

Reports on Themed Workshops

The following themed workshops were held during the period from September 2004 to March 2005:

- Theme 1: Water storage and use for domestic purposes (page 10)
- Theme 2: Water for farming, including irrigation (page 17)
- Theme 3: Land management for improved water harvesting and retention (page 25)
- Theme 4: Institutional and organisational aspects of groundwater management (page 32)

Each workshop was held at three locations, generally the Rosario, Mutuca or Mimoso Seco and Xukurú communities. Cross-community representation was established through involvement of community members in workshop presentations and discussions.

Training workshops were organised during the inception stage and are reported on in Appendix D of the Inception Report.

The workshop on Theme 1 had participation from health agents, while the Theme 2 workshop was believed to be too prescriptive and lacked community participation. Ideas for the Theme 3 workshop were exchanged amongst the team and generally accepted and applied to the remaining two workshops. Local participation through presentation by community members became a main focus. The change in workshop style contributed to an improved feeling amongst community members of being part of the Project and a genuine appreciation of being able to express ideas and opinions. The ideas for the modified workshop approach are presented below in relation to the Theme 3 workshop.

Ideas for next workshop by Jan van Wonderen

Theme 3 – Land Management for Improved Water Harvesting and Retention

Introduction

The theme is only briefly discussed in the Inception report and does require additional thought. The assumption is made in the Inception Report that a reconnaissance survey of soils will have been undertaken as a component of Theme 2. It is important that at least some information on soils is available at the workshop (note that this relates to one of the messages included in the discussion paper by Rae and Pat).

During the advisory group meeting the issue of the use of pesticides was brought up and organic fertilisers as an alternative to chemical fertilisers was brought to the attention by Mr Antonio of Mimoso Seco. It is in my opinion important to include this as an issue in land management/soil-water conservation.

Workshop Ideas

These are thoughts that may be worth considering by the team and purely my perception of a potentially successful workshop. My ideas take into account the important outputs from the project related to empowerment of individuals as well as community groups, and the dissemination of knowledge within and across communities. I feel that these outputs can only be successfully achieved with active participation of the local communication in the workshops. In fact I have prepared a model that allows the local communities to play a major role in conducting the workshop. Although ambitious, it could open the way for the future, which is the empowerment of the local communities to organise and conduct workshops/meetings without external help.

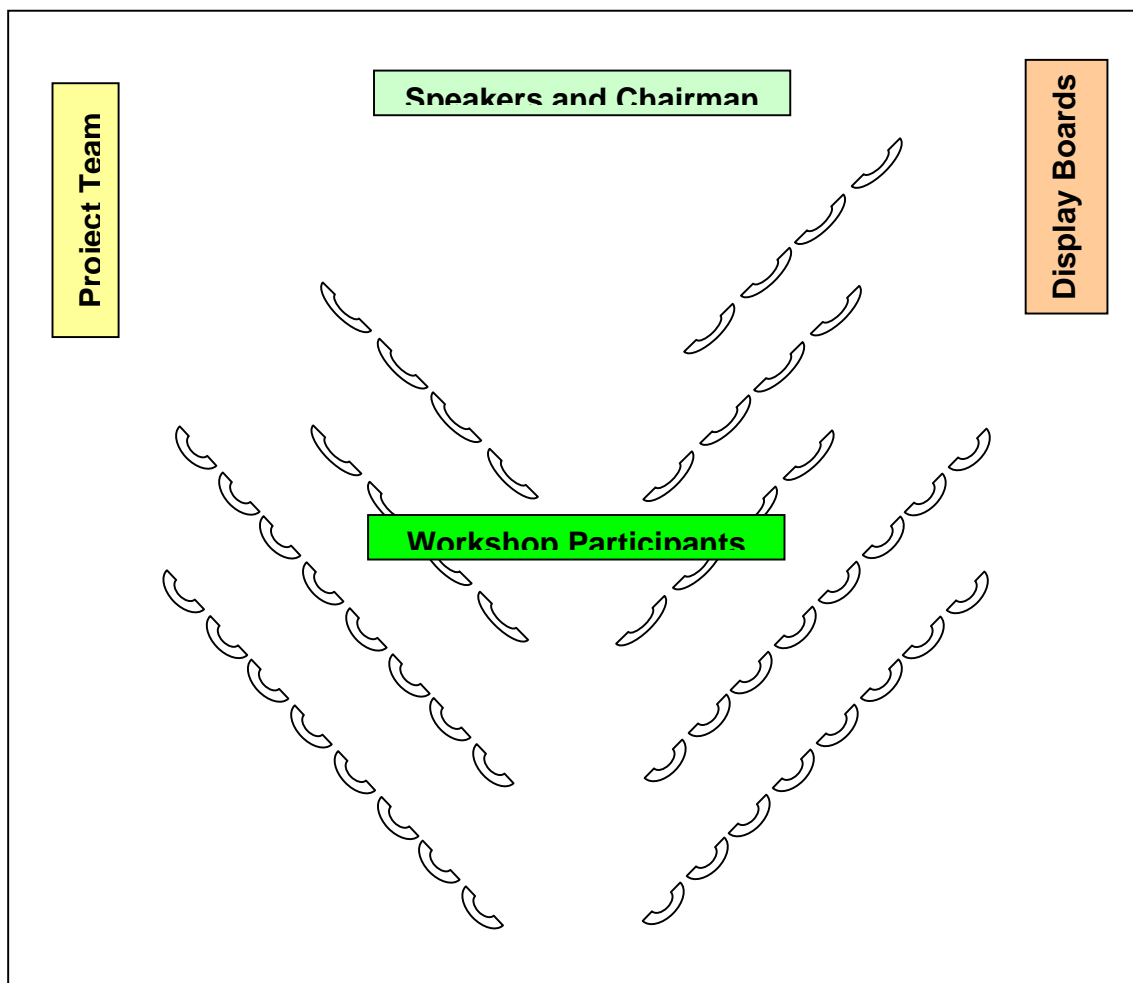
My ideas are as follows:

- Three speakers, which are members of the local communities, are invited to present a topic that is relevant to the theme, while a fourth person acts as chairman (involved with time keeping and keeping the audience in check).
- I have identified two possible speakers already and a third needs to be found and should preferably be a woman. All three speakers would be at both workshops (Rosario and Campo Alegre/Mutuca).
- The first speaker I suggest is Mr Djalma of Rosario who, during our dialogue with him on 24 November, clearly expressed extensive knowledge on water harvesting for rainfed agriculture. His practices clearly exemplify the messages related to Theme 3. He has been involved with rainfed agriculture for 22 years and has apparently introduced soil and land conservation methods that clearly benefit his farming. Details on what his presentation could include are presented in Annex A.1. He showed willingness and pride in being able to disseminate his knowledge and experience at the next workshop.

- The second speaker I would propose is Mr Antonio of Mimoso Seco. He brought the use of organic pesticides in his community to the attention of the Advisory Group on 20 November. At this meeting, Geraldina (health agent from Rosario) presented an example of the dangers inherent in the use (often incorrect use) of chemical pesticides, both in terms of danger of contamination of groundwater that is used for domestic purposes, and the direct health risks through exposure of the chemical pesticides. Mr Antonio referred to help received from CEDAPP on the use and application of organic fertilisers. Detail on the possible contents of his presentation is given in Annex A.2.
- The participation of women in the workshop has so far been disappointing and it would be important to have a woman as third (or even first) speaker. We need to think of a suitable topic for presentation that is related to Theme 3.
- All three speakers will need assistance in the preparation of their presentations and this should be done in a participatory manner. I would suggest that overhead slides are prepared and that the speakers themselves operate the equipment if they feel confident (needs some training). If necessary the speakers could be coached from the sideline by project team members who have helped them with the preparation of the presentation.
- I suggest that Pat, Adélia, Liliana and Samy take a lead in assisting in the preparation of the presentations, and that Manoel and Thaisa are present as observers and, where and when desirable, as advisors (particularly on technical matters).
- I suggest that we prepare material for display on the wall or on display boards. Material could include photographs, printed copies of the overhead slides and possibly material on experience/knowledge of the theme topic from areas elsewhere in Brazil and in other parts of the world. Maybe Samy could coordinate a web search.
- I also believe that we should prepare handouts to all participants. These handouts could summarise and highlight the important points presented by the speakers. These handouts could be used as memory triggers and as something the workshop participants can share with others (family, friends, etc). This may facilitate follow-up discussion about the topics amongst community members.
- I suggest that a question round is included, either after each speaker's presentation, and/or after completion of the three presentations. It is to the project team to take note of the questions and answers. Questions would primarily be addressed at the speakers, but could also be directed to the project team members. Equally the project team members could ask questions to the speakers. If questioning stalls, project team members could assist in triggering further debate/questioning. However, the project team should adopt a sub-ordinate role in the whole proceedings.
- The project team members should observe and gauge the interest of community members in the three topics presented by the speakers. It may assist in getting people with common interests organised into focus groups (sounds very grand, but could lead to continued discussion after the workshop). The project team should encourage the follow-up debate on the topics and related issues and, to some extent, integrate them with the messages associated with the theme.

