations..................................................... 11

2. **Background**......................................................................................... 12
   2.1 Petén..................................................................................................... 12
   2.2 Tropical Agricultural Research and Higher Education Center (CATIE)..... 15
   2.3 The Guatemala Project Site................................................................. 17
   2.4 Project activities................................................................................... 21
   2.5 Project’s relationship with other institutions........................................ 23

3. **Literature Review**.............................................................................. 25
   3.1 Agricultural research and extension..................................................... 25
   3.2 Participatory approaches and methodologies....................................... 26
      Participation............................................................................................ 28
      Empowerment......................................................................................... 30
   3.3 Analytic concepts................................................................................. 31
      Gifts exchange......................................................................................... 31
      Supply and demand.............................................................................. 32
      Domestic and public spheres................................................................. 33

4. **Methodology**..................................................................................... 34
   4.1 Sampling.............................................................................................. 34
   4.2 Data collection...................................................................................... 35
   4.3 Data analysis........................................................................................ 37

5. **Findings and discussion**................................................................. 38
   5.1 Project challenges................................................................................ 38
   5.2 Findings in the livestock farmers’ groups.......................................... 41
      Farmer’s demand and project’s supply.................................................. 41
      Project-farmer reciprocity..................................................................... 44
Farmer-to-farmer reciprocity .................................................. 47
Empowerment .................................................................................. 50
5.3 Findings in the La Sardina women’s group ................................. 53
Home gardens .................................................................................. 53
Mini-chicken farms ................................................................. 55
Differences between the women’s group in the Ejido area ............... 57
5.4 Non-current groups members .................................................. 58
5.5 Participation ............................................................................. 59
6. Conclusions .................................................................................. 61
References ............................................................................. 62
Appendix ..................................................................................... 65

List of Figures (maps and photographs)

Figure 1. Map of Guatemala, Petén department and municipalities ........ 17
Figure 2. Photographs taken by farmers from the Ejido and Petenlac groups .......... 46
Figure 3. Farm maps made by a farmer from the Ejido group ........................ 52
### Abbreviations and acronyms

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Full Form</th>
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<tr>
<td>Asdi/Sida</td>
<td>Swedish International Development Cooperation Agency</td>
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| CATIE        | Tropical Agricultural Research and Higher Education Center  
*Centro Agronómico Tropical de Investigación y Enseñanza* |
| CAFTA-RD     | Dominican Republic-Central America and United States Free Trade Agreement |
| CUDEP        | Peten’s University Center  
*Centro Universitario de Petén* |
| Danida       | International Development Agency of Denmark |
| FYDEP        | National Enterprise of Peten’s Economic Promotion and Development  
*Empresa Nacional de Fomento y Desarrollo Económico de Petén* |
| MAGA         | Ministry of Agriculture, Livestock and Alimentation  
*Ministerio de Agricultura, Ganadería y Alimentación* |
| NGO          | Non-governmental organization |
| Norad        | Norwegian Agency for Development Cooperation |
| Petenlac     | Peten’s Dairy Producers Association  
*Asociación de Productores Lácteos de Petén* |
| SEGEPLAN     | Guatemalan Government Department of Planning and Programming  
*Secretaría de Planificación y Programación de la Presidencia de la República* |
1. Introduction

The agricultural research and extension process around the world have followed two main approaches: ‘technology transfer approach’ and ‘participatory approaches’. The first approach is characterized by knowledge generation in research stations or in ‘controlled environments’ (Chambers & Ghildyal 1985). The knowledge is supposed to be transferred to farmers through extension services using the ‘sender-receiver’ model. The ‘participatory approaches’ were conceived as a critic to the ‘technology transfer approach’. It impels participation of all stakeholders not only to generate and spread knowledge but also to make people be self-sufficient learners and critic about particular situation through dialogue between parties (Gonsalves et al. 2005). These approaches also seek to promote empowerment and capacity building (McAllister & Vernooy 1999).

In Guatemala the agricultural research and extension was the responsibility of the state until the middle of the 1980’s, which based its activities on the ‘technology transfer approach’. The reforms in the national economy and institutions after 1980’s reduced state participation in the agricultural sector leaving a gap that was not covered for some years (Alfaro-Mora 2002). Nowadays the agricultural research and extension is mainly carried out by NGO’s and private institutions that want to fill in the gap left by the government and to reduce its negative impacts using the ‘participatory approaches’ in their activities.

The Multi-stakeholder participatory development of sustainable land use alternatives for degraded pasture lands in Central America (CATIE/Norway-PD) is a project developed by CATIE to address the issue of degraded pastures in Central America. The project has based its activities on the ‘participatory approaches’ with the rationale that it will help to develop and strengthen extension workers and farmers’ skills and to reach its goals through stakeholders’ participation. Since 2004 the project has been developing activities with small and medium scale livestock farmers and women’s groups in Petén, Guatemala.

The ‘participatory approaches’ are relatively new in the agricultural research and extension in Guatemala, so there has not yet been much evaluation of the impacts of these approaches. For the
project members is the first time that they have been addressed by ‘participatory approaches’. The aim of this exploratory study is to document project staff, farmers and women’s attitudes and perceptions about the project work and the activities that have been developed jointly after two years of continuous work. Further objectives are to identify some of the impacts of the activities and technologies that the project has been promoting in the farms and also tries to understand some of the relationships that have been created between the project and its members.

1.1 Objectives and research questions

This is an exploratory study that focuses on the activities that the Multi-stakeholder participatory development of sustainable land use alternatives for degraded pasture lands in Central America (CATIE/Norway-DP) project has carried out in Petén, Guatemala. The study aim is to elicit and document the opinions and attitudes of the project staff, farmers and women about the project and the activities that have been carried out. The objectives of the study are:

1. Understand to what extent the participatory approaches have contributed to the project development.
2. Identify farmers and women’s attitudes and perceptions about the project.
3. Find out what the farmers have learned and which changes they have made in their farms as a result of this.

To achieve the goals I proposed the following research questions:

1. What challenges have the project staff faced in the use of participatory approaches?

2. What are the farmers and women’s perceptions about the activities carried out?

3. What factors influence the adaptation of new farm practices and technologies suggested by the project?

4. Which impacts do the new farm practices and technologies have on the farmers and women?
5. Are farmers empowered that will enable them to continue the activities even after the project is finalized?

6. Are farmers women and satisfied with the activities developed by the project?

7. Is the knowledge disseminated to other farmers? How?

1.2 Ethical and practical considerations

The study collected peoples’ opinions and studied their attitudes about the CATIE/Norway-DP project that has been developed in Petén, Guatemala. Since it was an open-ended and exploratory study and the findings were not pre-defined, I would like to clarify the following:

- My intention is not to utilize the gathered information for negative critique of the project or local people, or to create any kind of conflict between CATIE and other institutions, including donors.
- I do not want to harm any participant and invade people’s privacy with my work. Before to conduct any interview I introduced myself, the aim of my fieldwork and also I asked people’s consent to carried out the activity.
- With my study I do not want to cause any problem between the participants and CATIE or other institutions. For this reason, the names of the individuals in this thesis are kept anonymous.
- The study aims at providing information that can also serve as feedback to the project.

Besides, I would like to mention that it is the first time that I conducted a qualitative study. My background is plant biotechnology and I did not have any expertise in qualitative research and analysis before to started this study, but I have been studying and gathering information in order to have basic knowledge that can help in executing my study activities in the best possible way. I also had the support from my supervisors in the entire study process.
2. Background

This chapter looks at information about Petén, where the *Multi-stakeholder participatory development of sustainable land use alternatives for degraded pasture lands in Central America* (CATIE/Norway-DP) project is working in Guatemala. Information about CATIE, which is the institution that is carrying out the project, is also presented. Thereafter there is a description about the project and the Guatemala project site. Besides, a brief explanation about the activities that the project has been developing in Guatemala and the project’s relationship with other Guatemalan institutions is presented as well.

2.1 Petén

Guatemala has 22 departments and Petén is the largest. Its extension is 35,858 km$^2$ (33% of the national territory) of which 49.8% is covered with natural forest, 20.7% by agricultural lands, 15.5% is wetlands, 12.9% pastures and bushes, 0.85% rivers and lakes, 0.70% arid areas and 0.12% infrastructure. The climate in Petén is warm-humid tropical, with a rainy season that usually goes from June until November and a dry one between December and May. Petén has two types of life zones: sub-tropical humid forest and sub-tropical per-humid forest, which represents 60% and 40% of the department’s total area, respectively (SEGEPLAN 2003).

Petén is divided into the municipalities of Flores, San José, San Benito, San Andrés, La Libertad, San Francisco, Santa Ana, Dolores, San Luis, Poptún, Sayaxché and Melchor de Mencos. Petén inhabitants represent approximately 3% of the total population of Guatemala of which 59% cannot meet their basic needs. Illiteracy affects 39% of the population in Petén while national average is 36%. Dolores and Santa Ana municipalities, which are the places where the CATIE/Norway-DP project works, exceed the regional level (45% and 44% respectively) (SEGEPLAN 2003).

The Guatemalan government promoted land colonization in El Petén after military coup in 1954 as a response to avoid agrarian reform. During the war, the combination of violence, inequitable land distribution in the south of Guatemala and government-supported colonization programs led many poor people to move to this area (Gould 2006).
Between the 1960 and 1980 decade Petén experienced an immigration process supported by Empresa Nacional de Fomento y Desarrollo Económico de Petén (FYDEP). Most of the new settlers were “ladinos”\(^1\), farmers from the South coast and East region of the country and Mayan farmers (specially Q’eqchi’ group) from Izabal and Alta Verapaz departments (Grandia et al. 2001).

During that time Petén was declared a “national land” and FYDEP was in charge of giving parcels to people who applied for it. FYDEP procedures were not transparent and did not provide the necessary conditions to have cadastral information about the land that was given that resulted to many properties being untitled. According to Grandia et al. (2001) this historical process affected the current land tenancy in Petén. They point out the following land arrangement in the area:

- **Private land**, which pertains to land with title.
- **Land without title but in the formalization process**. This was a product of years of work of different governmental organizations (e.g. MAGA, Fondo de Tierras) and NGO’s (e.g. CARE) of giving legal rights to the owners and updating previous land that was awarded.
- **Informal land**, which pertains to land called ‘agarradas’ by locals. In most cases, owner does not have enough money to pay administrative procedures related to the formalization process.
- **Municipal ‘Ejido’**\(^2\) land, where municipalities rent their ‘Ejido’ land to locals. Tenants do not have land title but usually manage the land as private because they pay a rent which they call ‘ownership right’ to the municipality. They can sell farm improvements ‘mejoras’ to the “new owner”.
- **Cooperatives with individual land holdings**, mostly organized by FYDEP where each cooperative member has a right to 45 hectares. People are landowners and property is considered private.

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\(^1\) Term used in Guatemala to refer to non-indigenous people.

\(^2\) Land given by FYDEP to all municipalities in Petén. Land is rented annually to ‘ejidarios’ (people who live in the Ejido area) but there is little control by municipalities over rental payments and management of natural resources in the area.
• Rented and borrowed land, where big landowners rent or lend part of their property to small farmers and payment can be made in cash or crop yield.

• Land with permanency rights. People have right to live and cultivate in protected areas for 25 years, it is similar to cooperatives but in this case people are not landowners. The right can be renovated if the community has followed protected areas regulations.

Although women have the right to own land usually a man, as traditionally considered head of household, is the representative or the legal owner of the land. In case of divorce, separation or abandonment, it is hard for a woman to claim part of her husband’s properties. On the other hand, widows and single mothers, often appear as legal owners of their properties (Grandia et al. 2001).

Agriculture (especially cultivation of maize and beans) and livestock are the main economic activities in Petén. In fact 60% of national cattle raising is located in this area. Agriculture and cattle raising are generally performed by men whereas women usually do household activities (Grandia et al. 2001). According to SEGEPLAN (2003) just 18.96% of Petén’s land is suitable for farming. Due to soil characteristics, it has better conditions for forestry.

