A report on the development and use of community impact monitoring procedures in the PVS, as part of the CLIMAFOR project (R7274)

Monitoring in the Plan Vivo System

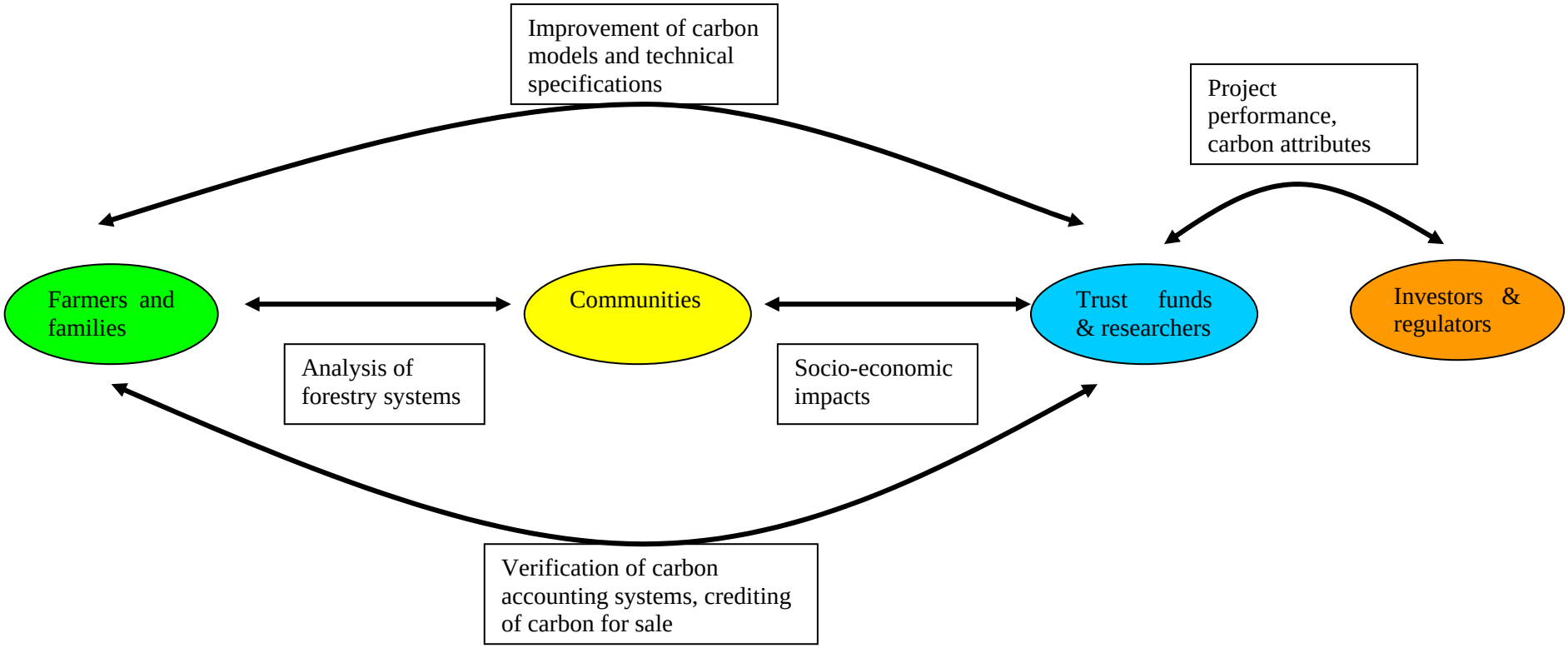
The Plan Vivo System is a system for planning, managing and monitoring the supply of carbon services from small-scale producers in a way that promotes sustainable livelihoods. The system was designed and tested in the Scolel Té project in Chiapas, Mexico which led to the establishment of the Fondo BioClimatico carbon trust fund. Agroforestry activities implemented by farmers on their land are registered and evaluated for carbon offset potential by the trust fund. Farmers submit simple management plans in the form of annotated maps, know as 'plan vivos' to the FBC. These are evaluated using technical specifications that describe the carbon offset potential for defined forestry systems and state the minimum management requirements to achieve this potential. Carbon assets generated though these activities are recorded by the trust fund administration and after monitoring has been carried out may then be sold.