- My ideas about the layout for the workshop are illustrated in Figure 1.
- It would be worth considering, as Nadia suggested after our meeting in Cambridge in October, to split the workshop participants into subgroup and let them brainstorm on the topics presented by the speakers. Each sub-group would select one topic and grouping could be arranged according to interest expressed in the topics. We could present the sub groups with a limited number of questions. These questions should relate to the way forward. Project team members and the speakers could act as facilitators. The outcome from the sub-group discussions would then be presented to the combined workshop participants and further discussion could follow. The project team should make an effort in the formulation of questions so that they closely relate and contribute to the project outputs.
- It may also be possible to prepare small scale models (consult with Rae) that demonstrate the concepts of rainwater harvesting for agriculture (for example the effectiveness of ridges described in Annex A.1). This will require a bit of thought and ingenuity and should involve Mr Djalma. Also demos related to manufacture of organic pesticides (Annex A.2) could be considered.

Figure 1: Workshop Layout



Annex A.1: Land Management and Soil Conservation in Rainfed Agriculture

Presentation by Mr Djalma of Rosario Community

The topic relates to capturing rainwater (rainwater harvesting) and land management practices to enhance water availability to rainfed crops.

Benefits:

- Enhanced water availability to rainfed crops (more water will be stored in the soil profile thus reducing the risk of crop failure and enhancing the crop yield).
- Reduction in land degradation through soil erosion (gullies) and soil washout (overland loss of soil suspended in overland water flow)
- Soil build up within the cultivated land (could be local) to the extent that crop diversification can be achieved.
- Rainwater runoff will be reduced through capturing it in the soil. This will result in reduced short-term water contributions to streams and thus in reduced risk of flood damage (if conservation is practised on a large scale).
- Enhanced infiltration of rainwater will not only result in enhancement of soil water availability. It may also result in recharge to the underlying rock and a more sustained groundwater flow towards the alluvial deposits in the river valleys.

Methods:

The methods presented here are not exhaustive and some may be combined. Illustrations are provided to illustrate the basic concepts of the methods. The pros and cons of the methods are also briefly highlighted where of relevance.

1. Terracing

This is widely practised in many parts of the world (for example France, Nepal, Indonesia, Africa and Rosario in the Peixe days?). Examples could be shown on the display boards. The concept is illustrated in Figure 2. The advantages are reduced runoff, retention of soil, enhanced soil depth, enhanced infiltration of rainwater and thus enhanced moisture availability. The disadvantage is the major effort required to establish terraces.

2. The establishment of ridges.

The establishment of ridges, preferably build of solid material, or of soils held in place by vegetation (hedges, palma), will result in a reduction in overland flow and soil loss and reduces the risk of gully erosion. The reduction in overland flow will result in enhanced infiltration of rainwater and the build up of soil behind the ridges. Over time the ridges could be heightened so that terracing evolves. The concept is illustrated in Figure 2.

3. Contour ploughing will result in a reduction in overland flow and should preferably be combined with the methods described under 1 and 2. Ploughing is, however, generally only possible after the soil has been wetted by rainfall (the soils become very hard when dry) and significant runoff losses could therefore still occur in the period before ploughing is possible. Breaking up the dry soil

may be possible as an additional measure. The advantages are a reduction in overland flow and enhanced infiltration of rainwater.

4. Diversion of rainfall runoff from small streams onto cultivated land

Rainfall runoff accumulates in small streams and is then flowing downhill towards the rivers that run along the alluvial valleys. Rainfall may be captured by the construction of small cross dams and diverted onto the cultivated land and thus enhance water availability. If combined with method 2, water could be more easily distributed over the cultivated land. The cross dams could easily be built with local rock material and do not have to be large in size. In larger streams they need not block the full width of the stream to enable diversion. The concept of the method is illustrated in Figure 3.

It appears from our discussion with Mr Djalma that he is aware and has used methods 2 to 4. It would be of interest to find out more about his knowledge and visit his land so that he can explain his practices on site. This also provides the opportunity to take photographs that can be used for the display boards at the workshop.

After we asked Mr Djalma if he would be interested to actively participate as a speaker at the workshop he already indicated that he had several ideas. A follow up visit next week would be advisable and this should be followed by provision of assistance in preparing the presentation and related material. We should encourage him and give him the feeling that he is taking the lead in the preparation of the material for his presentation.

Figure 2: Methods of Land Management

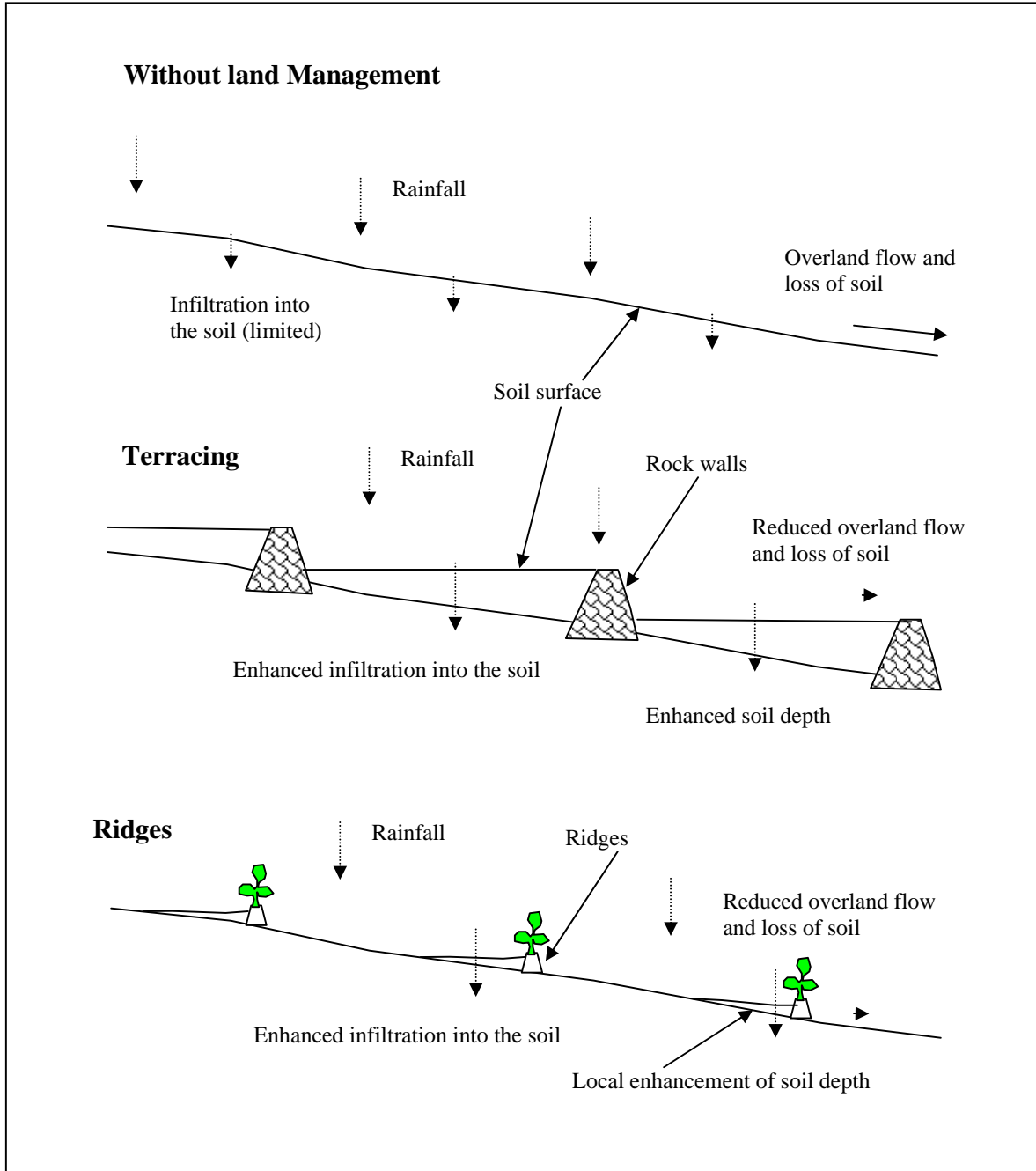
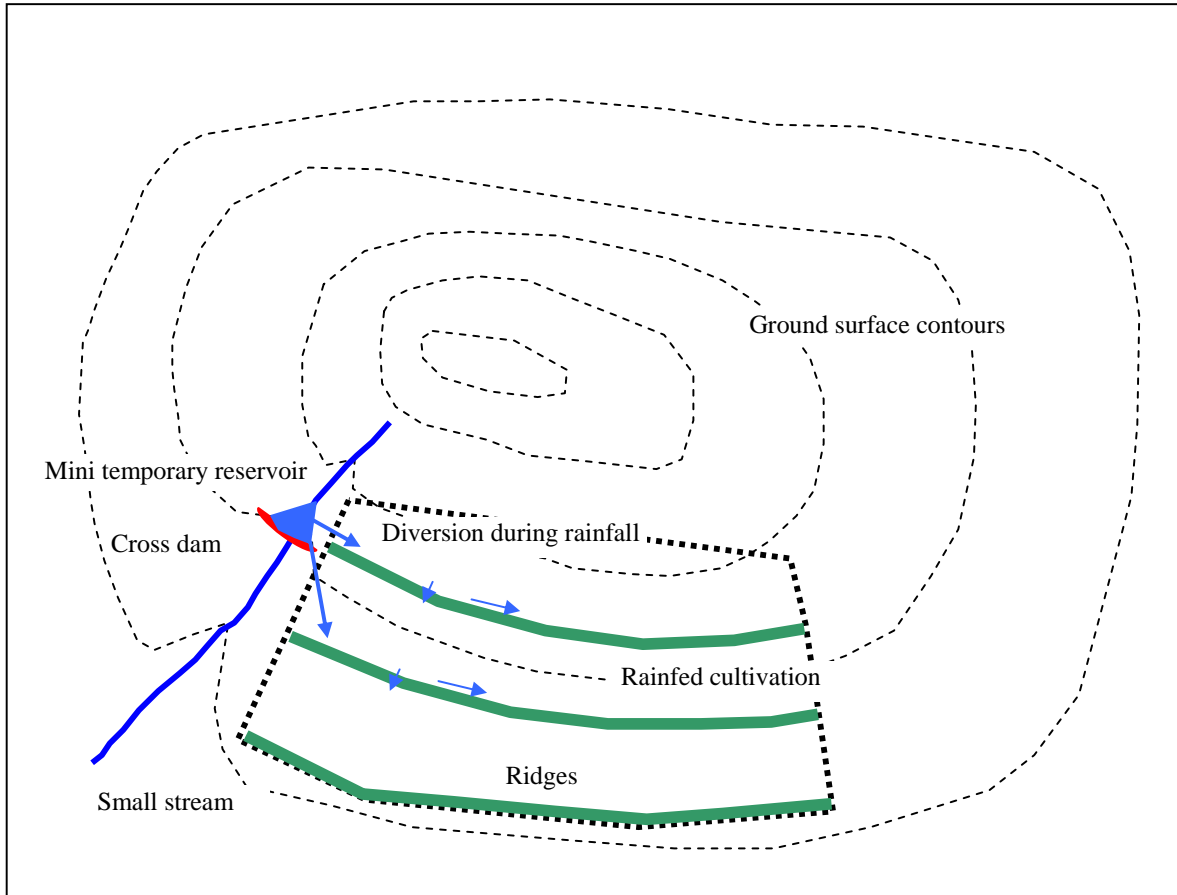