State institutions in Petén include the Vice-Ministry of Agriculture, Livestock and Alimentation (MAGA-Petén) that works in this region to solve agriculture, livestock and food production problems. It also has duty to implement the Agricultural Policy 2004-2007 in the department. The policy aims to improve people’s quality of life that depend directly or indirectly on agriculture through attention to rural farming, development of competitiveness and adequate natural resources management (MAGA 2004).

According to the Agricultural Policy, the development of activities to achieve its aims is responsibility of both public and non-public agricultural sector. MAGA is promoting public and non-public sector participation through strategic alliances, consensus coordination, and participation of all stakeholders (MAGA 2004). In the Agricultural Policy is not explicit if MAGA is using ‘participatory approaches’ to address all actors’ participation.
2.2 Tropical Agricultural Research and Higher Education Center (CATIE)

The Tropical Agricultural Research and Higher Education Center (CATIE, spanish acronym) is an international institution that works on research and graduate education in natural resources management. CATIE is a non-profit institution that has its actions financed through income generating activities and contributions from donors, sponsors and members countries.

CATIE’s headquarter is located in Costa Rica, and it has regional offices in each of its associate countries (Mexico, Dominican Republic, Guatemala, Honduras, El Salvador, Belize, Nicaragua, Costa Rica, Panama, Venezuela, Colombia, Bolivia and Paraguay) that develop and coordinate activities aim to help local people and organizations in these respective countries. According to CATIE’s strategic plan 2003-2012, its current actions are oriented to generate new productive options, technologies and management practices for small farmers; education and training to professionals and technicians; and strengthen collaboration with partner organizations (CATIE 2003).

CATIE is carrying out three projects in Guatemala: ‘Maya Forest’, ‘Oxlajuj Tzi’kin’ and ‘Multi-stakeholder participatory development of sustainable land use alternatives for degraded pasture lands in Central America’. The Inter-American Development Bank (IDB) sponsors the ‘Maya Forest’ project. The aim of the project is to improve the coordination capacities and cooperation between Guatemala, Belize and Mexico to improve the management of the Maya Forest\(^4\). The ‘Oxlajuj Tzi’kin’ project is supported by Asdi. The aims of this project are to increase the political participation and empowerment of indigenous people and to develop actions to reduce poverty in indigenous communities. The ‘Multi-stakeholder participatory development of sustainable land use alternatives for degraded pasture lands in Central America’ project will be described in the following paragraphs.

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3 In Maya language it means ‘Management for indigenous people’.
4 Maya Forest is the second-largest contiguous tract of tropical forest in America. This lowland tropical forest is shared by Belize, Guatemala, and Mexico. Maya Forest contains numerous archaeological sites of the Maya civilization and 8-12% of the world's biodiversity. (Sources: http://www.forestry.iastate.edu, www.nature.org)
In 1999, CATIE completed an inventory and analysis of information available on livestock production systems and pasture degradation in Honduras, Nicaragua and Guatemala. Some critical zones where cattle production and land degradation are a major problem, the so-called “hot spots”, were identified in humid and sub-humid areas including areas in central Nicaragua, northern Honduras and in Petén, Guatemala (Szott, Ibrahim & Beer 2000).

CATIE as a regional institution started efforts to confront the problem of degraded pastures in Central America through the Silvopastoral Regional Project sponsored by Global Environment Facility (GEF). CATIE teams have also worked with field approaches to resolve similar problems through the Olafo project sponsored by Norad/Asdi/Danida, Focuencas supported by Asdi and MIP by Norad.

In 2001, CATIE sponsored by Norad, completed a baseline study on cattle production systems and degraded pasture lands in Petén, Guatemala, Central Nicaragua and Northern Honduras. This baseline study became the basis for the formulation of the project entitled: Multi-stakeholder participatory development of sustainable land use alternatives for degraded pasture lands in Central America (CATIE/Norway-PD) that tries to address the issue of degraded pastures (CATIE & Norad 2002).

The project’s objective is to work with farm families, local leaders and key institutions to design and test alternative ecological, social, economic and policy approaches to improve land use in areas where degraded pastures are apparent. These areas include Muy Muy in Nicaragua, Juncal and Olanchito in Honduras and Petén in Guatemala. Project methodology is based on the participatory approaches*, involving adult learning and empowerment*.

The project has a regional coordinator, a soil specialist and an applied anthropology professional to organize activities for all countries. It also has a local coordinator and field assistants in each site who develop actions and field activities in accordance to each site necessities and opportunities.

* Terms will be discussed on literature review section.
2.3 The Guatemala Project Site

The project area is located in Santa Ana and Dolores municipalities in Petén and is called ‘pilot zone El Chal’. Criteria to select the project area include, among others: around 30 years of cattle farming activities, livestock production as an important source of income, non-closeness to forest or protected areas\(^5\), problems with degraded pastures and farmers’ interest to solve and participate in the activities. Following is a map of Petén department that shows the location of the pilot zone *El Chal*.

\(^5\) At the beginning of the project local people could understand that project aim was to promote livestock farming. The project decided to work on areas far away from forests or protected areas to avoid problems caused by the possible misunderstanding.

Figure 1. Map of Guatemala, Petén department and municipalities.
The first objective of the CATIE/Norway-PD project in Guatemala is to develop and strengthen extension workers and farmers’ skills to take better decisions about land use, develop alternative uses for degraded pastures and reduce degraded pastures area in Petén. To be gender sensitive the project introduced a second objective later, which has been to contribute to poverty reduction through activities with poor families in what is termed ‘cattle-raising landscapes’ including women and other family members. This objective let the project to start to work with a women’s group in La Sardina village (Ejido area) in 2005. A year later new women’s group were organized in El Zapote Bobal and Santa Rosita villages.

In 2003 the project collected information about the area through field visits and key informants interviewing (basically cattle farmers) to have a general impression about farms and livestock situation. The project began its first phase in 2004 that started with the identification of small and medium-scale farmer groups. The project’s aim to work with different groups was to be able to observe possible differences in groups’ dynamics for participatory learning and experimentation.

The identification of farmers groups was followed with the mapping of pilot zone and problems identification. The second phase is related to the development and implementation of a work plan for the farmers groups. The work plan was and could be modified every year depending on the necessities and suggestions given by the farmers. The third phase is called ‘expansion and anchoring’ which began in the middle of 2006.

To identify farmer groups, the project staff went to several villages located in the project area and invited cattle farmers to attend a meeting where the project staff presented the general background of the project. Succeeding meetings were undertaken after the initial meeting and farmers who showed interest became members of organized groups. However, such group formation only happened with the small-scale farmers as the medium-scale farmers already were organized and belonged to a cooperative called Petenlac. By the end of 2004, two farmer groups were formed:

-Petenlac/medium-scale group: started to work with the project in 2004. Most of its members belong to Petenlac cooperative that was funded in the early 1990’s to strengthen livestock production in the area. Majority of these farmers live and have their farms located in El Chal, El
Quetzal and San Juan communities. The Petenlac group has 15 members and they all have land titles. The average land size is 84 hectares and members own between 14 and 340 animals. Petenlac, as a cooperative, has a processing milk plant and has received trainings from different institutions (e.g. MAGA) about the management of this plant and livestock production. At present, Petenlac cooperative faces the problem of lack of participation from its members. Because of the CATIE project, cooperative committee see the CATIE project activities as a way to “attract” its affiliates and gain new ones. They have done little advance regarding livestock improvements for instance in livestock health and care (personal communication) but they expect to be ready to face CAFTA-RD challenges and opportunities (e.g. facilities to export products to USA and to compete with American products at national level), which was already signed by the Guatemalan government.

-Ejido/small-scale group: was organized by the project in 2004 and currently has 20 members. They are small farmers who live in La Pita, El Zapote Bobal and La Sardina villages that are part of Santa Ana Municipal Ejido. They rent land from Santa Ana Municipality hence they do not have land titles. The average farms size is 33 hectares and farmers maintain between 7 to 98 animals approximately.

Besides cattle farmer groups, where members are mainly men, the project started to work with a women’s group in one of the Ejido villages -La Sardina- in 2005. Experiences from this group helped the project to organize activities with other women in El Zapote Bobal and Santa Rosita villages in November 2006.

After the first year of project implementation new groups were formed:

-Santa Rosita group: constituted of 10 small and medium farmers from Santa Rosita village. Their interest “to work with CATIE” started when they had observed changes in one local leader’s farm who began to work with CATIE in 2004 as Petenlac cooperative member. Through him these farmers requested CATIE to also work with them. An agronomy bachelor student from

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6 Local expression to refer ‘get involved in the project’.
San Carlos University, with help of the project team, was in charge of starting activities with this group. The farmers are all land titleholders. The average farms size is 48 hectares.

-**Cooperativa La Amistad group:** they are small and medium farmers from the village called *Cooperativa La Amistad*. These farmers are all land titleholders. The average farms size is 52 hectares. Similar to the *Santa Rosita* group, this group sent a request to participate with CATIE through a farmer who started working with CATIE in 2004 as member of *Petenlac* cooperative. The group has nine members and an agronomy bachelor student from San Carlos University, with help of the project team, also was in charge of starting activities with this group.

-**La Sardina women’s group:** currently the group has 17 members some of them are wives of *Ejido* group affiliates. It was originally a group organized by *El Chal* Catholic Church through doña Marta, a lady from *La Sardina* village (*Ejido* area), to talk about topics related to women and family.

Initially, project staff asked the group about what they would like to engage into and mentioned a number of activities: bakery, sewing, home gardens, among others. However, the project staff explained that was not possible to work in activities such as sewing and baking because those activities did not match with the project objectives; in the end women decided to work in home gardens (2005).

The *La Sardina* women’s group worked with mini chicken-farms in 2006, this activity was conducted by *ProPetén* (a local NGO) with CATIE’s support. *ProPetén* employed “passing on the gift approach” promoted by Heifer International. In 2007 however, the women decided to work in shampoo making, bakery and plantain production.

-**El Zapote women’s group:** it has 21 members and is constituted by women who live in *El Zapote Bobal* village (*Ejido* area). Some of them are wives of *Ejido* group’s members. The group was organized in November 2006 and according to the project’s plan they will receive chicken from the *La Sardina* women’s group according to the ‘passing on the gift’ principle. The group,

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7 People who receive ‘gift animals’ agree to share the offspring with others in need. (Source: http://www.heifer.org)
with their own initiative, is already inscribed in Santa Ana municipality under the name: ‘*Jardín de vida del caserío El Zapote Bobal*’. In 2007 the *El Zapote* women’s group started working on mini chicken-farms following the same plan of activities of the *La Sardina* group.

**-Santa Rosita women’s group:** it is comprised of women who live in *Santa Rosita* village and just like the other two groups, some are wives of *Santa Rosita* group male affiliates. This group was formed when the male farmers requested the project if their wives could also engage in an activity that would involve training and income generation. The group has 16 members and in 2007 they also started working with mini chicken-farms activities.

### 2.4 Project activities

To reach the project’s goals, the project staff have been developing activities with the farmers and women’s groups. Problem identification and farm mapping are the first activities that project carried out with the farmers’ groups in order to have information that helps to base the following activities on each group’s needs. Field visits and trainings are activities that the project develops with both the farmers and women’s groups. However for women’s group field visits and trainings are the only activities that the project has been developed with them.

Following a brief description of the activities that the project have carried out:

**Problem identification**

Cattle farmers of each group with the help of project staff identified their problems and its causes through a ‘problem tree analysis’\(^8\). They also discussed about possible alternatives to solve these difficulties. Common problems identified by all groups were: inadequate pastures, pasture pests and lack of water.

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\(^8\) Tool that helps to analyse a problem taking into account cause-effect relationships. The core problem is located at the centre, its direct causes are placed below it and its direct effects are placed above (Mikkelsen 2005).
Farm mapping

The project staff and the farm owner of each farm involved made a farm walk. Here the owner gave information about the land such as age of the paddock, inputs being used, uses in the past and what he/she would like or was planning to do in each paddock. The project staff also collected geographic data using global position system (GPS) to make a map of each farm.

On-farm trials

Using ‘the farmer field school approach (FFS)’, some project members have established on-farm trials in their land. The idea is to test ‘technologies’ like improved pastures, electric fences, paddocks rotation¹⁰ and a leucaena¹¹ fodder bank in local conditions and under farmers’ management. All farmers who belong to the project are involved in the monitoring and evaluation of the experiments.