Monitoring is an essential part of the Plan Vivo System. As well as producing information on the generation of carbon offsets by activities implemented by farmers it provides a means of feedback from farmers to the trust fund and from the trust fund to other stakeholders. Monitoring allows a more general assessment of activities carried out by farmers and can help encourage farmers to analyse their own actions and improve the management of their land. Monitoring can also provide and more general information on the management of the project and impact for participants. (See figure 1).

Monitoring activities are carried out by community technicians with training and support from the trust fund technical team. As well as being more cost effective than relying on trust fund staff and this encourages a greater sense of project ownership and improves the flow of information between communities. There are two forms of monitoring used within the Plan Vivo System: carbon verification monitoring and community impact monitoring.

Carbon verification monitoring is essential for maintaining purchaser confidence in the offsets sold by the Fondo BioClimatico. All activities registered with the Fondo BioClimatico to provide carbon services are monitored to verify that carbon offsets are being generated in line with expectations. Carbon verification monitoring involved an assessment of the establishment and growth of trees and farmers are only permitted to sell carbon offsets through the FBC when defined monitoring targets have been met. Information on carbon uptake by agroforestry systems may be used to improve technical specifications used the FBC. Carbon estimates are based on the predicted growth rates of tree species within defined management systems and ecological conditions. As more data become available on the growth of these species in particular site conditions they may be used to refine growth rate predictions and hence make carbon sequestration estimates more accurate. This will improve the accuracy of the trust fund's carbon accounting and will also have research significance for other carbon projects in the region and beyond. As well as providing the trust fund with relevant information carbon verification monitoring also provides an opportunity for communities technicians to assess the management of agroforestry activities by different farmers and see discuss possible improvements to these systems.

Figure 1: Information flows between carbon management stakeholders as a result of community level monitoring



Community Impact Monitoring

Community impact monitoring provides a framework for exchanging information between communities and regions. It aims to generate and disseminate information about the management of (agro)forestry systems, and the impact of the project for communities that will be directly useful to farmers and other stakeholders. The objectives of community impact monitoring are to:

1. Facilitate the exchange of technical information among project participants
2. Identify specific technical problems and training needs
3. Allow feedback on Fondo BioClimatico administrative procedures
4. Provide information on the impacts of the project to investors

As farmers gain experience with (agro)forestry systems their knowledge will become an important resource for the project. This is particularly true in many developing countries where information about the silviculture of certain tree species may be scarce. Farmers who have had direct, practical experience of growing these species may be able to highlight potential problems and make suggestions that will help other farmers in the region. However, without a systematic framework to analyse and disseminate this information such knowledge will not be used to its fullest effect. By analysing problems highlighted by farmers the trust fund can identify training needs and target technical support activities more effectively.

Information concerning the management of (agro)forestry systems can be incorporated into technical specifications and hence used to provide guidance to new producers entering this project and other carbon trading initiatives in the region and beyond. Information of the costs of implementation of (agro)forestry systems (both in terms of time and capital input) will also be useful to farmers and technicians in improving the planning and management of these systems. By assessing how actual costs relate to planned activities it may be possible to help farmers plan the use of time and resources more effectively and identify times when support is most needed. Information on the costs of implementing agroforestry activities will also be useful to investors as it can help demonstrate the financial additionality[1] of carbon offsets sold through the trust fund.

Community impact monitoring provides a formal feedback mechanism that allows farmers to comment on the management of the project directly to the trust fund. Surveying individuals' opinion can highlight issues that are otherwise overlooked in group meeting. The trust fund can use this information to analyse its internal systems and procedures. This can help avoid future conflicts and increase farmer involvement in the project. Community impact monitoring also allows an assessment of the socio-economic implications to farmers of participation in the project. This is important for a number of reasons. If farmers do not perceive there to be a long-term benefit from (agro)forestry activities they will be unlikely to maintain these activities and this may result in the loss of carbon offsets. The promotion of sustainable livelihoods in a key aim of the Plan Vivo System and purchasers of carbon may wish to see an assessment of the impact of the project on the livelihoods of those involved. Information on the socio-economic impacts of the project will also be of interest to farmers and community groups, particularly those deciding whether they should join the project.