Figure 3: Stream Flow Diversion



Annex A.2: Use of Organic Pesticides

Presentation by Mr Antonio of Mimoso Seco.

I suggest that the presentation revolves around the following questions:

- Why use organic pesticides? (benefits to health?, the environment?)
- How did he learn?
- From whom did he learn (CEDAPP?)
- In what form was the advice?
- How does it work?
- How effective is it, if compared with chemical pesticides?
- Do you manufacture it yourself and how?
- How long have they been using it?
- Can it be used elsewhere and would you recommend it?
- How much does it cost?
- How does cost compare with the cost of chemical pesticides?
- Has there been follow up advice?
- Etc, etc (further questions that arise from the dialogue with Mr Antonio)

Again it would be useful to check the available knowledge from the web (Samy?). It would be useful also to involve CEDAPP in the preparation of the presentation. Plants used in the manufacturing process could be displayed at the workshop. Maybe somebody could show the manufacturing (if it is an easy process).

Report on Workshop Theme I
Water Storage and Use for Domestic Purpose
Adélia Branco & Liliane Souza
September 2004

Prior to the workshop, the Brazilian team members shared with the whole team the programme that had been elaborated for the workshop and Jan (27/08/04) as well as Don (31/08/04) made important suggestions. Jan suggested that we looked at section 8.3 of the Inception Report, which focuses on Theme I and stated some issues we had not included such as, sanitation and the relationship between the municipal government and communities. He also reminded us of the importance of providing examples of world-wide experiences with safe water supply alternatives and technologies. We addressed those issues and, based on Don's message we decided to give a lesser focus on rainwater harvesting and strengthen the focus on groundwater. Those contributions were highly appreciated.

After the inclusion of the changes, the Programme was the following:

9:00 Opening by Abelardo stating the goals of the Project and the objectives of the workshop. After that Suzana and Adélia spoke briefly.

9:10 A brainstorm with community members on indicators (Adélia and, Suzana)

The indicators focussed on:

- Water sources available for domestic use
- Treatment of these sources if any
- Pollution of these sources
- Sanitation problems at community level and how they related to these sources
- Illnesses related to the use of these sources
- Solutions to improve the use of these sources

9:30 Presentation about the situation of water (Suzana and Thaisa)

- Availability of water in the world
- Availability of water in Brazil
- Availability of water in the Semi-Arid

10:00 Groundwater Sources (Abelardo and Manoel)

10:25 Rainwater Harvesting: The One Million Cisterns Programme (Adélia)

10:30 Coffee Break

11:00 Domestic Water, Water Treatment and Health (Liliane)

- Water and the human being

- The functions of water in the body
- The contamination of water
- How to prevent water contamination
- Domestic Water Treatment

11:20 Successful Experiences in dealing with water scarcity and providing an adequate management of the domestic water sources in other countries (Adélia)

11:30 The treatment and Storage of Domestic Water (Manoel)

- Presentation of ways to treat domestic water with moringa plant seeds
- Show the participants how to make an alternative filter and involve community members in the process

12:00 Lunch Break

1:30 Theatre Presentation

14:45 Discussion of the play by health agents from Mutuca, who elaborated and performed the play, in light of the Workshop theme and opinions of the participants about the play

15:15 Draw of moringa plants

15:30 Coffee Break and Closing

Despite the fact that the Programme was the same for all of the communities, the workshops differed to some extent from site to site as there were specific characteristics in each of the communities. Thus, information on each of the workshop sessions will be presented below.

Campo Alegre

Date: 02 September 2004 (Thursday)

Location: School (next to Fátima's house and to Sete Barracas, where the March Workshop was held)

Although the workshop had been scheduled to start at 9:00, the participants were very late and thus the last session of the workshop, i.e. the making of the alternative filter took place only in the afternoon as there was no time left in the morning.

Number of Participants: 47 individuals, the majority of whom were adult men. Although the Xukurú leaders were invited to attend, as they are located very near the area, there were only a few Xukurú. The reason for that might have been the fact that the owner of the place where the workshop was held is a Xukurú who deserted the reserve and is thus probably not well accepted by others Xukurú. However, there was no other place in Campo Alegre for the workshop to be held. We should find alternative ways to involve the Xukurú, as there are important water sources in the area they occupy and they are very interested on the Project. A Xukurú couple that attended the workshop told Liliane that they did not know

which side we were at as there is animosity between the non-indigenous and the indigenous population. In the afternoon session there were around 56 participants to watch the theatre performance.

Brainstorming session on indicators

Sources of water for domestic purpose:

- Water trucks + Cisterns (private and collective)
- Small Dam
- Runoff
- Tube well (salty water) + Desalination plant
- They stated that although there is a desalination plant, it has been broken for a long time thus they have been unable to use the water
- Pão de Açúcar Dam. They stated that the water is not good for drinking; however, it can be used for household tasks such as, doing the laundry, house cleaning, etc.

Water Treatment:

- Use of chlorine
- Boiling
- Straining (with a cloth) – That is the only treatment most people do.