The project also has been doing formal research carried out through undergraduate and graduate students in the pilot area to collect base information about topics that the project considers to be important such as pastures fertilization. The idea is that later can be strengthened through participative investigation with its members.

Field visits

The project has organized visits to farms located in the pilot zone and to nearby communities to show (with help of the farm owner or a extension worker) and discuss experiences that are considered useful for its cattle group members. Forestry activities, farm diversification, intensive production systems in cattle farms and improved pastures are some of the topics that have been addressed in these excursions.

The La Sardina women’s group has also visited farms to see experiences of other groups working on the same issue or projects. This also helped them in deciding and choosing their own activities.

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¹⁰ ‘Cattle is moved from one paddock to a new one every certain time

¹¹ Latin name: Leucaena leucocephala. Native tree to Mexico and Central America, can be used as fodder, wood, firewood, shadow and crop protection. It has the ability to fix nitrogen into the soil (Source: Guatemalan Institute of Sciences and Agricultural Technology).
Trainings

Training activities are based on ‘farmer field school approach’. It involves lectures, discussions and exercises in the field. The project address topics related to the farmer’s problems or those that farmers had interest to learn more. Activities are open to all village and family members. They have dealt with improved pastures, pasture pest management, animal health and nutrition, weed control, protein bank, and trees nursery. Trainings for home garden and mini chicken-farms activities in women’s groups have also followed ‘farmer field school approach’.

2.5 Project’s relationship with other institutions

CATIE has established linkages with institutions and organizations at national and local levels to support its activities. One of them is San Carlos University (Universidad de San Carlos) through its headquarter located in Guatemala City and its regional center in Petén (CUDEP). The project has received and given not only support from and for its professionals but also help from and for students who perform their mandatory ‘supervised professional service’ in the project. They have executed experiments, giving trainings and helped organizing farmer groups (Santa Rosita and Cooperativa La Amistad cases). Besides, students from the National Central School of Agriculture (Escuela Nacional Central de Agricultura) located in Guatemala department have also assisted project’s work and performed their graduation project in the pilot area El Chal.

Other Guatemalan institutions that are working in Petén and have collaborated with the project include: the Center of Agroforestry Sciences and Wildlife (Instituto de Ciencias Agroforestales y Vida Silvestre) regarding the establishment of leucaena fodder bank trials, Institute of Sciences and Agricultural Technology (Instituto de Ciencia y Tecnología Agrícola) in activities related to multi-purpose trees, MAGA-Petén with livestock health and pest control activities and the local non-governmental organization ProPetén with the activities with the women’s group on mini-chicken farms.

If one of there organizations’ professionals do not have experience in participatory approaches, the project arrange mini-trainings for them before they engage in project’s field activities so that they follow the same approaches that the project is promoting. The objective is for these
extension workers to try other ways of working with local farmers in a manner by which there is more active participation from all stakeholders.

While the extension workers are working with the project they follow the participatory approaches. However, it is not sure that they will continue using the participatory approaches after they leave the project setting. For instance the students who have performed their fieldwork and training in the project have learned about participatory approaches. During interview the students mentioned that these approaches helped them ‘to work with people’ and this experience would be useful in their future jobs. However, the institutional settings where the students will work may limit the use of participatory approaches.
3. Literature Review

This chapter presents a literature review about agricultural research and extension in Guatemala besides participatory approaches and methodologies. It also gives an insight about analytic concepts which will be use to interpret the findings of this study.

3.1 Agricultural research and extension

Between 1960’s and 1980’s ‘neoclassical economy’ theories influenced Latin America with the idea that first of all economic growth was necessary to achieve development (Kay 1989). This idea influenced significantly the agricultural research and extension in Guatemala. The state, which was in charge of agricultural research and technology transfer until the 1980’s, decided to adopt the ‘green revolution’ and its ‘technology transfer’ approach to achieve food security and to produce a surplus that could be sold to other countries, and in this way contribute to the economy growth. This was also the beginning of the agricultural research and extension in Guatemala. Since then, the development of research and extension has gone through periods with different characteristics (Alfaro-Mora 2002). These have roughly followed the more general agricultural research and extension phases since mid-20th century, which according to Robert Roades’s (in Kaarhus (1994)) description are:

- **Production stage (1950-1975):** in this period farmers were seen as recipients of technological innovation. Technology transfer was the tool to achieve technology innovations in the agricultural sector.

- **Economic stage (1975-1985):** in this stage the most important question revolved around how to reach the poorest farmers. The answer to this issue was interdisciplinary collaboration especially between economists and agronomists.

- **Ecological stage (1985-1995):** the term sustainability acquired value at this phase. Farmers’ roles were perceived in different ways and small farmers were seen as local knowledge sources, which could be useful to solve environmental issues.

- **Institutional stage (1995-onwards):** farmers, researchers and extension workers are social actors within the social practice of agricultural production. Farmers are recognized
as researchers who do trials, adopt and adapt technologies to their conditions and extend innovations through their own networks.

The agricultural research and extension in Guatemala have experienced two main periods, which have been a combination of the stages proposed by Rhoades. In the first one the state was responsible of supporting agricultural research and extension through its public institutions. It was characterized by a combination of ‘Production’ and ‘Economic’ stage based on ‘technology transfer’ approach and ended in the 1980’s. The second one, that is still prevailing, started with a gradual participation of the private sector in agricultural research and extension, which was a product of the reorientation of the state actions to achieve development. It combines ‘Ecological’ and ‘Institutional’ stages. According to Alfaro-Mora (2002) the aim in this period is to achieve the ‘participation’ of all stakeholders involved in development projects.

### 3.2 Participatory approaches and methodologies

The main characteristic of participatory approaches is the farmers’ participation in all project’s stages. A decisive point in the use of participatory approaches and methodologies for agricultural research and extension was the discussion paper called ‘Agricultural Research for Resource-Poor Farmers: the Farmers-First-and-Last Model’ presented by Robert Chambers and B.P. Ghildyal in 1985, that criticized the ‘technology transfer’ approach that was prevailing at that time.

Reforms in the Guatemalan national economy and institutional roles, withdrew the state’s control over previous functions in the agricultural sector by the end of 1980’s (Alfaro-Mora 2002). MAGA reduce its participation in agricultural extension leaving an initial gap without being covered by any other party and creating negative consequences to the rural sector. Currently, the agricultural extension is mainly carried out by NGOs and private institutions which objective is to reduce the gap left by the state and to contribute to rural development through the design and execution of development projects with the participation of all stakeholders.
Pretty & Chambers (1993) mention that the differences within participatory approaches and methodologies depend on circumstances and problems related to locations and institutions. However, participatory approaches and methodologies share the following characteristics:

- **Defined methodology and systematic learning process:** cumulative learning by all participants through participative activities of investigation and explanation.

- **Multiple perspectives:** different individuals and groups analyse the same topic, the opinions’ diversity strengthens the actions.

- **Group inquiry process:** people from different disciplines, backgrounds and sectors participate in the entire project development; it helps to understand the world’s complexity.

- **Context specific:** approaches are flexible to permit adaptation according to actors and local conditions.

- **Facilitating experts and stakeholders:** approaches stimulate changes in current activities in order to achieve improvements in people’s life.

- **Leading to sustained action:** the process allows discussion about activities and the ones supported by the majority are implemented. It also allows institution building and stimulates people’s capacity to initiate action by their own.

The objectives of participatory approaches are not only to generate facts but also to develop understandings about a particular situation in a particular context. The approaches also helps people to be self-sufficient learners to evaluate knowledge generated by others (Gonsalves et al. 2005). In order to achieve these goals Pretty & Chambers (1993) mention that the agricultural development institutions and organizations should create an environment where learning take place through equal interactions, experiences sharing and joined work.

For the CATIE/Norway-PD project, dialogue between the project staff and the farmers has been a key element to knowledge sharing and technologies evaluation and adaptation. In the project environment, the participatory approaches helps to emphasized the dialogue between parties. The ‘dialogue model’ permits discussion between sender and receiver until both understand the idea,
contrary to ‘sender-receiver’ that was employed by the ‘technology transfer’ approach, where the message was limited to be delivered to the receiver (Kaarhus 1994).

According to Gonsalves et al. (2005) it is important to generate new knowledge and skills to enhance a change of attitudes and develop practices in order to contribute to rural transformations and sustainable use of natural resources. The CATIE/Norway-PD project agree that to develop alternative uses for degraded pastures that could have high impact and lasting effects in Petén, it is necessary that livestock farmers develop skills that help to find out what their problems are, so they can take actions to solve them and learn by themselves.

McAllister & Vernooy (1999) also mention that one reason for using participatory approaches is to promote or facilitate empowerment or social transformation. Participatory approaches aim to strengthen local people’s capacity in decision making concerning on both research and management of local resources in order to improve their awareness and to strengthen their ability to act in their own behalf. Since some years ago the state’s support to research and agricultural extension in Guatemala has decreased. With the use of participatory approaches the CATIE/Norway-PD project pretends that the farmers take in their hands activities that previously were managed by the government and start to fulfil their needs without external help. It is not clear yet to what scope this objective could be achievable since it depends on farmers’ willingness and the allowances of their socio-economic circumstances, which can permit or constrain them to start being self-sufficient.

**Participation**

The term participation has different meanings. The World Bank describes it as “people engaging in decision making, getting together to participate in discussions and meetings, expressing opinions and being heard, and having control or influence over decisions made” (Narayan et al. 2000:182).

Furthermore, Pretty (1995) underscores that there are two schools of thought that have emerged in the process of agricultural development and each one has their own point of view about
participation. The first holds the idea that if people are involved in the decision making process of any development project, they will agree and support its activities. The other school sees participation as a right that permits collective action, empowerment and institution building. In the CATIE/Norway-PD project both “schools” perspectives are seen important. The first perspective shows the way how the project pretends to reach its goals. The second perspective is related to how the project through participatory approaches pretends to develop farmers, women and extension workers’ skills and capacities that will be useful for their particular situations.

The concept of participation has become a key element for the development of project proposals to achieve funding and also has been considered as an important aspect of project development. It became widely used by many development agencies and governments. Pretty (1995), in the book ‘Regenerating Agriculture’, presents different types of participation where farmers have been involved in development projects. Some of these types of participation does not necessary implies farmers’ confidence and skills building:

- **Passive participation**: people is informed about what is going to happen or is happening without anybody listening to their complains or suggestions.
- **Participation in information giving**: persons answer questionnaires or contribute through other means that help researchers extract information from them. People do not have the opportunity to influence methodologies, findings, etc.
- **Participation by consultation**: external agents consult individuals. These people from outside are in charge of creating solutions to the problems, they do not have the obligation to consider people’s point of view.
- **Participation for material incentives**: persons provide resources in return for personal incentives like food, cash, etc.
- **Functional participation**: people organize groups to discuss topics related to the current project. This organization usually starts after major decisions have been taken and with help of external facilitators.
- **Interactive participation**: individuals contribute in the creation and development of action plans, local institutions and/or reinforcement of the current ones. It involves interdisciplinary work in order to obtain different points of view and a structured learning process. At the same time people take control of local decisions.
-Self-mobilization: people take initiatives without external help. They look for resources and advices when they need it without losing control over their inputs.

Bass et al. (1995) agree that participation allows people to understand policies and projects, its benefits and constraints, and also to identify negative impacts as well as alternatives to reach the goals. They point out that people’s participation in any group depends on their interest, control over decisions, power to act and take effective responsibility.

Empowerment
The term empowerment is also addressed in this chapter because according to my understanding ‘empowerment’ like ‘participation’ it is an important issue for the project to reach its goals, and is related to the ‘development and strengthen of project members’ skills’. Besides, empowerment can be related to the activities of the project members during the project’s development, and the continuation of these activities after the project leaves the area.

Empowerment is commonly defined as the ability to exert ‘power over’ people and resources (Parpart, Rai & Staudt 2002). On the other hand, World Bank (2006) defines empowerment as the process of enhancing the capacity of individuals or groups to make choices and to transform those choices into desired actions and outcomes. It also argues that access to information, inclusion and participation, accountability and local organizational capacity are key elements of empowerment so that they should be part of any development project.