When attempting to assess socio-economic impact it should be noted that the Plan Vivo System, has specific aims, i.e. to facilitate the establishment of socially beneficial activities that have the potential to mitigate climate change. While it is hoped that (agro)forestry systems implemented because of the sale of carbon services will provide a range of benefits to farmers, it is unlikely that the carbon payments themselves will generate sufficient income to make significant differences to

[1] Financial additionality may be demonstrated by providing evidence that carbon sales have facilitated forestry activities by overcoming financial barriers faced by farmers in the form of start up costs.

traditional indicators of social impact (e.g. housing, health, education etc) in the short term. The assessment of socio-economic impact should therefore focus on a range of livelihood assets[2] that the project might feasibly affect. Such assets could include:

- Human: skills, knowledge, ability, health
- Social: social resources such as formalised groups, networks and relationships of trust
- Natural: natural resources including land, trees, water, flora and fauna etc
- Financial: flows (income and other) and stocks of financial resources

Development of community impact monitoring in the Fondo BioClimatico

Information generated by community impact monitoring should be relevant to project operations. While it may be interesting to know more about a range of social issues within a community, if these are effectively beyond the influence of the project and do not significantly affect participation in the project then such information will not help improve project performance. Given the limitations of time and funds it is therefore important that monitoring focuses on those issues that will be useful to project stakeholders. It is also important that information gathering techniques are designed to solicit the most useful type of information (e.g. quantitative or qualitative) but do not restrict interviewees from raising issues that they feel are important.

In order to provide useful information the assessment of the impact of project activities on communities must take account of the issues that the project participants consider to be important. It is therefore essential that farmers are consulted in the design of monitoring procedures. This will not only improve the relevance of information generated but will help to ensure that procedures are suitable for use by community technicians and farmers. As part of the development of community impact monitoring in the Fondo BioClimatico a series of workshops was held in 2000/01.

Design workshop, October 2000

As the starting point to designing community impact monitoring procedures a design workshop was held involving technicians from 6 communities in 3 ecological zones. The aim of the workshop was to design appropriate monitoring methodologies for use by community technicians and identify key issues for monitoring activities. This was facilitated through discussion on:

- the objectives of community impact monitoring
- the various socio-economic impacts that community technicians regarded as being important,
- the pros and con of different techniques for gathering information.

Issues

A discussion was initiated concerning the various socio-economic impacts of participation in the Fondo BioClimatico carbon-forestry project. The discussion was relatively unstructured and technicians were encouraged to highlight any issues they viewed as important. The workshop facilitators used the concept of livelihood assets, defined by DFID as five types of capital (human, social, natural, physical and financial), to guide the discussion and ensure a range of issues were covered. A number of issues were raised by community technicians during the discussion and are summarised below:

[2]From Livelihood Assets defined by DFID (http://www.livelihoods.org/)

1. The payments from carbon sales were an important aspect for all the participants, particular issues included:
   - the amount of payment - whether it covered costs and if it facilitated tree planting that would otherwise not have occurred;
   - the timing of payment - whether the payments are made at the right time of year, what the producers think about staging payment over several years and the need to connect payments to monitoring targets;
   - what payments were used for other than planting costs (examples included house improvement, cattle purchase and education).

2. Various issues relating to the implementation of management plans, particularly concerning species suitability, were seen as important. The following points were raised:
   - As farmers gain experience of (agro)forestry systems their knowledge of various aspects of management such as species suitability, seed source and maintenance is becoming a valuable resource for the initiative and other participating groups.
   - The importance of trust fund staff in providing technical support to farmers was emphasised. Technicians stressed the need for this support to be continued in the long term as the tree crop matured and for trust fund staff to be aware of technical and scientific developments. The timing of support in relation to key periods in the tree rotation was discussed.