Water Sources and Contamination:

- Polluted Dam due to sanitation problems and animal contamination
- Water trucks – the cleanest water provided by the municipal government
- Contaminated Runoff

Water and Health:

Illnesses related to water use:

- Diarrhoea
- Headaches, High Blood Pressure
- Rats' Illness (caused by lack of adequate sanitation)

Solutions:

- Availability of water from the Pão de Açúcar Dam
- Repair the desalination plant
- Construct Rainwater Harvesting Cisterns
- Repair the small Figo Dam and put a fence around it in order to avoid animal contamination
- Pump water to the community

Additional Comments:

In spite of the fact that it was recognized that the water from Pão de Açucar Dam is not good for drinking, the participants engaged on a heated discussion about the importance of having access to that source, particularly to irrigation. They are very concerned about whether the Xukurú will release the water once the Campo Alegre sources become empty and said that in case the Xukurú deny their access to the Pão de Açucar Dam water, they will face serious problems. As it has been mentioned previously, there were very few

Xukurú in the workshop and none of them had a leadership role in the reserve, thus it is unknown whether the tone of the discussion would be the same in case there were leaders participating. The issue of the Pão de Açúcar Dam is a difficult and serious one to be resolved and I do not think the Project is in the positions of resolving it. Through previous contacts with Xukurú leaders, it has been noticed their interest on the Project, however, given the level on anxiety of the Campo Alegre population in regards to the Xukurú water sources, it may not be a good alternative to have the Xukurú participating to the same workshops as the Campo Alegre residents. Adélia has been discussing that with Liliane and has also talked to Suzana about the fact that an alternative could perhaps be to deliver workshop sessions only to Xukurú participants to begin with and, at a later stage, perhaps have both groups together. Among the activities planned for the 2004-05, there are two workshop sessions for health agents and teachers from the communities and if there are funds available we could probably deliver the same sessions to Xukurú health agents and teachers.

Mutuca

Date: 03 September 2004 (Friday)

Location: Mutuca Social Club

The participants were also late and the workshop did not start on time.

Number of Participants: 38 individuals during the whole day, the majority of whom were men. In Mutuca there was a higher number of women in the morning session than in Campo Alegre. The participants there were different from those in Campo Alegre and in Rosário as those from Mutuca appeared to be better off and have a higher socio-economic status than those from the other communities. Some of the women who participated during the whole day were school teachers. There was a large number of participants for the theatre performance. In total, there were around 280 people, the majority of whom were school children. As some of the health agents who performed were teachers in Mutuca, the schools sent the students to watch the performance and the teachers asked them to copy the material of our morning presentation so that they could work on it during classes.

Brainstorming session on indicators

Sources of Water for Domestic Purpose

- Cisterns (private)
- Deep Well + *Chafariz* (water station) (communitarian)
- Dug Well (communitarian)
- Genipapo Dam (Compesa Source located 8 km. away from the community – the water is pumped to approximately 180 houses in Mutuca)
- Runoff (communitarian)
- Small reservoirs (communitarian)
- Water Trucks (communitarian)

Water Treatment

- Genipapo Dam, the water from Compesa receives treatment; however, it is of poor quality
- Filter
- Use of chlorine
- Boiling
- Straining with a cloth

Water Contamination

All of the sources are contaminated. The deep well, dug well, runoff and small reservoir stand next to each other and, due to lack of adequate sanitation and to animal use, the water is contaminated.

Water and Health

Illnesses:

- Diarrhoea
- Dengue
- Hepatitis
- Intestinal Worms
- Sarna (a type of skin disease due to lack of hygiene that causes skin scratching)
- Cholera

Solutions:

- Improve the treatment of water from the various sources
- Avoid pollution and the contamination of water
- Mobilize the community to pressure the Municipal Government to improve sanitation
- Improve intra-community relationships to unite, get more organized and have the courage to struggle

Additional Comments:

As it has been stated previously, most of the participants were better off and seemed to belong to the community upper class. Only about five of those who were present, seemed to be among the poorest of the poor. It seems that the most appropriate way to reach the most needy is through the health agents and the teachers as they will be the target group of two specific workshops. Two of the teachers who participated had been informed about the importance of the moringa plant and had received some seeds from some University professors who had a project there. They all recognized the importance of getting better organized so that they could fight for their rights.

Rosário

Date: 04 September 2004 (Saturday)

Location: School

As in the other communities, the participants were late and the workshop did not start on time.

Number of Participants: 52 individuals participated during the whole day, most of whom were men and around 70 participants were at the theatre performance in the afternoon, many of whom were children.

At the Workshop opening session, Seu Djalma, a Rosário resident, asked to say a prayer and his gesture was very well accepted.

Brainstorming session on indicators

Sources of Water for Domestic Purpose

- Dam (communitarian)
- Ipaneminha Dam (Compesa)
- Runoff (private and communitarian)
- Wells (private and communitarian)
- Cisterns (private and communitarian)
- Water trucks (communitarian)

Water Treatment

- Straining with a cloth
- Boiling

Water Contamination

- Bathing in communitarian sources
- Cultivate crops on the surroundings of the sources
- No adequate sanitation

Water and Health

Illnesses:

- Diarrhoea
- Intestinal worms
- Dengue
- Stomach problems

Solutions

- Increase rainwater harvesting (construct more cisterns)
- Separate drinking water sources
- Improve community organization

Additional Comments:

Most of the discussion was in relation to the poor quality of the water available for domestic purpose in Rosário and the need for the Association to be stronger and avoid problems such as, the contamination of communitarian sources. The use of pesticides next to the sources seems to be greater in Rosário than in the other communities.

Another major problem of water contamination is the lack of adequate sanitation. Many of the Rosário residents do not treat the water from the Ipanema Dam, which comes through Compesa as they consider it clean, however, that should not be the case since it is of poor quality. Rosário residents are aware of the fact that they need to be organized to benefit from a series of Governmental Programmes and NGOs Programmes but improving community organization seems to be a challenge for all.

Workshop Evaluation by the team members:

Given the fact that these were the first of a series of thematic workshops, the evaluation was very positive. The number of participants was relatively high, nevertheless, there were many more attendants in the afternoon session as there were some restrictions by the advisory group members in regards to having too many people coming to the morning sessions and staying for lunch. The participants who came for the whole day were very late and, as a result, the sessions started later than they had been planned. Although the theme was of great interest to women, women were fewer than the men who came for the whole day. Some of the women who came late said that they had to engage in their daily tasks prior to coming to the workshop. Given those limitations, we believe that the following workshops should take place only in the afternoons. We could start as early as 1:00 and finish by 4:30. Furthermore, this would decrease the expenses as well as labour involved in buying and preparing the food and would make it easier to find adequate places to hold the workshop sessions. A good snack could be served instead of a lunch.

In regards to the methodology used and the messages delivered, the team gave a positive evaluation. The material utilized in the oral exposition by team members was adequate and very illustrative. It was comprised of maps, graphs, charts and photos. Beginning each workshop with a brainstorming session involving all community members was very important and useful as it was a way of stimulating the discussions. The theatre performance and the involvement of the health agents on that was a very positive aspect of the workshop. The play not only served to entertain a population not used to this type of entertainment, but also conveyed the most important messages dealt with in Theme I. Another important aspect of the theatre presentation was its participatory nature as the actresses, who are also community members, were the ones who developed it.



**Report on Workshop Theme II
Water for Farming
Adélia Branco & Liliane Souza
November 2004**

Prior to the workshop, the Brazilian team members shared the Programme with all team members so that everyone could present comments and suggestions. The Programme was sent on 30 October 2004. Pat and Nadia provided comments and suggestions, which were appreciated. Those suggestions were incorporated, to some extent, as there was not much time left to change the work, which had already been done. One of the problems pointed by both Pat and Nadia was the high number of participants. According to Pat's own words, the session would not be a training session, but an awareness raising session. The problem of participation is a complex and serious one to be dealt with and we have already discussed that in advisory group meetings. It is difficult and dangerous to limit the number of participants in those sessions as many might feel excluded and rural people are very sensitive in regards to that. In many occasions rural populations have not been given voice and have not been invited to participate in meetings so, excluding them from participating on events like those workshops, might discourage them and lower their self-esteem. This is particularly the case of the most destitute, i.e. the poorest of the poor – in the case, the landless or *moradores*. As we have discussed that several times, it is not easy to reach those individuals and to raise their interest to participate and we are trying to involve them as much as possible. We think this issue should be discussed further when the whole team meets in November 2004.

Although we appreciated and agreed with Pat's suggestions in regards to the importance of addressing socio-economic issues such as, credit, due to the large content of the workshop, we could not do that but we will be doing that at another time.

In regards to the participation of local people, it was definitely encouraged, especially that of those who have been directly involved with monitoring such as, Seu José and Dona Laudineide in Mutuca and Vivaldo and Rozinildo in Rosário. They gave a great contribution to the workshops.