‘Empowerment’, like ‘participation’, has become a key concept in the design of project proposals to reach funding access. In fact, both terms are usually used together. Besides, empowerment is now considered as an important output in development projects.

Parpart et al. (2002) hold that the empowerment process should take into account individual conscientization (‘power within’) and collective work (‘power with’) in order to achieve important changes. Fetterman (2006) express that it is important to make the distinction between the empowerment process and outcomes in order to achieve a clear definition of the empowerment theory. According to him, empowerment process is an activity that contributes to
obtain control and/or resources through the development of people’s skills, at the same time it creates independent decision makers and problem solvers. He defines empowerment outcomes as the operationalization of empowerment, so it becomes possible to evaluate the consequences of the process. On the other hand, Parpart et al. (2002) see empowerment as both process and outcome. It is a process because usually it is unpredictable and requires attention to problems over time and place, and it is an outcome because it can be measured according to goals established a priori. They think that to measure outcomes is important to keep integrity in any development process.

### 3.3 Analytic concepts

Besides agricultural research and extension, participatory approaches and empowerment there are three more concepts that I will use to give an interpretation to my findings. These concepts are also linked with the previous ones and are part of the project dynamics: ‘gift exchange’, ‘supply and demand’, and ‘domestic and public spheres’.

**Gifts exchange**

Through the project development there has been an exchange of ‘gifts’ between the project and its members as same as among them. According to Mauss (1990) gifts build bounds among people, while Sahlins (1974) mentions that material transaction is an episode in a social relation where goods flow supports or starts it. Sahlins talks about two types of transactions, which can be found in the project environment:

- Reciprocity: is the forward and backward movement of goods between two parties.

  ![Reciprocity](image)

Sahlins (1974) mentions that reciprocity is more than a mechanical transaction. It implies ‘morality’ and an obligation to “give back” the benefits that the person has gotten from the ‘gift’ received. While, Mauss (1990) expresses that the exchange of gifts implies three obligations: ‘to give’, ‘to receive’ and ‘to reciprocate’.
My findings, which are presented in chapter 5, suggest that the reciprocity of ‘gifts’ is evident between the project and the farmers. This is associated with the establishment of on-farm trials. In this case the farmers have gotten inputs from the project while they give their labour and some materials to establish the trials in their farms, and its necessary care. In the farmers’ groups and as well in the La Sardina women’s group, reciprocity is more related to knowledge exchange than ‘gifts’ exchange among members and also with non-members.

-Pooling: in this case goods meet at a center (C) and then flow outwards within people (P) who are cooperatively related.

Sahlins (1974) mentions that pooling is the material side of ‘collectivity’ and ‘centricity’ where it has a ‘logistic’ function due to the redistribution of goods that supports the group and an ‘instrumental’ function due to the ritual of communion and subordination to the central authority.

This type of relationship can be also noticed between the project and the farmers but in this case it is related to knowledge dissemination. The farmers think that the project is responsible for distributing knowledge among project members and new ones.

**Supply and demand**

Supply and demand are two important concepts in economics related to market economy. ‘Demand’ refers to how much of a product or service is desired by people whereas ‘supply’ represents how much the market can offer (Investopedia-ULC 2007).

In the ‘knowledge market’ of agricultural research and extension, ‘the demand’ side is associated with the ‘users of knowledge’ while the suppliers are the ‘transmitters of knowledge’ (Leeuwis 2004). For this study purpose the farmers and women’s groups are seem as ‘the users’ whereas the project is perceived as the ‘supplier’.
Due to the reforms that agricultural research and extension policies around the world have experienced, now the agricultural extension services are more ‘demand-based’ oriented to address development issues. ‘Demand-based’ extension services are based on the fact that the information, advice and other services offered by extension workers should be adapted to the expressed demands of the clients or recipients of the services (e.g. farmers) and not just on what ‘outsiders’ think that their needs are (World-Bank 2004).

**Domestic and public spheres**

This conceptual distinction will be used to discuss differences between the two women’s groups that are currently working with the project in the *Ejido* area.

Rosaldo & Lamphere (1974) use the term ‘domestic’ to define those small institutions and activities based on motherhood whereas ‘public’ refers to activities and institutions that link and organize particular mother-child groups.

Often women are identified to ‘the domestic life’ and men with ‘the public one’. This generalization is made because women’s work tends to be directed to their family and home due to their roles as mothers. Her economic and political activities of women are constrained by household and childcare duties. On the other hand, men base their activities out of the family environment in order to achieve a particular social group or hierarchy through competition with their peers. Much has been discussed about this topic. However the distinction between ‘domestic’ and ‘public’ life is useful to interpret my study findings related to the women’s behaviours in the *El Zapote* and *La Sardina* groups.

Rosaldo & Lamphere (1974) mention that women can gain power and sense of value when they are able to go beyond domestic limits, either by entering the men’s world or creating a society unto themselves. My findings, presented in chapter 5, seem to support this statement. The *El Zapote* group has two women who develop activities that are traditionally done by men. These women seem more dynamic than the others whose work is focused on family and home activities only.
4. Methodology

This chapter gives an explanation about the sampling and data collection methods employed in the study. Besides, there is a description about the approach employed for data analysis.

4.1 Sampling

Primary data was gathered from October to December 2006 in the project area ‘pilot zone El Chal’. Prior to data collection, I was introduced to the project staff and students by my local supervisor. I also visited some of the villages with the help of project staff to be familiarized with the area and to establish my first contact with some of the project groups’ members.

The type of sampling was non-probabilistic. Purposive sampling was used to select informants who could provide information to answer the research questions. Thirty-three persons were sampled after the criteria of relationship with and within the project, years of membership and the type of organization (cooperative, informal group, women’s group).

Farmers and women were selected from the project’s database following the criteria previously mentioned. Five farmers from each the Ejido and Petenlac group, who started to work with the project in 2004, were selected. From the group of farmers that joined the project after 2004 two from the Ejido group, two from Petenlac and two from Santa Rosita group were chosen. In all groups at least one woman was selected to see if the women were facing problems with the project and within the group that they belong because they are dealing with an activity that traditionally is done by men. Four farmers who had stopped working with the project were chosen in order to know the reasons for withdrawal. From the La Sardina women’s group, six women were selected. Four of these were still in the group and two took part only in the home garden and not in the mini-chicken farms activities.

The project leader, project field assistant and three students who conducted their mandatory supervised professional service in and with the project were also interviewed.
4.2 Data collection

Extensive review of the literature and collection of secondary data about the topic of study and the area (Petén and Guatemala) were undertaken in Noragric’s library, internet, CATIE and local institutions in Petén.

The research method to gather primary information has been called micro-ethnography, which focuses on a particular aspect of a topic and is done in a shorter time (couples of weeks to few months) than ethnography\textsuperscript{12} (Bryman 2004). To cross-check and seek information from various sources the following research techniques were utilized:

a) Interviews.
b) Farm photographs.
c) Farms mapping.
d) Participant observation.\textsuperscript{13}

Interviews
Semi-structured interviews\textsuperscript{14} were used for all the respondents to gather general information, and to know their perceptions and attitudes towards to the project. Different types of interview guides were employed; for the farmers and women, students and project staff (see appendix). Open-ended questions were used so the respondent could answer in his/her own words, provide new and unexpected responses and also for exploring new areas were researcher has limited knowledge (Bryman 2004).

Interview questions for the farmers and women were about demographic and livelihood information, their opinion about the project and the group they belong to, membership, information about other institutions that work in the area and their future plans. The questions for the students were about activities that they were doing in the project, their opinion about those

\textsuperscript{12} “The researcher immerses him- or herself in a social setting for an extended period of time, observing behaviour, listening to what is said in conversations both between others and with the fieldworker and asking questions” (Bryman 2004:539).

\textsuperscript{13} I use participant observations to refer to data collection where the researcher participates actively in the activities of local people to generate information. People are aware of the researcher’s condition (Bryman 2004).

\textsuperscript{14} “Context in which the researcher has a series of questions that are in the general form of an interview guide but the sequence can vary. The questions are somewhat general and also the interviewer has some latitude to ask further questions in response to what are seen as significant replies” (Bryman 2004:543).
activities and the project. The project staff were asked about the project, structure and cooperation with other institutions, the farmers and women’s groups, project activities, participatory approaches and the project’s future plans.

Before the interview initiated, the respondents were told that the information would be anonymous. It helped people feel comfortable and honest about their answers. The interviews were recorded with the interviewee’s consent to avoid information loss.

**Photograph and farm mapping research technique**

Because of time constrain, only three farmers from the Petenlac and Ejido group who started in 2004, were selected to perform the photograph and farm mapping techniques.

The photograph technique was done to elicit the farmer’s perception about the farm improvements and technologies suggested by the project and which are implementing in their farms. It consisted of asking farmers to take six photos about ‘things’ that they have in their farms, which makes them to ‘feel happy and proud’. After the photos were developed, farmers were asked of the reasons why they took those pictures.

In the farm mapping technique farmers were asked to draw a map of their farms of how it looks at the present time and another map illustrating the projected state of the farm in 10 years. Discussion during the activity was recorded that was used in the data interpretation. Farm mapping was employed to obtain the farmer’s current and future perceptions about their farm, the technologies and farm improvements suggested by the project.

**Participant observation**

To give more in-depth analysis and to put more context on my data generation, I also employed participant observation. I attended some of the group meetings and trainings arranged by the project with the different groups (e.g. Ejido, Petenlac, La Sardina and El Zapote women’s group) and also visited some of the farmer’s farms and women’s activities (e.g. chicken pens).
4.3 Data analysis

The data obtained were mainly qualitative and the approach used for its analysis has been ‘interpretative’. The procedures employed to address the primary information were context-analysis where salient trends and significant findings were highlighted and interpreted. To interpret and discuss the findings I used the three context of interpretation in qualitative analysis identified by Kvale (1996) and mentioned in Ritchie & Lewis (2006). These are:

- **self-understanding**: the researcher attempts to formulate in condensed form what the participants themselves mean and understand.

- **critical common sense understanding**: the researcher uses general knowledge about the context of statements to place them in a wider arena.

- **theoretical understanding**: the interpretation is place in a broader theoretical perspective.

My theoretical perspective in this thesis is presented in chapter 3.

Reliability\(^{15}\) and validity\(^{16}\) are two criteria that are used in quantitative analysis that pertain to ‘replicability’ and ‘correctness’ of the research findings, respectively. Some writers such as Lincoln and Guba (1985) in their book ‘Naturalistic Inquiry’ cited in Ritchie & Lewis (2006) suggest that qualitative studies should be judged using different criteria other than the ones employ in quantitative analysis. This is due to the complexity of the phenomena being studied and the inevitable impact of context at the moment when the research was carried out. Hence, instead of using reliability and validity, they proposed two criteria: trustworthiness\(^{17}\) and authenticity\(^{18}\).

In this exploratory study sample heterogeneity and the use of different research techniques to collect and triangulate data where emphasized in order to achieve trustworthiness and authenticity of the findings.

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15 “The degree to which a measure of a concept is stable” (Bryman 2004:543).
16 “A concern with the integrity of the conclusions that are generated from a piece of research” (Bryman 2004:545).
17 “Able to be reliable”. (Source: http://www.askoxford.com/)
18 “Undisputed origin, genuine”. (Source: http://www.askoxford.com/)
5. Findings and discussion

This chapter is divided into five sections. The first section deals with some of the challenges that the CATIE/Norway-DP project has faced. The second and third sections present the findings and discussions about the livestock farmers’ groups and the La Sardina women’s group, respectively. The fourth section presents the findings on non-current group members. The fifth and final section discusses the farmers and the La Sardina group members’ participation in the project.

5.1 Project challenges

One of the challenges that the project faced was the introduction and use of the participatory approaches. Traditionally in Guatemala, farmers tend to perceive researchers and extension workers as “experts” because of their higher level of education. Farmers perceive researchers and extension workers as teachers and advisors. Their role is to decide on farm operations and improvements. The ‘top-down approach’ and its ‘sender-receiver’ model of communication used by the Guatemalan state to give technical assistance to farmers supported this way of thinking for many years.