3. Various non-carbon benefits were discussed, these largely focussed on the improvement of the forest resource through agroforestry activities but also considered the potential financial benefits
   - Non-carbon benefits were viewed from different perspectives in different regions: participants in the lowlands recognised the potential timber crop as the primary benefit whereas farmers in the highlands valued the production of fuelwood as well as timber. This perception is partly due to differences in the production systems as well as in resource availability.
   - In general, although farmers recognise the commercial potential of the timber production, few have a clear idea of its actual value.

4. Communication was seen as a key to overcoming most problems incurred – both technical and organisational. There were concerns over the extent to which information from scientific studies is returned to the communities involved and used for their benefit.

<u>Information gathering techniques</u>

Techniques for carrying out socio-economic monitoring were discussed. The advantages and disadvantages of different types of survey techniques are summarised below:

- 'Closed' questions (questions that require yes/no or quantified answers) provide highly focused information useful for analysing certain project activities in detail. However, the range of topics covered is restricted and farmers may be inhibited from bringing up new issues not originally considered. This type of question can also create a feeling of disempowerment and turn what should be an exchange of ideas into an interrogation.
- 'Open' questions allow a wider range of issues to be raised and do not restrict farmers to black and white responses; farmers may also feel more involved in the process. However if specific information is required open questions can fail to provide the necessary data.
- Interviews with individuals provide detailed information on intra community variation and ensure that all views are represented. Community technicians will have an opportunity to work with individual farmers in more detail but this can be time consuming.
- Group discussions are useful for providing consensus views and showing the 'big picture'. They can generate more ideas as discussions develop and help strengthen the group identity. Group discussions can be less time consuming than individual interviews but some individuals may feel inhibited and the results may only represent the views of the strongest members.

- Confidentiality of information was also an important issue, especially with respect to finances. An anonymity of interviewees was recommended.

A trial survey questionnaire was produced on the basis of the discussion in the workshop covering the following issues:

- Experiences and technical support
- Non carbon benefits (products, services and training)
- Carbon payments
- Communication and group organisation

Community technicians were then asked to try out the survey form on a few individuals and groups and report back to the Fondo BioClimatico with their observations.

Methodology Review workshop, March 2001, San Cristóbal, Chiapas, Mexico

A second workshop was held in March to review the results of the trials of the monitoring methodology. Six community technicians (from 6 communities in 3 ecological zones) provided feedback on the suitability of the monitoring survey form and the interview process; preliminary results of these interviews was also discussed. The aim was to analyse community technicians' initial experiences of the monitoring methodology developed in the previous workshop according to the following criteria:

- Ease of use of the survey questionnaire
- Relevance of information to project activities
- Information quality (level of detail)
- Time efficiency for community technicians and farmers

In general the technicians found the survey form easy to use although there were some problems with technical terms used, for example, most farmers and many technicians did not understand the concept of a 'species' and this word was substituted for 'type' or 'class', terms used by farmers. The range of issues covered was also found to be useful. Many technicians emphasised the importance of using the results of monitoring to design training activities.

In terms of data quality it was clear that some questions required more detailed information than were obtained in this trial. For example, most interviewees reported that fungus and pests were the main problem for plantation establishment but none gave any details of which species were affected and what form the pest of disease took. Such information is necessary if Fondo BioClimatico technical team are to diagnose the problems and provide suitable training. Another example is the provision of information on the use of finances from carbon sales, information useful in assessing the flow benefits in the community. However this requires details of expenditure which many farmers could not remember or were not willing to divulge. It was concluded that data quality could be improved by providing suitable training so that the community technicians know what sort of information is required.

Technicians found that in general it was easier to conduct interviews with individuals than with groups, partly so that such information could remain confidential. Certain changes to the questionnaire were recommended by technicians regarding the use of open and closed questions. In some cases providing a list of alternatives was helpful, for example under 'what training would you like?' a list alerted farmers to what type of training was available. In other cases it was better to leave the question open and allow producers to come up with their own alternatives, for example 'what are the pro's and cons of working with the Fondo BioClimatico?'

On the basis of observations made in the workshop a final draft of the survey questionnaire was made (see appendix 1).