Agenda

Opening

1. Brainstorming on Themes:

- A) Irrigation Methods, Problems and Solutions
- B) Rainfed Agriculture
- C) Pesticides
- D) Organic Agriculture
- E) Women in Agriculture (Rainfed and Irrigated)

- | |
|---|
| <ul style="list-style-type: none">a) Methods currently usedb) Managementc) Needsd) Suggestions to solve problems |
|---|

2. Water Consumption for Irrigation
(Try to relate to Workshop I)

3. Importance of Irrigation Management and Soil/Water Mapping

Aspects related to:

- A) SOIL
- B) WATER (quantity and quality)
- C) PLANT

II) Objectives:

- a) Economy of Water/Energy
- b) Reduction of Risks of Salinisation
- c) Increase in Crop Production

4. Procedures:

- RAINFED X IRRIGATION

- 1) Selection of Irrigation Methods (type of culture, soil)
- 2) Selection of Crops (water consumption, salt tolerance, soils)
- 3) Management
 - 3.1) irrigation depth (crop requirement, evaporation, precipitation)
 - 3.2) irrigation timing
 - 3.3) leaching
 - 3.4) reduction of evaporation
 - 3.5) application uniformity

5. Practices

- a) How much to irrigate
- b) When to irrigate
- c) How to irrigate
- d) Time to irrigate

6. Organic Agriculture (Airon/CEDAPP)

- a) What is Organic Agriculture?
- b) Difference between Organic Agriculture and Conventional Agriculture
- c) Pesticides and Health: the danger of intoxication
- d) Biofertilizers
- e) Natural Pesticides

- Demonstration on how to make natural pesticides

Lunch Break

7. Measurement devices

- 1) Evaporation
- 2) Precipitation
- 3) Water in Soil (groundwater) – tensiometer
- 4) Water salinity – electrical conductivity meter

8. Rainfed Agriculture

9. Monitoring

- Division of Responsibilities:

- 1) Evaporation Measurement
- 2) Precipitation
- 3) Water salinity

10. Field Visit

Campo Alegre and Mutuca

Date: 04/11/04 (Thursday)

Communities: Campo Alegre and Mutuca

Place: Mutuca Social Club

Time: 09:00h - 15:30h

Number of Participants: 38 individuals (although only 25 signed the list of Participation, there were 38 individuals present. According to the advisory group members, they expected around 30 people to participate. The majority of the participants were from Mutuca, which was probably due to the fact that it was closer to them to attend. Few women participated as in the previous workshops. There was only one woman from Campo Alegre, who was Montanha, an advisory group member. The large number of attendants posed a serious constraint as the food, which had been prepared for lunch was not enough and it was necessary to buy additional food at a local Mutuca Bar. Due to that factor, there was a delay in the afternoon session.

Two members of the advisory group: Seu Biu from Campo Alegre and Antônio from Mutuca welcomed the participants. They talked briefly about the Project, the activities and the importance of community participation. Abelardo spoke briefly and introduced all of the team members. Suzana and Adélia also greeted the participants.

Repentistas Performance

This was done right at the beginning and was only ten to fifteen minutes long. Although it was interesting and CEDAPP staff thought it was a very good idea, there was not much

interaction of the participants. Thus, there was no such a presentation in Rosário, especially because of transportation problems to take the performers.

Brainstorming

Adélia and Suzana facilitated this session. The participation of the attendants was high and most people spoke although some who had never participated in any of the Project's workshops were a bit shy. The ideas were written down on charts so that the record could be maintained.

Irrigation Methods Used and related problems:

- a) *Sulco* - relates to high evaporation rates
- waste of water and energy
- b) *Aspersor* (overhead sprinkler) - waste of water and causes soil erosion
- c) *Micro Aspersor* (micro sprinkler) - very expensive
- d) *Gotejamento* (drip)

Participants stated that each of those systems was appropriate to different crops.

Other Problems:

- Pests
- Salt

According to the participants, they all know how to handle the pests problem and also know what to use to fight the pests. They stated that their knowledge was based on their own experience.

1) Pesticides: although it is highly used, everyone knows about the health related problems caused by its use. Pesticides are dangerous because they contaminate water sources.

2) Salt in the soil was another problem identified, which results largely from *Empoçamento*

The *Micro aspersor* was identified as the most economical irrigation system.

In regards to water quantity, participants said that each type of crop needs a certain amount of water.

Concerning the most appropriate irrigation system, the majority of the participants said that *gotejamento* and *micro aspersor* were very effective because they depended on very little labour

Concerning solutions to problems related to irrigation that might occur, participants mentioned that it would be important to irrigate in the right time, i.e. when the sun is not too hot. It would also be important to cover the crops.

At the end of this session the participants were asked about the reasons for the low participation of women in irrigation. Whereas some men said that they were not interested, the women present said that irrigation was new in Mutuca and that was the reason why they did not participate. They mentioned that women had a much greater participation in rainfed agriculture. They also said that they do tend to cultivate small horticulture plots such as the case of Montanha from Campo Alegre, who sells the products at the Pesqueira market. The Mutuca women said that women worked very hard during the times of the Peixe Industry. They cultivated and harvested tomatoes, however, they seldom worked with pesticides.

The following sessions of the workshop also counted with the participation of the attendants, however, at some points, some of them were characterized by a presentation style instead of a discussion. Overheads were used mostly to show photographs and a few graphs.

The session on soil mapping was very interesting. The participants were given the option to identify the type of soils in their own plots by selecting a green piece of paper, which stood for the type of *argiloso* soils and a yellow one, which stood for *massapê* soil. They also identified the water available in their plots by selecting different types of paper for either good quality or salty water. When they had more than one type of soil and water, they were given the option of selecting more pieces of paper of distinct colour. This exercise will allow the Project team to map the plots according to the own view of the owner and reflects the participatory methodology of the Project.

In order to illustrate the differences in soil type, the Project team members used different types of foam to show that some types of soil allow for a higher penetration of water and thus, the water reaches the plant root more easily. This was a very simple and effective way to illustrate the information provided

The session on organic agriculture was very interesting and the participants were all very keen about it. Airon from CEDAPP gave a brief presentation, which was distributed in print to all participants and demonstrated how to make the organic pesticides. Recipes of different pesticides were also distributed among the participants so that they can do them on their own. Among the important points of this discussion was the message on the health implications of organic agriculture, the price for the products and the growing market for commercialization.

Lunch Break

The afternoon session started later than it had been planned due to the logistical problems related to the amount of food that had been prepared. Before going to the field visit, there was a brief presentation on irrigation equipments, rainfed agriculture and monitoring.

Due to the large distance between the site selected for the visit and the Mutuca village, the trip was a bit tiring but yet quite interesting. Seu José and dona Laudineide who own the

plot not only showed but demonstrated the equipments they used and there were some questions from the participants. At the end, an evaluation of the day was done.

Rosário

Date: 05/11/04 (Friday)

Place: School in Rosário

Time: 9:00h to 15:30h

Number of Participants: Approximately 30 individuals. Although it was expected around 50 participants, there were approximately 30 individuals, but only 25 signed the list of participants as several of them arrived late. As it was the case in previous workshops, only a few women were present. Prior to the beginning of the session, Abelardo, Suzana and Adélia had a quick meeting and evaluated the workshop held in Mutuca in the previous day. They arrived at the conclusion that although the session had gone well, participation should have been more dynamic therefore, they decided to interact more with the participants in Rosário and allow participants more room for discussion. This benefited tremendously the session and was done very spontaneously as the team was well acquainted with all of the participants. In the case of Mutuca, however, there were several individuals who were not present in previous workshops and some of them had not been exposed to the Project before.

Seu Geraldo, a member of the advisory group, was invited to deliver the welcome words, however, he suggested that Geraldina, who is also an advisory group member, did that. After that, Abelardo spoke briefly and Suzana and Adélia also welcomed the participants. Seu Djalma, a Rosário resident present, asked to say a prayer before the start of the work.

Brainstorming

This session was facilitates again by Adélia and Suzana. The ideas were written down on charts so that the record could be maintained.

Irrigation Methods Used and related problems:

- a) *Aspersor* – waist of water
- b) *Micro aspersor* - expensive
- c) *Mangueira*
- d) *Sulco* - waste of water and causes soil erosion
- e) *Gotejamento*

The most appropriate system identified by the participants was *gotejo* because it uses less water and energy as well as less labour. *Micro Aspersão* was also identified as a very useful system; however it is seen as very expensive. Therefore, according to the participants, there should be a communitarian project to buy the system for the whole community to use. This can only be achieved through a high organization via the association.