The hierarchical relationship between farmers and extension workers, in which the farmers were at the bottom, was exacerbated by the use of the ‘top-down approach’ and ‘sender-receiver’ dialogue. Knowledge was transferred from top to bottom but not the other way around. Certain rules of some organizations prohibiting giving a ride to anybody using the institution’s car and/or certain behaviors demonstrated by extension workers, like not greeting the farmers when they pass by them, accentuated the extension workers place in the hierarchy. From the farmers’ perspective, being greeted and receiving a ride from the extension workers is important. This was clearly illustrated when I saw how grateful farmers from the Ejido area were when they got a ride from the project staff. It helped them perceive the project staff in a horizontal way, as peers.

Indeed, transportation is an important issue for the project and people in the area, especially the underprivileged. The pilot zone El Chal, constituted of various villages, is far from the office: the closest of these villages is 21 km from the project’s office. The villages are also far from each other, as are the farms within the villages. Because of the great distance among villages and
farms, access to transportation is important for the project staff to be able to visit the pilot zone El Chal and hence, be in contact with all of the project members. Underprivileged inhabitants of the project area do not have any vehicles and accessing one is not simple. Indeed, some of the villages are far from the main road where people can have access to transportation (e.g. busses or rides). Hence, they cannot mobilize themselves and/or carry materials from one place to another easily. Because of these transportation constraints and the great distance between places, getting a ride is very valuable.

For the farmers’ group members, it was the first time that extension workers were interested about their opinions and ideas pertaining to their farms. In fact, at the beginning of project activities the farmers were confused of why the project staff were asking many questions and were not telling them what to do or how they could solve their problems. One farmer even asked the project leader to give him “a recipe” of what to do: “look, I want you to give me a piece of paper and tell me what to do”. The agricultural extension models that have been used in Central America (e.g. ‘training and visit’) have supported this way of thinking. The models are based on ‘technology transfer’ where knowledge is generated in research centers and then spread through extension services to farmers (Chambers & Ghildyal 1985). Extension officers in Central America were trained as knowledge distributors and because of their higher level of education (compared to farmers) they felt and were seen as the ones who should teach and have the “solution for everything”.

Another challenge that the project faced was gaining the farmers’ trust. According to the project leader, credibility was a major issue at the beginning because the farmers had a preconceived idea that projects were synonymous with corruption and deceit. A member of the Petenlac group remembered the cooperative members’ first impression about the project:

19 My translation from Spanish: “... miren, yo quiero que vengan acá con un papelito y me digan qué hacer…”
20 Agricultural extension approach that was promoted by the World Bank from 1970’s to the 1990’s. It is characterized by a strong focus on technical advice. The use of standardized, detailed and rigorously monitored schedules of contact farmers visits and staff training sessions is employed (Leeuwis 2004).
“We did not believe them [project staff] because a lot of institutions have visited us offering big things but we never saw any of them (...) we listened to them [project staff] but when they left we kept talking about it, other liars.21”

The farmers have seen how people from different institutions have taken advantage of their position to use public resources for their own benefit. These past experiences had led the farmers not to trust new projects and according to the project leader, it took much effort to gain their trust. At first only the farmers who were willing to take a risk were the only ones who took part in the project. One farmer from the Ejido group, who decided to participate despite warnings from her friends, made the following comment regarding working with CATIE:

“My friends told me that I should not entertain them [project staff] because they would give me help, like barbed wire but afterwards they would invade my land. I told to my friends if they take away my land I will be the one to suffer and meanwhile I am [barely] living. You see, now I have my little trees that are growing and maybe I will not reap any benefits from them, but my grandchildren will.22”

As illustrated from these farmers’ comments there was lack of trust in the project. In the Petenlac group’s case for example, the project leader asked the farmers to give one year to prove the project’s credibility by demonstrating how the project would work. Now, the Petenlac group’s numbers have increased, demonstrating that the project has gained the farmer’s trust. John Hailey (2002) mentions how credibility and trust building was more important than the use of participatory methodologies to achieve success for some South Asian NGO’s. Similarly, the project staff used time and effort during the starting phase to build close relationships between them and the local people and this helped them continue working in the area.

In the CATIE/Norway-DP project, credibility and trust building has helped to create project legitimacy among participants. The project members decide to join the project because they wanted and also they work in a particular way base on their own decision, there is no power

21 My translation from Spanish: “Nosotros no les creíamos porque nos han visitado bastantes instituciones y nos han ofrecido grandes cosas y nunca se ve nada (...) nosotros les oíamos todo pero cuando se iban nos quedábamos platicando eso, otros mentirosos”.
22My translation from Spanish: “ A mí mis amigos me decían que no los admitiera porque ellos me iban a dar la ayuda, tal vez hasta alambre y de repente iban a venir a invadir mi tierra, entonces yo les dije que si me quitan es a mí y pues para mientras estoy viviendo. Ya ve, ahi tengo mis palitos que van para arriba tal vez yo no los vaya aprovechar pero para mis nietos”.
pressure from the project side. The project members’ decisions and actions are principally influenced by their idea of moral obligation. For example some of the women from the La Sardina women’s group mentioned that they were disappointed about the “passing on the gift” approach in the mini chicken-farm activities and mentioned that other group members did not like this approach either. Although the women in the La Sardina group did not like the “passing on the gift” approach they gave chicken (or money instead) to the El Zapote women’s group. All the women in the La Sardina group mentioned that before they joined the mini chicken-farm activities they agreed to follow the “passing on the gift” approach. In the women’s opinion it could be seen as theft if they did not pass on the ‘gift’ to the next group, even if they disliked the idea.

5.2 Findings in the livestock farmers’ groups

This section deals with the findings in the farmers’ groups. The farmers’ demand and project’s supply, the relationship between the farmers and project and the farmer-to-farmer relationship will be discussed. Additionally, the findings related to the farmers’ empowerment will be addressed.

Farmers’ demand and project’s supply

In the annual meeting with the farmers’ groups, the project was discussed with the farmers and their families. Information regarding their achievements during the year, what they learned, their plans for the following year and their suggestions to improve the project was gathered. All of this information, as well as the information gathered from the problem identification activity with each farmers’ group, has served as a basis to guide the project activities each year. This information gathered from ‘multiple perspectives’, due to the different backgrounds of the farmers and their families, has guided and strengthened the project in order for it to respond to the farmers’ demand.

All of the farmers that were interviewed pointed out that the field trips were the activity that they thought were the most useful. Through this activity, the farmers were able to see first hand the improvements activities and technologies on other farms, including other project members’
farms. They got ideas, opinions, etc. from farm owners and/or managers regarding these improvements and the new technology’s performance. As a group, they also discussed the topic while they were in the field. It helped the farmers get ideas from people similar to them. The interaction between peers created a friendly environment where ‘dialogue’ permitted an effortless exchange of knowledge. The farmers realized that they could carry out similar improvements on their farms and obtain similar benefits. After seeing and discussing improvements and technological performance in their peers’ farms, the farmers felt more confident to do the same on their own farm.

Some of the farmers interviewed (6 out of 15) mentioned that before the project was initiated, they had ideas about possible improvements for their farms and some of them had even started to make them (e.g. use of improved pastures, small paddocks and paddock rotation). However, they did not feel confident about these changes. After they saw other farmers’ experiences, they had more knowledge and were convinced of the benefits one could reap from implementing these practices. A member of the Petenlac group made the following comment regarding an “experiment” he was carrying out on his farm prior to the project:

“...I started with small paddocks and scheduled its rotations. That grazing land has is 6-7 years old. I started in a small [area] to experiment. Now that CATIE has come, it is much better because I had a prior experience and CATIE helped me to understand that I was not on the wrong track”. 23

The field trips are arranged by the project staff base on the ‘knowledge-demand’ that the farmers have expressed in meetings regarding topics that they considered could help them improve their farm and farming practices. The fact that all of the farmers that were interviewed pointed out the usefulness of this activity suggests that it is helping them fulfill their ‘knowledge-demand’. Furthermore, field trips facilitate knowledge reciprocity between the project staff and farmers as well as between farmers.

According to Anderson & Feder (2003) farmer’s performances can be influenced by learned skills and the ability to process information. Although the farmers’ have not achieved a high

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23 My translation from Spanish: “...yo empecé con potreros pequeños y les doy su rotación, tiene 6-7 años esa pastoría, he empezado así en pequeño para experimentar. Ahora que ya vino CATIE mucho mejor porque ya tenía cierta experiencia y me ayudó más a entender que no iba por mal camino”.

42
level of education and some of them are illiterate, the ‘defined methodology and systematic learning process’, that according to Pretty and Chambers (1993) characterized participatory approaches and methodologies, has helped everybody understand and remember the topics covered by project activities easily. One of the new farmers of the Petenlac group made the following comment about how a on-farm trial during the weed control training helped him realize that the way he used to prepare herbicides was wrong and how he could change it:

“...sometimes you blame the liquid [herbicide] but maybe you have not thought that water is not made for that [for preparing the herbicide]...I used to do it, I used any water [for preparing the herbicide] and sprayed, looked for what it didn’t kill and then asked myself: what happened? And I kept wondering about it. Not anymore, now I know that I should look for suitable water [for preparing the herbicide] in order not to waste my work and money.”

The farmers perceived the project as a source of knowledge and felt that the project staff had more information and experience about certain topics such as pastures and livestock management. By trying new practices on their farm, they were able to test the performance of the knowledge transmitted by researches and extension workers and then decide to keep using them or not. On the other hand, some farmers are ‘experimenters’ *per se*. For them, it is good to test practices or ideas that they have seen or heard about by themselves.

Pretty and Chambers (1993) mention that participatory approaches stimulate changes in people’s actions in order to achieve improvements in their life. Most of the farmers have changed their farming practices and started to use the technologies and ideas developed within the project. Twelve out of the fifteen farmers that were interviewed talked about the changes that their livelihood and farms have experienced. The two main farming changes mentioned by the respondents were: improvements in paddocks and livestock conditions. According to them, the paddocks are in better condition now because the land is covered by improved pastures, which have higher nutritional value than the natural pastures and weeds that covered the land before. Besides, having small paddocks and practicing paddock rotations reduced soil compression and pasture degradation. The farmers also mentioned that they currently know how to take better care

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24 My translation from Spanish: “...a veces uno culpa al líquido [hierbicida] pero tal vez no ha craneado que el agua no está preparada para eso [preparar el hierbicida], yo antes lo hacía agarraba agua donde agarrara [preparar el hierbicida] y aplicaba, miraba que no mataba, entonces yo decía qué pasó? y me quedaba con la duda. Ahora ya no, ahora ya sé que debo buscar el agua especial para eso [preparar el hierbicida], para que mi trabajo no sea en vano y el gasto.”
of their animal’s health and are doing so. Animals are feeding in pastures with higher nutritional value than before, helping them stay healthy and resist the dry season.

The main changes that farmers mentioned regarding their livelihoods are that they work more and have fewer expenses on the farm. Although farmers have to work more after the farm improvements and technologies adaptation, all of them agree that ‘it is worth doing’ and that they will continue working because they notice that they are reaping benefits from doing so (like an increased of production of milk for example). After implementing the improvements in their pastures, the farmers did not need to rent additional grazing land and they incurred fewer expenses for weed control because pastures cover the land.

If the project is considered a success, it is because it has satisfied the farmers’ demand by providing knowledge on topics that they consider important. Furthermore, the activities employed to address these topics are understandable to all farmers and hence, uncomplicated to put into practice in their farms and farming practices.

**Project-farmer reciprocity**

In order to implement on-farm trials, the project provided inputs (e.g. seeds, fertilizer, pesticides, barbed wire) to farmers. The farmers reciprocate with inputs such as labor for the implementation of and follow through for the trials. Sahlins (1974) mentions that the exchange of materials creates social relations. For example a farmer from the *Ejido* group mentioned that he was attending meetings and field trips organized by the project since 2004 but was not part of the group. According to him, he started to be a member at the beginning of 2006 when he got seeds and other inputs to implement his *leucaena* fodder bank trial.