Training Workshop, May, 2001, San Cristóbal, Chiapas, Mexico

A training workshop was held to build capacity among community technicians to carry out community impact monitoring. 8 technicians from 3 ecological zones attended the workshop which covered the following topics:

- Objectives of social monitoring
- The use of the survey questionnaire
- Interview techniques
- Practice interviews

A key component of this workshop was to explain the objectives of community impact monitoring. The community technicians will be acting as the conduit of information between the farmers and the Fondo BioClimatico and so it is important that they are able to answer any questions that farmers have concerning the monitoring process. Objectives were described as:

1. Facilitating the exchange of technical information in order to:
   - Identify technical problems
   - Identify useful tips
   - Improve technical specifications
   - Design training workshops

2. Participatory analysis of FBC systems and procedures in order to:
   - Give farmers the opportunity to give their opinions directly to the trust fund
   - Improve the design of administrative systems

3. Provision of information on social impacts for carbon purchasers in terms of financial and non financial benefits including knowledge and skills gained, problems encountered and the effect on the organisation of the group and community in order to:
   - Increase carbon purchaser confidence
   - Attracts new purchasers

The monitoring form was explained in detail discussing each question in terms of why it was being asked and what how much detail would be needed to provide information that useful to the project. It was stressed that while technicians should endeavour to ensure that all questions were answered they did not need to read verbatim from the survey form but should explain the questions in their own words so that the interviewee understood what was being asked. A better understanding of why a particular question was being asked help technicians judge what information is necessary and so how much perseverance is required to solicit an answer.

Interview techniques were discussed with respect to the sort of information that is needed. The process of collecting information of relevance to the project and making this information available to project stakeholders will be dependant on how monitoring is conducted as well as the format that is used. It was emphasised that there were no right or wrong answers to any of the questions, although the level of detail in the answer would determine whether the answer would provide useful information or not. Reference was made to the objectives of monitoring and the type of information required:

1. Technical information exchange - requires qualitative information and questions designed to solicit detailed answers
2. Analysis of FBC systems and procedures - requires descriptive information and open questioning which allows farmers to discuss whatever issues are important to them
3. Provision of information for carbon purchasers - requires quantitative information that may be expressed in terms of numbers.

Preliminary results of community impact monitoring in the Fondo BioClimatico

Between May and July 2001 22 farmers from 13 different communities from 3 eco-regions were interviewed. This represents around 5% of farmers registered with the Fondo BioClimatico. Community impact monitoring will now be carried out annually. Highlights of the results from interviews in 2001 are summarised below.

Agroforestry systems

- It became clear from the preliminary results that some community technicians were not differentiating between different types of agroforestry systems, for example 'improved fallow' or 'taungya plantation'. In order to obtain accurate information concerning the management of these systems it is important that community technicians recognise the different systems in use. (This has been made a priority for technical training and a workshop has been held by the FBC for this purpose since monitoring was carried out.)

Establishment and maintenace

- 1/3 of farmers found transportation had been a problem in obtaining seedlings.
- Almost all farmers would have like to have used other species including fruit trees, and certain species of timber trees in their agroforestry systems but either could not get hold of seedling or were not suitable for planting in their region.
- 40% had problems with preparing and planting their plots due to the labour required. The time taken to prepare and plant was very variable due to differences in the soil type and almost half found that actual working time was different from planned time.
- The main problems mentioned in connection with maintaining planted trees were the Hypsipyla borer on mahogany and drought.

Planning

- Many farmers had found planning their work with the Fondo BioClimatico had been helpful in organising their time and deciding where to plant trees. However, a number regarded their plan vivos simply a form registration with the trust fund rather than a management planning tool indicating that further training is required if farmers are to fully realise the benefits of planning activities.

Products and services

- 80% of farmers thought that involvement with the project would help improve their land. The main product obtained from plots registered with the FBC to date was fuelwood (from improved fallow and improved coffee systems), other products included maize and vegetables from intercropping and some medicinal plants.

Skills and experience

- All farmers interviewed felt that they had acquired technical skills through working the project, principally via other farmers in the project but also from Fondo BioClimatico staff. However, all farmers also said that they thought more training should be provided particularly in the control of pests and diseases and pruning of trees.