Other problems:

Salt, which results from *empoçamento*

Pests, identified as a serious problem affecting the crops. The community has relied on the use of pesticides to fight the pests, however, participants are aware of the health problems involved with the use of pesticides as well as of the contamination of water it causes. Another problem related to that was the high costs involved.

Pests are also a problem for those who engage in rainfed agriculture.

When they were asked why women do not participate actively in irrigation, Vivaldo mentioned that it was because the systems being used involved very heavy equipments and that *micro aspersão* would be more appropriate for women to use. He said that there were only two women who presently engaged in irrigation, Dona Ana, who is an elderly woman head of her household and Dona Lúcia, Seu Oscar's wife. Geraldina pointed to the fact that women usually tend to contribute more to rainfed agriculture and to horticulture. That is part of the culture of the Region. However, when there is a need such as the case of women headed households, they do engage in irrigation. She pointed to the example of the wife of Biu, who has recently died. After his death, she has become very actively engaged in irrigation and has learned how to do it.

Based on the discussion of how gender differences relates to irrigation practices, Abelardo and Manoel developed a chart showing the costs of irrigation equipments and how they would benefit the whole community in case women and men both engaged in the work. It was a very interesting way of approaching the problem and of stimulating all family members to do the work.

The following sessions were very dynamic and participation was high. The mapping exercise involved the participants actively. Abelardo explained well the importance of the economy of water and the language was very appropriate for the audience. The social specialists and Airon from CEDAPP stimulated the discussions by asking clarifications and further explanations whenever they thought the messages were not coming across.

The session on organic agriculture followed the same dynamic of the one presented in Mutuca and all of the participants were extremely interested.

Lunch Break

After lunch, there was a brief presentation on irrigation equipments, rainfed agriculture and monitoring. The social specialists pointed to the importance for community members to learn about how to use the equipments and the importance of the monitoring.

The field visit was done in Rozinildo's plot, which is quite close to the school where the workshop session was delivered and it was not only informative, but entertaining as everyone had the opportunity to admire the guava and passion fruit crops. Both Rozinildo and Vivaldo gave a great contribution to the discussions by providing explanations. The field was open and there was no fence around so the interaction of the participants was

high. The CEDAPP staff members present were very impressed with the experience. The evaluation of the day was done in the field.

Lessons Learned:

As it has been previously pointed out, the session in Rosário was richer, the methodology was more appropriate and participation was higher. The brief conversation team members had prior to the session was very important for several methodological adjustments to be made. Furthermore, due to the fact that there were several participants who only engage in rainfed agriculture in Rosário, attention to this theme was greater. It is also very important to state that there were several *moradores* or landless community dwellers from Rosário, which shows that they are being attracted. The low participation of women was a problem but according to Geraldina, who did try hard to involve women, most of them had to go to Pesqueira to take care of bureaucratic issues of Bolsa Escola, a Federal Government Social Programme which benefits financially the families that keep all their children at school with a small monthly fund. That was the only day to do that. Despite the fact that the theme was very technical, the team evaluated the workshop as positive since the messages seem to have been delivered effectively.

**Report on Workshop Theme 3
Land Management for Improved Water Harvesting and Retention
19, 20 and 21 January 2005**

Adélia Branco & Liliane Souza

This report is meant to reflect the view of the SD team members in regards to workshop 3. This is the case because the theme was quite technical and, as a result, SD experts do not feel in a position to evaluate the content presented. Thus, it would be very important for the TE team members to present their own views about the workshop.

Agenda

Opening
Brainstorming on Indicators
Types of Soil
Soil Management and Conservation
Rainfed Agriculture
The Use of Organic Pesticides and Fertilizers and its Relation to Soil Management
Evaluation

It is important to mention that this workshop was distinctly different from the previous ones as it counted with the participation of local community members in the delivery of the material. Seu Djalma, from Rosário, and Seu Antônio, from Mimoso Seco, talked about their experiences on soil management in rainfed agriculture, soil conservation and organic pesticides and fertilizers. Although the Agenda was the same for all of the communities, the sessions differed a bit, especially the one delivered in Rosário as it counted with the participation of Dr. Padilha, a speaker not present in the other areas.

As the locals were the ones mostly responsible for the delivery of the material, the role of the TE and SD team members was that of supporting and asking questions to stimulate the discussion. A display board with photographs of fields illustrating the themes being dealt with was prepared to complement the presentations. Besides that, Seu Djalma took different types of soil sample to show the differences among soils that are managed with mulch, those that are not and those that are managed with organic fertilizers. He also utilized a plastic bottle to show different layers of soil. It is important to mention that the SD team members along with Manoel engaged in the preparation of the material with both Seu Djalma and Seu Antônio during the period of 13 and 14 January. However, the initiative to prepare the illustration material presented was theirs.

Each of the participants received a copy of the material discussed. This material was prepared by the Project team members and CEDAPP staff. As in the previous workshop, CEDAPP staff was involved. This was the case especially with the presentation of organic pesticides and fertilizers delivered by Seu Antônio as the theme was quite new and it was thus important to receive external support.

The active participation of local community members in the delivery of the material was very important, especially given the fact that the theme was so technical in nature. If that had not been the case, it would have been very difficult for the TE team members to translate the technical information into the language spoken by the rural communities. Such a difficulty can be illustrated by the fact that it was hard for the Project team to work on the brainstorming session and to stimulate the participation as well as receive feedback from the participants. During the preparatory meetings for the workshops, we agreed that we should use key-words or key-terms to try to receive feedback from workshop participants otherwise it would be very difficult for them to understand what was needed. The key words or key-terms suggested mainly by Suzana with the approval of the whole group were: **water storage, soil conservation, mulch, rainfed agriculture, terracing, slash-and-burn, direct planting, erosion, organic pesticides, and organic fertilizers.** Although the use of these key terms was helpful, at some occasions one could notice that such a use was, in some ways, inducing the response of the participants. So, the involvement of the locals was an asset to the delivery of the theme messages.

MimosoSeco/Mutuca

Date: 19/01/05

Place: Mimoso Seco School

Communities involved: Mimoso Seco and Mutuca

Participants: 38

Among the participants there was a high number of women, which was not the case in previous workshops delivered in the other communities. The women from Mimoso Seco had a high participation and despite the fact that most of them engage in lace making and that is why they participate to the Community Association, they do not only seem to be very interested about agriculture and soil management, but do have a good understanding about it. They therefore gave a great contribution to the workshop. Most of the participants involved were from Mimoso Seco and although Mutuca is the Project pilot area, and Mutuca residents have been exposed to the Project since the inception phase, they do not seem to be very interested and there were only two Mutuca members at the workshop. The workshop also counted with the participation of a representative of the municipal government of Jataúba, who was invited by the Mimoso Seco Association President. A camera man from UFRPE attended the workshop session and filmed most of it.

After the opening session, there was a music performance by Seu Antônio and three women from the community. They sang songs about water scarcity in the Semi-arid area.

Brainstorming on indicators:

Ways of water storage:

Runoff

Groundwater dam

Artificial dam

Wells

Cisterns

Ways of water storage in the soil:

Mulch

Organic fertilizer

Use X Soil Management:

Organic as well as chemical fertilizers

Resting of the land (intervals between planting)

Change the crops planted on the area

Solutions: Soil Management:

Plant different crops

Rotate Crops

On the Slopes:

Beans and corn are cultivated

Land is poor because there is a lot of rocks

There is a lot of ashes in the land as a result of slash and burn

Soils:

The *argiloso* type of soil retains more water

The sandy type of soil wets faster but dries out quicker as well

After this session, Seu Djalma delivered his presentation and it was very well received. Participation was high and there were many questions addressed to him.



During Seu Antônio's presentation about organic fertilizers, many of the Mimoso Seco community members suggested that the Association should start an experiment on organic agriculture on a small plot so that the community could learn more about it.



The workshop was well evaluated by everyone and a local school teacher mentioned that she was going to use information distributed through the handouts in her classes.

Campo Alegre/Xukurú

Date: 20/01/05

Place: Pão de Açúcar Village School, Xukurú Reserve Area

Communities involved: Campo Alegre and Xukurú

Participants: 56

That was the largest workshop in terms of participation. Both Campo Alegre and Xukurú residents were present and there was some interaction between the two groups, which was positive. However, although there was a high participation, most of those who contributed were community leaders. Women also had a good participation, but they were in smaller numbers than those in Mimoso Seco. This workshop counted with the participation of Xavier, a Xukuru member who has been engaged in organic agriculture and has a great deal of experience.