The project staff sees the on-farm trials as activities that help the project reach its goals whereas the farmers perceived them as a way to improve their farms. All farmers mentioned that they participated in on-farm trials and received inputs, but they emphasized that they had to work and invest for the trials’ implementation and follow through. One member of the *Ejido* group made the following comment regarding his improved pastures trial:
“It is not easy to do it [improved pastures trial], it is hard because we do not have posts. We used any type of posts that last one year and then needs to be replaced, in order to secure the small paddocks. The thing about sowing pasture, I put in my daily labour, so it ends up being expensive to have a pasture because now everything is expensive so it requires effort and dedication to obtain benefits. Accordingly, we talked about the fact that some people follow CATIE’s staff thinking that they will get things for free but they just give little incentives to see how motivated we are, if we want to work. With these incentives I feel that I have more strength to work and for me this is good, they are helping us.25

Using the picture technique (described in chapter 4), I noticed that nineteen of the twenty-seven photographs taken were related to on-farm trials or improvements in the farms where farmers got inputs from the project. Most of the photographs are related to improved pastures and *leucaena* trees. Although the farmers got inputs from the project staff to carry out the on-farm trials and improvements, they did not perceive them as something that belonged to the project, isolated from the rest of the system (farm). They saw them as belongings, part of their farms, because they invested labor and inputs to carry them through and also they are reaping benefits from them, such as food for their cattle.

Some of the photographs that two of the *Ejido* and *Petenlac* group members took can be seen below. Photographs 1 and 4 represent the key issues in all of the photographs that were taken: improved pastures and *leucaena* trees, respectively. Photographs 2 and 4 are examples of other activities.

The farmer’s explanations of the photographs are:

- Picture 1: cattle grazing in a small paddock (0.7 hectare) covered by the improved pasture called Mombaza (*Panicum maximum*).
- Picture 2: a farmer and his family installing a plumb system that will help to carry water to two paddocks via a trough.

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25 My translation from Spanish: “No es fácil hacerlo [prueba pasturas mejoradas], es duro, porque digamos nosotros aquí no tenemos postes, le pusimos poste de cualquier palo que un año dilata, ahora requiere nuevo posteo eso para tener seguro los potreritos. La cosa de la siembra del pasto, yo pongo mi trabajo por jornales, me sale caro tener el pasto porque ahora todo está caro; entonces requieren el esfuerzo, que uno se dedique para que dejen; entonces ahí es donde nosotros platicamos que algunos siguen a los de CATIE pero piensan que les van a regalar todo y ellos dan una pequeña ayuda para ver el impulso de uno, si uno tiene el anhelo de trabajar; entonces yo con esas ayudas que ellos me dan yo siento que yo agarro más fuerzas para ir haciendo eso, y todo eso para mi es bueno, nos están ayudando”.
• Picture 3: an electric fence that surrounds small paddocks covered by improved pastures. According to the farmer it serves the same function as barbed wire but it saves on posts and labor.
• Picture 4: old and new plots of *leucaena* trees that provide food for the cattle and help suppress ‘*la chinche*’ (important pasture pest in the area).

From information collected during the interviews, these photographs show different farm trials and improvements where farmers got inputs from the project. All of the farmers mentioned that they were reaping or would be reaping benefits from the activities that they pointed out in the photographs.

Figure 2. Photographs taken by farmers from the *Ejido* and *Petenlac* groups.
On top of the farm trials and inputs, ‘knowledge’ is the other type of ‘help’ that is mentioned by the farmers. Dialogue has helped knowledge sharing between the farmers and project staff. It also has been important to create and strengthen relationships and to avoid barriers against activities development. A farmer from the Petenlac group expressed his responsibility to contribute to the knowledge exchange with the project because he had reaped benefits from the knowledge gained through the activities developed by the project. He also believes he has “given” knowledge to the project by pointing out that somehow the leucaena trees were helping to suppress ‘la chinche’ on his farm:

“…I think that they [project staff] had not realized that leucaena was suppressing ‘la chinche’ [pasture pest], I enlighten them (…) why should I be happy knowing that only I know this, they are teaching me as well, I am learning, so if I observe different things I have to give back to them.”

According to Mauss (1990) there are three obligations during the exchange of gifts: ‘to give’, ‘to receive’ and ‘to reciprocate’. Sahlins (1974:192) mentions of the exchange of goods that “it is as much as moral as a mechanical scheme”, it creates obligations to ‘give back’. In the case of the project and farmer relationship, the farmers felt that it is their responsibility to give back to the project by providing labor, knowledge or any kind of support in order to respond for the ‘gifts’ that they received which have helped them improve their farms. Otherwise they would feel like thieves.

**Farmer-to-farmer reciprocity**

The project’s aims are that the farmers learn about new technologies and better farming practices, adopt these new technologies and practices on their farms and at the same time spread knowledge to others. Most of the farmers are aware of this. For instance, a farmer from the Ejido group made the following statement when he was asked about project’s objective during the annual meeting: “that we all learn, that something stays in our minds and that we share the information.”

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26 My translation from Spanish: “…Yo creo que ellos no se habían dado cuenta que la leucaena estaba contrarrestando la chinche, ellos no se habían dado cuenta porque yo se los expuse (…) de qué me serviría a mí alegrarme de que yo sólo me esté dando cuenta de eso si ellos también me están enseñando, y si yo estoy aprendiendo y estoy observando cosas diferentes tengo que darles a ellos”.

27 My translation from Spanish: “que todos aprendamos y que nos quede algo en la cabeza y que compartamos la información”.

47
Despite the project staff’s efforts to impel ‘sharing’ among the farmers, it seems that it is not easy to accomplish. For example, the on-farm trials were seen as “help from the project” by the beneficiaries; they did not see them as trials or better practices that can be seen as models to follow or to generate useful knowledge for others (project’s perspective). Herbold (1998) mentions that underprivileged people primarily see processes as a way to secure something that can improve their life. In the farmers’ case, they perceived the on-farm trials, knowledge and farm improvements as ‘help’ coming from the project to generate personal benefits. This occurs because most of the farmers are deprived of access to resources, especially material ones. The competition over resources that the project can offer to its members makes it difficult to ‘help-share’ with others, especially when it implies sharing materials. This implies that knowledge is easier to share with other farmers than inputs because it does not involve giving some ‘thing’ to another person that could be used for someone’s personal benefit.

As for ‘knowledge-sharing’, it seems that it is more common that group members ‘pool knowledge’ to the project. For the majority of the interviewed farmers, the project is in charge of distributing knowledge among current and future members. They do not see themselves as part of the ‘extension process’. Sahlins (1974) mentions that pooling is a way to show subordination to central authority in a social unity. In this case, the project is perceived by the farmers as the ‘center’ where all goods meet and then go outwards.

The ‘centricity’ relationship between the farmers and the project can be associated with the patron-worker relationship that Guatemalan society experienced during the pre and post-colonial periods in the ‘haciendas’. The property owner was seen as a “father” who guides and supports his “worker-children” as long as they stay submissive and dependent. Because of this, workers used to put their labor and even themselves and family in “patron hands”. Workers competed amongst themselves to gain the patron’s generosity. Hence, usually, workers did not foment relationships with other workers; they just established a relationship with their patron (Wolf 1959). Perhaps the farmers pool knowledge as a way to demonstrate “submission” and somehow secure support from the project side. Furthermore, having more knowledge to share with the
project than with other farmers can also be seen as “something profitable” because it can be a way to strengthen relationships with the project and to “win the competition” with the other farmers for the project “generosity”.

One of the critics of development projects is that usually, communities and groups are seen as homogenous entities when they work together. Projects do not take the complexity of dynamics and differences within community members into account so projects do not build up activities that address those issues in order that its work can reach all community members. One example of this situation is in the Ejido area where the relationships between the Ejido group members and the ones who are not involved in the project are weaker. All of the Ejido group respondents mentioned that they had invited neighbors to work on the project or talked to them about new farm practices but ‘they do not like to work’. A farmer gave the following explanation about why his neighbors have not made improvements in their farms:

“We have talked to them [other farmers] but they say that it is a lot of work. I have told people that are not part of the group [about farm improvements] but they do not put it into practice because it requires a lot of work and a hammock is so pleasant.”

Most likely, there are farmers in the Ejido area that are not participating in the project and would like to make improvements on their farms but lack of inputs or knowledge make it difficult. Those farmers did not join the project at the beginning because, as pointed out previously, they did not trust the project and they probably thought that the project was just a scheme to take advantage of them. Perhaps the non-participant farmers think that at present it is too late to join the group.

Farmers from the Ejido area are underprivileged and it is not easy for them to access money to invest in their farms. The intense competition over resources in the Ejido area can be one of the reasons that make ‘goods’ sharing difficult between the Ejido group members and their neighbours.

28 My translation from Spanish: “Fíjese que sí se les cuenta (otros productores) pero dicen que mucho trabajo. Le he contado a otras personas que están fuera del grupo pero no ponen en práctica porque requiere que uno se mueva para hacer esas cosas y la hamaca es bien rica”.

49
In the Petenlac group most of the respondents mentioned that they had shared seeds and knowledge with friends and neighbors. The new Petenlac group members mentioned that the old members invited them to join the group. The Santa Rosita and La Amistad groups were organized because farmers had the opportunity to observe the changes in some of the Petenlac members’ farms. For the Petenlac group members, it is easier to share because they have access to more resources and their economic situation is better than that of the farmers from the Ejido area. There is less competition over resources between the Petenlac group members and other farmers in the community.

Empowerment

The project has created awareness amongst its members (‘power within’) about benefits that they can obtain from implementing particular practices in their farms such as improved pastures, the use of fodder trees, the division and rotation of paddocks, work activities (e.g. trainings and on farm-trials evaluation), etc. The farmers know why it is important to adopt new practices. In fact, eleven of the fifteen farmers that were interviewed gave explanations regarding activities that they have already implemented on their farms and the benefits that they are reaping from them.

A farmer from the Petenlac group mentioned that prior to CATIE, projects used to come to the area to deliver things without explaining their use and importance for the farmers and their farms. He mentioned that that was why he did not pay attention to the leucaena tree’s value for his cattle when he got seedlings from a local NGO ten years ago:

“CATIE gave us the idea and the seeds [leucaena] and we did it because we believe and know the type of trees, you see that cows eat them. They have 20% protein content so when you combine leucaena and pasture you enhance the pasture through the protein that the leucaena introduces in the soil through the air. We can understand that. They [project staff] explained the concept and one decides what to do with that knowledge and one does it because it is beneficial. In a discussion, they were saying this and that and how we knew the seedling because Centro Maya [local NGO] brought them in 1997 or 1998 (…) but they did not tell me what they were used for, they just gave us the seeds and told us: sow it, cows eat it. I saw that cows ate it but I only made small plots, minimal, so in the end I did not pay take care of them. If you don’t tell the person:
look, it has some protein content and so on, it stays there, half implemented because there is no groundwork.”

For the farmers it is important to be familiar with the steps they will have to follow and the benefits they will reap. Knowledge increases the farmer’s capacity to make choices and convert them into actions. The World Bank argues that access to information is a key element for empowerment. If one knows the importance of a particular activity before carrying it out, one has a tool that will help one decide. Then, if one decides to execute the activity, one will pay more attention to its effects and then decide if one will continue implementing it or not basing ones decision on personal experiences and external comments and being confident about it.

Most of the farmers mentioned that they would continue improving their farms after the project leaves the area, based on the knowledge generated through project activities.

Information gathered through “current and future farm” drawing technique show that the projected changes in the farms are related to on-farm trials and knowledge from project activities. All of the maps show paddock divisions and rotation, more trees (specially for fodder and wood) inside and around the farm (live fences) and land covered by different types of improved pastures. Something important to notice is that during the activity, all of the farmers (both the Ejido and Petenlac members) were enthusiastic and optimistic regarding the changes in their farm. They expect to implement the changes although they require capital. A farmer from the Ejido group made the following maps illustrating how his farm looks now and how he would like it to look in 10 years.