Carbon payments

- None of the farmers questioned new how much carbon they had sold or would be able to sell in the future, although almost all new how much money they had received. (It will be interesting to see whether the new carbon account books being used by the Fondo BioClimatico will help farmers keep track of carbon sales in the future.)
- 22 of the 23 farmers interviewed said that they would want to sell carbon through the Fondo BioClimatico again.

Organisation and Communication

- The frequency of meeting varied with community but most farmers met at least once a month. Farmers reported that project meeting were useful for planning work but also provided an opportunity for discussing other projects and activities in the community.
- All farmers said that they would like more communication with the Fondo BioClimatico.
- 3 farmers said that the project had caused some problems in their communities due to disagreements over the fencing of land for tree planting.

Appendix 1: Community Impact Monitoring format

Municipality: _____ Community: _____Date: _____

Experiences with your agroforestry system

What system are you using? _____

What area does this cover? _____

What types of tree have you planted?

Type of Tree	**Number planted**

Where did you get the seedlings? _____

How much did the seedlings cost? _____

Did you have problems obtaining seedlings? _____

Do you want to use other species?, Yes ( ) Which? _____

No ( ) Why? _____

Did you have problems when preparing and planting your plot?

No ( )

Yes ( )What? _____

How many days did it take to:

Activity	**No. of days**	**Cost per day**
Clear vegetation		
Mark planting lines		
Make holes		
Plant the trees		

How long did it take to maintain you plot:

Activity	**No. of days**	**Cost per day**

Is this different to the time planned for in your Plan Vivo?

Yes ( ) No ( ) I don't know ( )

Do you work alone or with your family? _____

Do you hire help?_____ how many people?_____ how much did it cost?_____

What products do you currently collect from your plot?

a) Fuelwood _____ b)Timber _____ c) Fruit _____

c) Medicines _____ c) Others _____

In what ways do you think planting trees will improve you plot?

What are the principal problems that affect your trees:

Type of tree	**Problem**	**Observation**

How has making a Plan Vivo helped you plan your work? _____

II.- Skills and experiences

What types of skills have you learnt through the carbon sequestration project?

a) preparing and planting _____
b) maintenance _____
c) organisation _____
d) Others _____

How have you learnt these?

a) From your companions ( )
b) government institutions ( )
c) Training form the FBC ( )
d) Visits to other communities ( )
e) Others _____

Has the training that you have received from the Fondo been sufficient? Si ( ) No ( )

What other training would you like to help you with your work?

a) Planning agroforestry systems
b) Planting and pruning trees
c) Pest and disease control
d) Establishing and maintaining tree nurseries
e) Collecting seeds
f) Other

What form would you like this training?

a) In each community ( )
b) By region ( )
d) In the bi annual meetings ( ) .
e) Other _____

IV.- Carbon payments

Do you know how much carbon you have already sold?

Yes ( ) how much? _____ No ( )

Do you know how much carbon you can sell in future?

Yes ( ) how much? _____ No ( )

How much money have you received so far from carbon sales? _____

Do you think that the date of payment is well timed? Yes ( ) No ( )

If you had not sold your carbon could you still have planted your trees? Yes ( ) No ( )

From your experience so far would you sell carbon through the Fondo again? Yes ( ) No ( )

Of the payments how much have you spent on?

buying seedlings _____

buying fertiliser and pesticides _____

buying tools _____

paying wages _____

buying animals _____

housing _____

food _____

health _____

education _____

entertainment _____

Other _____

Have you received any other financial help for your agroforestry activities?

From where? _____ how much? _____

V.- Organisation y communication

Do you have meetings in your group? Yes ( ) No ( )

How often do you have these meetings?

Where are the meetings held?

In your community ( )

In other communities ( )

Who takes part in meetings

All the group ( ) Half your group ( ) Less than half your group ( )

Only representatives ( ) Farmers from other groups ( )

How are these meetings useful to you? _____

How often would you like to have meeting? _____

Do you think the communication between your group and the Fondo sufficient? Yes ( ) No ( )

How do you think communication with the FBC could be improved? _____

How does working with the FBC affect:

You? _____

Your family? _____

Your community? _____

Does working with the Fondo cause any particular problems in your community

No ( )

Yes ( ) What? _____