Brainstorming on indicators:

Ways of water storage:

Groundwater Dam

Wells

Runoff

Cistern

Mulch

Ways of water storage in the soil:

Plough
Tractor
No Mulching
Rainfed Agriculture

Problems:

Erosion
Chemical Pesticides and Fertilizers
Slash and Burn

Solutions:

Terracing
A Greater reliance on organic agriculture

Soils:

Sandy Soils does not hold the water
Argiloso Soil holds the water

Very few people seemed to understand the relationship between water and soil and soil conservation and water. Seu Biu of Campo Alegre provided a very interesting explanation of that and mentioned that in order to manage the soil properly, one would need good quality water as poor quality water would tend to damage the soil. This was a point discussed further and the others participated by asking questions and trying to clarify their doubts.

An important aspect of this workshop session was the participation of Xavier, a Xukurú engaged in the cultivation of organic crops. Xavier presented his experience and even took organic tomatoes to show to the participants. He called the attention to the relationship between the farmers' health and the use of pesticide and said that he started to engage in organic agriculture because he was losing his vision as a result of the use of chemical pesticides. He explained all of the steps of the organic cultivation from the planting to the harvesting phase. He also shared a lot of recipes of organic pesticides and how to use them. He is associated with a project focussed on organic agriculture, which is being implemented by and NGO called CENDAP, based in Recife.

The Xukurú participants complained about the heavy utilization of chemical pesticides by those who cultivate the areas located next to the Pão de Açucar Dam. They said that the dam is contaminated as the rain takes the chemical pesticides to the dam. This is very serious especially because there are several families who rely on the water from the dam for domestic use.

The evaluation was very positive by both Campo Alegre and Xukurú participants.

Rosário

Date: 21/01/05

Place: Rosário School

Communities involved: Rosário, Climério and Mimoso Village

Participants: 47

As it has always been the case in Rosário workshops, the participation of women was very limited. Besides community members from Rosário, Climério and Mimoso Village, we counted with the participation of Dr. Padilha, a mechanical engineer who has implemented a Project, referred to as Zero Basis, with small dams in the Afogados da Ingazeira municipality. Dr. Padilha was invited by Abelardo. There was also the participation of Jonas Brito, a Pesqueira resident who works as a consultant for CEDAPP. Jonas Brito was invited to the workshop by Samy Hotimsky. At the time the workshop was about to start, two men representing the municipal government and Banco do Nordeste arrived and said that the Association had scheduled a meeting for them to discuss the availability of a loan for those willing to cultivate castor beans. This Project did not sound very good for the farmers, and we informed them that although the workshop had nothing to do with this loan, we were going to let them speak for a few minutes about their project so that they would not have to return at another occasion. Most of those present were critical of the loan and few demonstrated interest.

Brainstorming on Indicators

Ways of water storage:

Wells

Dam

Runoff

Cisterns

Ways of water storage in the soil:

Plough

Mulch (used by a few)

Problems:

Heavy reliance on rainwater in rainfed agriculture

Erosion

Use of Chemical pesticides and fertilizers

Slash and Burn

Solutions:

Mulch

Direct Planting

Terracing

Soils:

Sandy Soils does not hold the water

Argiloso Soil holds the water

After that session, Abelardo invited Dr. Padilha to talk about water, the hydrological cycle water scarcity in the semi-arid and his Project. His talk was very interested and the locals had a high participation. Dr. Padilha showed an eight minute video, which featured the construction of the small dams with rocks utilized to store the water. It was a very informative tool and everyone enjoyed the presentation.



Unfortunately, Dr. Padilha had to leave right after his presentation and did not have the opportunity to listen to Seu Djalma's and Seu Antônio's experiences. Furthermore, the fact that Dr. Padilha's performance was of high quality and attracted the interest of the participants, many of them left after he left so, only few people were presented at the time Seu Djalma and Seu Antônio delivered their talk.

The evaluation was positive, however, only about 15 participants stayed until the end of the workshop.

Lessons Learned:

Despite some limitations, this workshop was very successful and the main reason for that was the involvement of the local people in the delivery of the material. Such an involvement was a way of empowering the population by showing that they themselves have a great deal of knowledge that can be used and shared. Another important aspect was the fact that the presenters were from different communities and this gave the opportunity for them to share about the conditions of their own community. Community members

should continue to be involved in the next workshop. The same systematic should be followed in all of the sessions since it seems that having a different speaker at the Rosário session was not beneficial.

REPORT
Workshop on Theme 4 – Institutional and Organizational Aspects of
Groundwater Management
16-17-18 March 2005
Adélia Branco

The Workshop on Theme 4 was the last of a series of four workshops on themes related with groundwater management. As this theme can be considered a wrap up for all of the other themes, this was a very important workshop. It not only placed all of the different themes related to groundwater management in the framework of institutional and organizational aspects but was also a way of linking the activities undertaken during the Year 2 of the Project to those planned for Year 3. Theme 4 focuses, to a large extent, on the mobilization of the population as a basic condition to manage groundwater resources properly. It shows the importance of empowerment as a way of strengthening organization. It also deals with the institutional aspects of groundwater management by focussing on water legislation. The discussions held during the Workshops on Theme 4 can be considered of great importance for the successful completion of the Project's goals and objectives as they emphasized the importance of organization in order to successfully manage groundwater resources and thus, the formation of Water Users Associations or Groups.

The Workshops were held in three different sessions so that all of the communities could participate and counted with the participation of the Project Manager, Jan van Wonderen.

Agenda

The Agenda for the Workshop was the same in the three different sessions, however, as it will be noticed along the report, the discussions differed a bit according to the situation of the distinct communities.

Opening

Jan van Wonderen – Project Manager
Abelardo Montenegro – Local Project Co-ordinator
Adélia Branco – Social Development Specialist

Brainstorming Session on Indicators concerning Organization and Political Mobilization

Current Situation
Benefits
Problems
Solutions

Presentation of the Xukurú Experience regarding Community Organization – Paulo Xukurú

Coffee Break

Presentation on the Bitury Council of Water Users, Belo Jardim Municipality – Mercês, Bitury Council President

Presentation on the Role of Community Organization – CEDAPP Staff Member

Mimoso Seco/Mutuca

Date: 16 March 2005

Place: Mimoso Seco School

Participants: 65 total, 20 from Mutuca and 45 from Mimoso Seco. As in the previous workshop, there was a high number of women. Besides community members, the workshop counted with the participation of representatives of the Municipal Government of Jataúba.

Project Team Members: Jan van Wonderen, Abelardo Montenegro, Suzana Montenegro, Adélia Branco, Thaisa Alcoforado, Manoel Costa, Táfnes, Rivaldo.

Following the welcome remarks delivered by Jan, Abelardo and Adélia, Seu Antônio from Mimoso Seco performed a song about water along with three women from the community.

The Brainstorming session was very productive and there was a great deal of participation, especially from Mimoso Seco community members. Women gave a great contribution and raised many important points. The discussion focussed on the status of organization at the community level and the benefits, problems and solutions in regards to that. The output of the discussion is as follows:

1. Current Situation:

Characteristics of the Associations:

- Strong (Mimoso Seco)
- Members united (Mimoso Seco)
- Kinship ties among members (Mimoso Seco)
- Important for community life (Mimoso Seco)
- Monthly meetings (Mimoso Seco)
- A way of improving community life (Mimoso Seco)
- Weak (Mutuca)
- Individualist members (Mutuca)

2. Benefits:

- Participation in meetings (Mimoso Seco)
- Discussion of projects (Mimoso Seco)
- Seeking improvement (Mimoso Seco)
- Success in receiving projects to the community: cisterns, food donation, seeds, dams (Mimoso Seco)

- seeds, food donation, PRONAF, dams (Mutuca)

3. Problems:

- Some members do not understand the role of the Association (Mimoso Seco and Mutuca)
- Lack of interest on the Association by some members (Mimoso Seco and Mutuca)
- Attendance at meetings, but not really participation
- Participants lack self-confidence to talk at the meetings

4. Solutions:

- Encourage participation
- Bring new issues and ideas to discuss at the meetings
- Work on group dynamics
- Strengthen the Board of Directors

It was very beneficial to have participants from both Mimoso Seco and Mutuca at the Workshop. The organization found in each of them is very distinct and it was very important for community members to exchange ideas about their experiences.

The presentation of the Xukurú experience attracted the attention of all, especially because that was the first time most of the participants had the opportunity to hear about the Xukurú from a Xukurú indian himself. This was particularly the case of Mimoso Seco members as they are located in the Jataúba municipality and thus, have little contact with Pesqueira and the Xukurú. The social/organizational structure of the Xukurú indigenous group is different from that of farming communities and the participants were all interested to hear about it. Paulo Xukurú talked about the Xukurú's reliance on their organization to manage their water resources. They are initiating the cultivation of organic crops to stop the contamination of the water from the Pão de Açúcar Dam from chemical pesticides and to improve the soil conditions as well as the health of the population. He called the attention to the importance of collective decisions by community members and of democratic and decentralised leadership.