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29 My translation from Spanish: “CATIE nos dio la idea y nos dio la semilla y pues lo hicimos, porque creemos y conocemos la clase de árboles que traen se ve que las vacas lo comen, tienen un 20% de proteína; entonces al asociar la leucaena con el pasto ya es enriquecer el pasto por la proteína que la leucaena mete al suelo por medio del aire, todo eso uno lo entiende, ellos le explican y uno elije qué hacer y uno lo hace porque es un beneficio; en un curso, en una plática dicen esto y esto y como conocemos porque esta semilla nos la trajo Centro Maya en el 1997 o 1998 (...) pero no me dijeron para qué eran, [sólo] aquí está la semilla siémbrelro que se lo comen las vacas, se miraba que se lo comian pero fueron unos pedacitos, unas parcelitas que yo hice, mínimo; entonces ahí uno no le pone cuidado, si a usted no le dice mire tiene tanto de proteína y esto, queda ahí como a medias en un principio que no le haya fundamento.”
In this example, the changes that can be observed from the current and projected state of the farm are paddock divisions and land covered by improved pastures according to soil conditions, more trees (for fodder and wood) around the fences (live fences) as well as paddock divisions. The farmer also mentioned that he would like to improve his current milking shelter and have better cattle. It is possible that these changes have been influenced by the knowledge that the farmer obtained from project activities. In fact, the farmer’s wife mentioned that she noticed that her husband has started taking better care of the trees that are on the farm and has started to plant new ones. She mentions that before the project he used to cut down trees on the farm because according to his previous beliefs, trees constrain farm activities. Nowadays he thinks that he can reap benefits from the trees like food for his cattle for example.
Jescavage-Bernard and Crofoot (1993) in Piniero (2002) mention that a map is a way to connect physical space and social relations where the interests and priorities of its makers are reflected. The manifestation of new technologies and farm improvements suggested by the project in the maps that were gathered suggests that farmers recognize the benefits brought by these activities and that is why these activities are currently part of their interests.

Regarding collective work (‘power with’), except for the Petenlac group that is already a cooperative group, it seems that the only time the farmers meet to discuss their findings, problems, etc. is during meetings organized by the project staff. If this situation continues and the project does not take actions to improve ‘collective work’, the groups will probably dissolve after project concludes its work and the project staff leaves the area.

### 5.3 Findings in the La Sardina women’s group

In this section issues concerning some of the activities that the La Sardina women’s group participated in as part of the project activities will be discussed. Besides, differences that were noticed between this group and the new women’s group that was organized in the Ejido area (El Zapote women’s group) will be discussed as well.

**Home gardens**

This group started working with the project in home garden activities in 2005. According to the La Sardina group members, the idea was to learn how to grow vegetables for household consumption in order to avoid buying them in the market. Nowadays, few of them have continued growing vegetables in their gardens. The ones that stopped claimed that they have the knowledge to do so and that it is just a matter of starting again.

The La Sardina women’s group had meetings with the project staff and they were consulted about what they would like to learn. The activities that the group members mentioned (e.g. baking, sewing) did not match the project’s objectives so the project staff mentioned some activities that they could help them with like home gardens or pasture seed production. In this case, the demand/supply did not match; the women were interested in participating in activities
related to the household and family affairs whereas the project was interested in income-generating activities, which were more closely related to its objectives.

According to David Moose (2002), people’s needs can be significantly shaped by perceptions of what the agency can be able to deliver. In this case, the project staff told the women what activities they could carry out with them and what inputs the group would receive (e.g. seeds) to start the work. Probably some women were not interested in home gardens at all or knew that the work could be constraining but they still agreed to participate in the project. Furthermore due to lack of ‘real interest’ because the activity was not ‘demand-based’, the required work finished, the group activities finished. This situation is illustrated by the ideas given by one of the group members that did not continue growing vegetables:

W:..I did not like the idea about vegetables because the soil is not adequate to grow them; there is a lot of stones.
K: So, why did you continue?
W: Because it was selected, I said no, but when they [project staff] were giving seeds I wanted to get them to sow and test, I got the seeds.30

Another limitation to vegetable production that was not taken into account during the selection of activities, is water shortage in La Sardina village, especially during the dry season. A woman from the group mentioned that during the dry season there was a lack of water in La Sardina village and some village members argued that it was due to the group of women that were watering their vegetables. The neighbors offended some of the women because according to them, the water shortage in the village was due to the women’s group. However, even during the rainy season, in many cases, there was no vegetable production either. Problems with neighboring animals, pests and difficulties preparing the soil are some arguments gathered from the women about why they stopped maintaining their home gardens.

30 My translation from Spanish: W: ..a mí no me gustaba esa idea de las hortalizas porque aquí no es terreno para sembrar hortalizas, es que hay mucha piedra.
K: Entonces por qué siguió?
W: Porque eso se quedó, yo dije no, pero cuando estaban dando la semilla [proyecto] me dieron ganas de recibirla para probar a sembar y la recibí.
Mini chicken-farms

The women seemed content with the new ideas they learned in the trainings provided for by the project. They mentioned that their chickens were in better condition now than before. The improvements helped them take advantage of their animals more by selling eggs and chickens, allowing them to contribute to household expenses, which traditionally are mainly covered by men. The family members also consume eggs and chicken and in one case, a woman sold some chickens to buy a pair of pigs. Furthermore, women mentioned that they have been sharing knowledge among members and with other women that do not belong to the group in order for everybody to take advantage of the new knowledge.

Even though this activity has reaped positive consequences, the women were disappointed by the ‘passing on the gift’ approach. They perceived that working in this way was not ‘help’ because after 10 months they had to “return” the same amount of animals (or the equivalent monetary value) that they received at the beginning. One woman mentioned that even women that are not part of the group agree that this approach is not ‘help’.

One of the reasons that can explain this perception is that in 2005 a politician went to La Sardina village to “give projects” to the women. A group of 14 women were organized and they received one hundred free chickens, chicken food and tools to dispense food and water to the chickens. Afterwards they also received free laying hens and clothes as presents. Some of the women that were working in this group are also working in the La Sardina women’s group. One of them made the following comment regarding the differences between CATIE’s activities and the politician’s:

“...this [activity] from CATIE is not a gift because it is a chain, we have to return it, but with the politician we didn’t…”

Furthermore, women whose husbands were working with CATIE as Ejido group members thought that their husbands were getting more help than they were. The following are two of the comments made by the wives about their perception of the inequality in the project benefits:

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31 My translation from Spanish: “...esto de CATIE no es regalo porque es pase de cadena, siempre devolvemos eso, en cambio con la diputada no...”
“...I mostly like the work [that project has done] related to pasture with the men more because imagine, they really get outcomes, at least in my husband’s case, after he started with CATIE, I noticed that the pastures have improved. He has received a lot of help…" 

“I see that he [husband] has gotten more help because they [project staff] have given him pasture seeds, barbed wire, pesticides, *leucaena* seeds, *arachis*, and those *madre cacao* stems. They [farmers group] really get more help than we [women group] get."  

In this case most of the women assessed the help they received by outcomes and inputs given and seemed unsatisfied with the home garden and mini chicken-farm activities. They didn’t perceive that they were fulfilling their needs through these activities. One of the reasons that can explain this situation is that contrary to the farmer’s group, before they started participating in these activities, the women’s group was not consulted about their problems and what kind of activities could be done jointly with the project in order to solve them. The activities were not ‘demand-based’, which partially explains why the women in the *La Sardina* group were not satisfied.  

Although in the meetings with the project staff the women were encouraged to talk about their opinions regarding activities, it seems that they were not very open to express their discontent with such elements as the ‘passing on the gift’ approach. This situation can be explained by the ‘patron-worker’ relationship. The women see the project as the ‘patron’ who gives them support so they prefer avoiding any situation that can cause discord between the ‘patron’ and themselves and hence hinder the support they are receiving. Furthermore, women whose husbands are *Ejido* group members may think that if they make any negative comments, it could cause “project anger” and their husbands (due to their relationship) could also suffer the negative consequences of this situation, such as not receiving support from the project anymore. If their husbands stop receiving support from the project, it can affect them indirectly, because any improvements that their husbands make on the farms could represent more income generation, which helps cover the household’s expenses.

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32 My translation from Spanish: “...a mí más me ha gustado principalmente la cosa del pasto con los señores porque imaginése que eso sí les ha dado frutos porque por lo menos con mi esposo (...) luego de que él se metió con CATIE ya miré que los pastos han mejorado, a él sí le han ayudado bastante...”  
33 My translation from Spanish: “Fíjese que a él sí veo que le han ayudado más porque a ellos les ayudan con semillas de pastura, alambre, a veces hasta con veneno, con semilla de arbolitos de leucaena, maní y esos brotones de madre de cacao, ellos sí tienen más ayuda que uno.”
Differences between the women’s group in the Ejido area

Even though members of the *La Sardina* and *El Zapote* women’s group share the same socioeconomic characteristics, it seems that the *El Zapote* group is more active. A few weeks after the *El Zapote* group was organized, the committee members went to the municipality of Santa Ana to register the group under the name of ‘*Jardín de vida del caserío El Zapote Bobal*’.

Registering the group with the municipality can provide access to support from other institutions or NGO’s that decide to work in the area since traditionally, in Guatemala, projects prefer to work with groups that are already organized and usually the municipality is the first institution that they contact to get information about the area. The *La Sardina* women’s group members are aware of this but after two years of working together, they have not yet registered the group with the municipality.

This situation can be explained with reference to the impact of domestic and public spheres on women’s lives. All of the women in the *La Sardina* group are mothers and wives. As such, all of their attention and work are focused on their children, husbands and houses: ‘domestic life’. Likewise, the group was originally created to discuss topics related to women and family in a religious context. Hence, at the beginning, the group focused on the domestic realm. In contrast, the *El Zapote* group was organized in order to start a productive activity that could allow the women to have more access to money and be somewhat economically independent from their husbands. From its onset, this group focused on the ‘public sphere’.

The project activities set out to move the *La Sardina* group from the domestic sphere towards the public one through the promotion of economic activities (e.g. mini chicken-farms), but the women’s preference was evidently working on activities that are more related to the home and family life (e.g. bakery and shampoo making). They seem to have chosen to stay within the ‘domestic sphere’.

According to Rosaldo & Lamphere (1974:41) “women gain power and sense of value when they are able to transcend domestic limits, either by entering the men’s world or by creating a society unto themselves”. In the *El Zapote* group, there are two women that have transcended ‘domestic life’ and entered into the ‘public sphere’, which is mainly related to men’s activities and which
traditionally in Guatemala enjoys more recognition among both men and women than the domestic one. These women are ‘ganaderas’ (cattle farmers), an activity that is mainly carried out by men in the area. They have also been involved in project activities as *Ejido* group members. They are president and secretary of the *El Zapote* women’s group committee. According to me, these women have influenced the *El Zapote* group by having surpassed their conditions and thinking that they can achieve more for the group in the future.

**5.4 Non-current groups members**

The two women interviewed from the *La Sardina* women’s group that participated in the home garden activities but did not continue working on the mini chicken-farm activities mentioned that they withdrew from the group because they did not have time to attend meetings. Three of the four interviewed farmers also mentioned this reason.

Another farmer, who previously belong to the *Ejido* group, argued that he withdrew from the group because according to him, farmers from *La Pita* village were getting less ‘help’ (inputs) than the ones from *El Zapote* village. He found this to be unfair and decided to stop attending project meetings and invest his time in his farming activities.

The project leader’s opinion about this is that there was a misunderstanding among some farmers in *La Pita* village and that was why they left the group. According to the project leader the farmers did not understand the way how the project works and they were only expecting ‘gifts’ from the project.

According to the information that was gathered, it seems that the project has been helping all farmers regardless of their location or of the group they belong to. Furthermore, project activities’ being open to all people (members and not members), any preference towards a certain group or village was not perceived. As I mentioned previously, a community is a heterogeneous entity where each member has their own interests and way of thinking. Sometimes the project and its members’ interests are quite different, like in the previous case. Hence, when a person does not receive what he/she was expecting, it means that project does not accomplish his/her ‘demand’. It
can cause deception and even jealousy among peers if he/she thinks that they are getting project help to ‘supply’ their needs. This can be an interpretation why the farmer decided to stop working with the project and left the group.

5.5 Participation

The term ‘participation’ has been considered an important element in the project’s development. In the literature of agricultural development, participation has been seen as people’s right that helps to support project activities, as well as to build up collective action and empowerment (Pretty 1995).

For the CATIE/Norway-PD project, different stakeholder’s participation throughout the various project stages has been important in order to fulfill the gaps that the project itself cannot manage, to gain the participants’ trust, and reach the project’s goals. It has also helped the ‘group inquiry process’ that according to Pretty and Chambers (1993) distinguishes participatory approaches and methodologies and strengthen any development activities. Furthermore, the project considers that stakeholder’s participation will help to develop and strengthen their skills.

Based on Pretty’s (1995) ‘participation typology’ I consider the farmers’ participation in the CATIE/Norway-PD project lie between ‘functional’ and ‘interactive’ participation. According to Pretty (1995), ‘functional’ participation is that groups are organized with external help to work on a topic related to a project. The groups are formed after the project has decided their main activities. In the ‘interactive’ participation the people contribute to the design and development of the project’s action plans or in the reinforcement of the current ones. All of the farmers’ groups in the study, except the Petenlac group, have a ‘functional’ participation because they were organized to address the topic of ‘degraded pastures’, which was identified and proposed by the project to the farmers. Furthermore, the farmers have an ‘interactive’ participation because they have given feedback and suggestions to the project. This feedback is the starting point for developing and to strengthening the project activities.
The *La Sardina* women’s group participation lies between ‘material incentives’ and ‘functional’ participation. Pretty (1995) mentions that ‘material incentive’ participation takes place when people give resources (e.g. work) in order to get personal incentives in return. The women in the *La Sardina* group have a ‘material incentive’ participation because most of them measured the quality of the project ‘help’ according to the inputs that they received. Furthermore, the project and the politician, who has come to the area, were compared by the ‘inputs’ that they offered. ‘Inputs’ were also the main point of comparison between the *Ejido* farmers group and this group. The women have also a ‘functional’ participation because even if the group was organized before the project came to the area, it was to address domestic issues. After the project arrived the *La Sardina* women’s group started working on activities that focused on income generation, as suggested by the project.

Pretty’s ‘participation typology’ suggests that people’s degree of participation goes from minimum participation associated to ‘passive participation’ to a maximum level, which can be found in ‘self-mobilization’. Comparing the farmers’ activities and the ones carried out by the *La Sardina* women’s group seems to match the varieties of participation in Pretty’s scheme. There is more participation from the (mainly male) farmer’s side than on the women’s side. However, the project was not a ‘gendered’ project from the beginning. This can be an explanation to the differences between farmers and women’s participation in the project.
6. Conclusions

At the beginning of the CATIE/Norway-PD project, its work was constrained by the previous experiences that the farmers had had with the ‘top-down’ approach and deception with other projects that had worked in the area. Dialogue and joined activities with its members have helped the CATIE/Norway-PD to overcome this dilemma and through time and effort to change previous perceptions.

The project has developed activities based on the farmers’ demand. This has contributed to that the farmers have adopted farm improvements and technologies promoted by the project, and become satisfied with the new knowledge. In the La Sardina women’s group, members are pleased with the new knowledge gained, but they are not satisfied with the activities carried out and think that they get less support than the farmers’ group. This happens because the activities carried out by the project in this group have not been done based on women’s own demand and wishes.

The exchange of “gifts” between the project and group members has been important for both parties to establish and strengthen relationships along project development. Furthermore the project and farmers has established a “pooling” relationship for knowledge exchange. Somehow these two types of interaction have helped the project to develop its activities with the farmers groups.

The exchange of knowledge is more common than the exchange of ‘gifts’ among the project members and non-members. This is due to competition over material resources that makes it more difficult for members to undertake material exchange, especially among resource-poor farmers.

In an empowerment perspective, the farmers have developed ‘power within’ which can be perceived in their ideas about the current and future farm changes that want to undertake, which are based on the ‘knowledge’ they learned from activities developed by the project. The continuation of the work of the farmers as a group, the ‘power with’, seems not to be secured after project staff leaves the area, except for the Petenlac group whose members belong to Petenlac cooperative.

Among the women, although La Sardina women group’s members share similar socio-economic conditions with the ones from the El Zapote group but ‘public’ and ‘domestic’ spheres seem to be influencing the manner by which the work is developing in both groups. The La Sardina women’s group has been “less active” than El Zapote group.
References


Appendix

Interview guide for farmers and women

Entrevista #:_________ Fecha:___________

Datos personales
1- Nombre del encuestado:____________________________________
2- Grado escolar:___________
3- Estado civil:____________
4- Número de hijos:____________________
5- Lugar donde vive:____________________
6- Distancia entre casa y finca:____________________

Datos de la finca
7- Ubicación de la finca:____________________
8- Tipo de tenencia:_________________
9- Tamaño:_____________________
10- Desde hace cuánto tiene la finca?__________________

Actividades económicas
11- Qué actividades realiza en su finca? Desde cuándo? Por qué?
12- Otras fuentes de ingreso además de la finca?
13- Lugar que ocupa la finca como fuente de ingreso?
14- Usa crédito? Por qué?

Trabajo con CATIE
15- Pertenece a alguna asociación, grupo de agricultores, etc? Cuál? Desde cuándo? Por qué se unió?
16- Participa en las actividades de CATIE? Cuándo inició? Por qué?
17- Cómo supo qué existía el proyecto de CATIE? Cómo se unió al grupo de trabajo?
18- Me podría explicar cómo fueron las primeras reuniones? Qué hicieron?
19- Cómo es la forma en que usted (o el grupo) trabaja con CATIE? (talleres, parcelas demostrativas, etc) Qué hacen?
20- Qué ayuda a “obtenido” (recibido) de CATIE? Para qué?
21- Qué actividades realiza usted en su finca en conjunto con CATIE? Para qué? De quién fue la idea? Cuáles son las nuevas tecnologías en su finca?
22- Ha sido fácil o difícil llevarlas a cabo (limitaciones)? Por qué?
23- Qué cambios han traído esas actividades en su finca, por qué? En su familia, por qué? En sus ganancias y gastos, por qué?
24- Si hay más trabajo? Vale la pena realizarlo? Por qué?
25- Cómo los otros miembros de la familia miran estos cambios?
26- De su familia, quién más está participando en las actividades de CATIE? Por qué sí? Por qué no?
27- Ha realizado otras actividades en su finca por cuenta propia? Qué actividades? Cuándo las hizo, por qué? Cómo las considera?
28- Le ha enseñado lo que ha aprendido con CATIE a otras personas? Por qué? De qué forma?
29- Ha recibido ayuda de otras instituciones como ONG’s, Ministerio de Agricultura, etc.? Cuándo? Qué tipo de ayuda?
30- Cómo ellos trabajan o trabajaban con usted? Describir.
31- Mencionar semejanzas entre estas instituciones y CATIE.
32-Mencionar diferencias entre estas instituciones y CATIE.
33-Cómo considera el trabajo que CATIE ha hecho hasta el momento? Por qué?
34- Qué debería mejorar?
35- Falta 1 año para que el trabajo de CATIE finalice en el área. Considera que usted puede continuar sol@ haciendo mejoras en su parcela (agricultura y ganadería)? Por qué?
Interview guide for students

Entrevista #:_________ Fecha:___________

Datos personales
1- Nombre del encuestado:____________________________________
2- Edad:__________
3- Lugar donde vive:____________________
4- Grado académico:____________________
5- Institución a la que pertenece:______________________
6- Facultad en la que trabaja:____________________________
7- Tipo de trabajo:__________________________

Trabajo con CATIE
8- Cómo supo que existía el proyecto CATIE-Noruega?
9- Qué lo motivó a unirse al proyecto? Cuándo?
10- Qué actividades o tema de investigación ha realizado o realizó en el proyecto? Para qué?
Quién identificó el tema?
11- Antes de empezar a hacer su trabajo tenía la formación previa para éste?
Si responde Sí: La formación previa le ayudó?
Si responde NO: Cómo solucionó la falta de información? Cómo trabajó sobre el tema?
12- De su trabajo en CATIE, qué le ha llamado o le llamó más la atención?
13- Del proyecto CATIE-Noruega, qué le ha llamado o le llamó más la atención?
14- Qué le ha llamado o le llamó más la atención de la forma de trabajo del proyecto?
15- Mencionar aspectos positivos de la forma de trabajo de CATIE con l@s ganader@s y en general.
16- Mencionar cosas que CATIE debiera mejorar en su forma de trabajo con l@s ganader@s y en general.
17- Qué ha aprendido o aprendió durante su estadía en el proyecto CATIE-Noruega?
18- El haber trabajado en CATIE influenció su forma de trabajo actual o futura? Cómo?
19- Cuáles son sus planes para el futuro?
Entrevista #:_______    Fecha:___________

Datos personales
1- Nombre del encuestado:____________________________________
2- Edad:__________
3- Grado académico:_____________________
4- Formación profesional:_____________________
5- Cargo que desempeña:________________________

Sobre el proyecto “Pasturas degradadas CATIE\Noruega”

Aspectos generales
6- A que demanda responde el proyecto sobre “desarrollo participativo de alternativas de uso sostenible de la tierra en áreas de pasturas degradadas” en Petén, Guatemala? Cuáles son sus metas y objetivos? Cuales son los componentes principales del proyecto y cual es la forma de trabajo que asegure llegar a los objetivos? Por qué se eligió trabajar en los Municipios de Dolores y Santa Ana?
7- Qué distingue a este proyecto con respecto a otros proyectos que han trabajado o están trabajando en el mismo tema?
8- Quiénes son los beneficiarios? Qué criterios se tomaron en cuenta para identificarlos y seleccionarlos? Cómo se estableció contacto con ellos? Por qué no indígenas?
9- Que beneficios reciben los productores del proyecto? Como se aseguran que los beneficios llegue a los productores? Se toman acciones para asegurar que los recursos están llegando a todos los beneficiarios? Cuáles son los principales indicadores de impacto de este proyecto, como se mediran?
10- Cómo nace el grupo “El Chal” y el “Ejido”? Cómo nacieron los otros grupos (La Amistad, Santa Rosita)? Los tenían previsto?
11- Por qué y cómo nace la idea de trabajar con las mujeres? Qué tipo de trabajos se han hecho con ellas?
12- Describir las etapas del proyecto y cuáles han sido las metodologías de trabajo en cada una de ellas. Cuáles han sido los beneficios y limitaciones de las metodologías en cada etapa del proyecto? Qué se debe mejorar?
13- Cuales han sido los principales logros o resultados alcanzados por el proyecto hasta el momento? En que aspectos se puede mejorar?
14- Han realizado correcciones en el proceso? Tienen un plan para corregir acciones?
15- El proyecto tiene un sistema de seguimiento(monitoreo) y evaluación? Quiénes participan y cómo? En que forma participan los productores?
16- Se están tomando acciones para asegurar la adopción, replicabilidad del modelo y sostenibilidad a largo plazo del proyecto? Cuáles? Quiénes están participando en ese proceso?
17-Qué lecciones ha generado el proyecto?

**Metodologías participativas**

18- Como miden el nivel de satisfacción de los productores en cuanto a las actividades que realizan y de las metodologías que utilizan?
19- Por qué se decide trabajar con metodologías participativas. Se tiene experiencias previas? Si las hay, de qué forma han influenciado o potencializado al proyecto?
20- Qué limitaciones han tenido al momento a la hora de utilizar metodologías participativas en su trabajo? Cuáles han sido los beneficios?
21- Con qué otras instituciones, programas o proyectos trabaja el proyecto? Cuáles son las actividades con ellos? Cómo es la forma de trabajo con ellos?

**Trabajo con CATIE (preguntas con respuesta personal)**

22- Cual es el mayor reto que presenta este proyecto a nivel profesional?
23- Antes de trabajar en el proyecto, tenía conocimiento sobre las metodologías participativas?
   **SÍ**: Cómo adquirió el conocimiento?
   **NO**: Cómo aprendió sobre ellas?
24- Cuál es su opinión respecto a ellas. Mencionar aspectos positivos y negativos.
25- De su trabajo dentro del proyecto, qué le ha llamado más la atención?
26- Qué ha aprendido durante su estadía en el proyecto CATIE-Noruega?
27- El haber trabajado en proyecto influenció su forma de trabajo futura? Cómo?
28- Mencionar aspectos positivos del proyecto.

69