The President of the Bitury Water Users Council spoke about their experience and it was the first time the participants were exposed to an experience of a Water Users Organization. She talked about the organizational structure of the Council and the importance of the participation and contribution of all its members. There was a lot of interest on the presentation, particularly because Belo Jardim is a neighbouring municipality. There was a discussion on the Council's experience in regards to the planning of trees on the margins of reservoirs to revitalize them.

The presentation about the role of Associations was also very informative. It was clear and covered all aspects of community organization from the participatory aspects to the legal aspects. There were many questions and the discussion served to clarify the issues

regarding community organization. After the presentation, Airon, the CEDAPP staff member in charge of it, related his talk with the other presentations and reflected about the importance of community organization to the management of water resources.

Finally, there was a brief evaluation and the workshop was evaluated as very positive. Seu Antônio, the Secretary of the Mimoso Seco Association, said that although he had been involved in Association's work for 12 years, he had never been exposed to any training on social organization. The workshop provided him with an opportunity to clarify some issues and he was going to share what he had learned at the next Association meeting.

Campo Alegre/Xukurú

Date: 17 March 2005

Place: Pão de Açúcar Village School

Participants: 56 total, 18 from Campo Alegre and 38 from Xukurú. In contrast with the workshop held in Mimoso Seco, there were very few women.

Project Team Members: Jan van Wonderen, Abelardo Montenegro, Suzana Montenegro, Adélia Branco, Thaisa Alcoforado, Manoel Costa, Táfnes and Rivaldo.

1. Current Situation:

Characteristics of the Association:

- Weak Association lacking a strong solid organization (Campo Alegre)
- Solid Organization, seeking improvement (Xukurú)
- Strong union among members (Xukurú)
- Dispute among members (Campo Alegre)

2. Benefits:

- Several project (Xukurú)
- Improvement in infrastructure (Xukurú)
- Loans for agriculture but problems to pay them back (Campo Alegre)

3. Problems:

- Weak Union (Campo Alegre)
- Lack of Organization (Campo Alegre)
- Energy too expensive (Xukurú)
- Poor infrastructure, still needs improvement (Xukurú)
- Water scarcity (Campo Alegre)
- Limited access to funds (Xukurú and Campo Alegre)
- Lack of commitment by members (Xukurú and Campo Alegre)

- Centralization of plots (Campo Alegre)

4. Solutions:

- Higher community participation
- Be a good Association member
- Pay monthly fee to Association
- Raise consciousness of women for a higher involvement in community organization
- Strengthen Board of Directors

As it was mentioned previously, the dynamic and discussions took different shapes at each of the sessions although the agenda was the same. Given the conflict between Campo Alegre and Xukurú over access to water from the Pão de Açúcar Dam, which existed before, it is always very important for those communities to have an opportunity to discuss issues concerning water. This is particularly the case in the context of this Project as there has been a great contribution in the form of encouragement for community members to sit together and try to find solutions to their problems. Therefore, it was interesting to notice that during the entire workshop, the issue of the Pão de Açúcar Dam was brought up. Given the Xukurú existing experience and interest on water management and the interest of Campo Alegre residents in contributing to that, there was a very productive discussion on how the format of a Water Users Group/Association should take. The insight this workshop session provided on the creation of Water Users Associations/Groups was very valuable to the Project as it was a way of showing that the idea is well accepted by community members and thus, can actually work. The basis for the discussion was the problem they have been facing in regards to the water available from Dam and the conflicts towards access to it. Due to water scarcity in the region, the Dam has been seen as a great and important reservoir although the water is only suitable for agriculture and household use, not for drinking. Access to it has been limited, because the gateway has been broken and also because the Xukurú have been reluctant to release all the water and let it all go, as had happened in the past. There is interest on their part to release the water rationally and in order to do that they need to control it. Given the lack of commitment and interest by official institutions such as COMPESA to fix the gateway, the Project has been successful in approximating Xukurú and Campo Alegre and thus, the Xukurú have agreed that the Campo Alegre installed pipes to transport the water to their plots. The Xukurú have made it clear though that they fully support the Campo Alegre residents, but not the large landowners who engage on large irrigation schemes and want a great amount of water to irrigate their plots. Due to the multiple use of the water from Pão de Açúcar by different users, there was an agreement that the water of the Pão de Açúcar Dam is managed by users found upstream and down the stream and this way it would involve both Xukurú and Campo Alegre. There was not a consensus about whether or not there should be an Association to deal specifically with this issue, or whether there should be a committee within the existing Association structure to deal with it. However, the majority agreed that there should be a committee within the existing Association given the fact that Xukurú residents would be leading the discussions and they have a solid organization. They have learned that if they do not mobilize and try to solve their own problems, the government is

probably not going to do much. This has been experienced through the problem of the broken Dam gateway. Thus, they are willing to get together and work towards the management of their water resources. Abelardo brought to the discussion the important role SECTMA plays in regards to encouraging a participatory water management and Jan pointed to the importance of small-scale local community actions to solving their own problems and managing their own sources. Jan said that this is a very effective measure taken in many different parts of the world. The workshop ran late and there was no time to undertake an evaluation.

Rosário/Mimoso

Date: 18 March 2005

Place: Rosário School

Participants: 38 total, all of them from Rosário. All of the participants were from Rosário and there was no one from Mimoso Village, Fleixeira Velha and Climério as in the last workshop. As in previous workshops in Rosário, there were very few women.

Project Team Members: Jan van Wonderen, Abelardo Montenegro, Suzana Montenegro, Adélia Branco, Thaisa Alcoforado, Manoel Costa, Táfnes and Rivaldo.

1. Current Situation:

- Weak organization
- Distrust among Association members
- Irregularity of members in participating in meetings

2. Benefits:

- Loans for projects, but most were unable to pay back the loan
- Projects in form of grants through FUNTEPE

3. Problems:

- Lack of union among community members
- Members do not contribute
- Lack of interest by the members
- Lack of credibility
- Problems with FUNTEPE Projects

4. Solutions:

- Seek for union

Despite the low number of participants, participation was high and the initial brainstorming discussion was heated. Most participants complained about the problems in regards to the poor community organization and some mentioned that FUNTEPE was to blame for that as it has not done anything to minimize internal community factions and disputes. Since the plots were distributed, FUNTEPE has been in charge of the community organisation; however, instead of encouraging the settlers to participation in decisions and empowering themselves, it has played a very authoritarian role. An example of that is the dairy factory installed at the community by FUNTEPE, which has never worked and has had part of the equipments stolen.

The presentation by Paulo about Xukurú organization was very well accepted and discussed as it showed Rosário dwellers that it is possible for those with limited resources to mobilize and struggle to improve their lives. According to Rosário dwellers, the main difference between Rosário and the Xukurú people is that Rosário dwellers are very individualist and do not think collectively.

The presentation about the Bitury Water Users Council was important as it also showed how people can mobilize in order to manage water resources. It again brought to the discussion the issue of individualism among Rosário community members, including those who irrigate.

The presentation on the role of Social Organization was productive, but not many participated to the discussion, which reflected the lack of interest by Rosário residents on community organization.

Lessons Learned

The workshop was, in general, very productive and the participation of a community member from one of the Project communities as well as a representative of an outsider with experience on a Water Users Group were very important. Providing the opportunity for the Xukurú to share about their experience regarding their social organization was very important. It gave them visibility as they could speak about their own experiences and also helped community members understand about the differences between indigenous people's organization and farmers organization. As a result, farmer communities could reflect about their own ways of organizing. Unfortunately, there was no one from SECTMA to talk about the legislation aspects. As it has been shown, despite the fact that the agenda was common for all of the sessions, there were differences among the sessions as they were led by the situation of each of the communities. The sessions where there were two communities present were more dynamic and more productive than the one where there was only one community such as the case of Rosário. Therefore, it shows that it is very beneficial for communities to become together as this stimulates them to reflect about their own situation.

Although each of the sessions had its own specificities and it would not be correct to judge them, the session on the Pão de Açúcar village, which involved the Campo Alegre and Xukuru residents was the most dynamic of the three. This problems those communities

have had in regards to access to water from the Dam seem to have contributed to their interest in solving them and mobilizing toward that goal. There was also much interest in Mimoso Seco, however, the logistics did not help. There were too many people and thus, not all could benefit from the discussions as they had to remain outside.

The participation of the Project Manager was very valuable as he was able to provide his insights and to stimulate community members in their engagement on the Project.

This workshop was a very important step to the initiation of the activities planned for the final year of the Project and provided the initial tools and the basis for further work.



