Summary Activity Report

Training on Participatory 3 Dimensional Modelling In Dinsho, Bale, Ethiopia

January - February 2009

MELCA Mahiber

Supported by Frankfurt Zoological Society and Farm Africa and SOS Sahel

Million Belay, MELCA Mahiber

March 2009

TABLE OF CONTENTS

INTRODUCTION

The purpose of doing P3DM in Bale was both to mobilize the knowledge of the local community for better natural resource management and to ensure the passage of this knowledge to the next generation. The model will also serve to create an environment where the local people and the local government and other stakeholders negotiate how to conserve the remaining natural resources and rehabilitate/ heal degraded areas. During interrogating the places on the maps, the stakeholders will ask: what were the places before? How were they managed? What is their status now? What do we want them to be in the future? This interrogation can focus on the health of the ecosystem and the community, the governance system, the natural resource management regime and the transfer of knowledge to the next generation.

The Project served as a pilot intervention and concurrently as a training ground for practitioners in the Oromia region. Incorporating geo-accurate community-based mapping techniques in the planning process offers the opportunity to increase accuracy and relevance of local knowledge and stimulate increased sharing of knowledge among insiders and outsiders. Furthermore, the ownership of the management regimes resulting from the participatory plans process rest with the local communities who are responsible for their implementation. The more complete, accurate, visible and relevant (to the users) collated information on resource distribution and use is a better effective decision-making process for the community and their development partners.

The Modelling exercise in Bale was done as a result of the considerable success that the P3DM got in other countries, including Kenya. There mapping was used for planning, conserving wildlife, negotiating boundaries, safeguarding cultural heritage, protecting sacred sites and settling disputes. It was found to be faster processes than professional cartography and hence saves time and cost.

The project involved more than 150 local people, including students, local youth, community members and trainees from Frankfurt Zoological Society, MELCA and the Bale Mountain National Park. FZS, SoS Sahel and MELCA collaborated in sourcing the construction of the model. It has got a huge support from the local community.

As it was the first to happen in Ethiopia, it was challenging to communicate to the people who have never been part of the process as to what the project needs and means. Otherwise, it really went extremely well and the people who have participated and the government really appreciated the effort. It waits for the stakeholders to think and plan how to use the model. There is an ongoing discussion on how to roll out the practices in other areas and where to put the model.

Long term Objectives

- To help use the model for developing a watershed management plan for better natural resource management of the Dinsho Wereda.
- To help the management of the Bale Mountains National Park, including park delineation and conflict resolution.
- To use the model for learning among communities and use the experience for creating a common vision.

Immediate objectives

- To train stakeholders in Participatory 3 Dimensional Modelling
- To Model a 45 km by 35 km or 1, 575 Km2/ 157,500 hectare of land and hand over the model to the local actors to help in planning and education
- To create a sense of vision in the local stakeholders concerning the Bale Mountains

PROJECT IMPLEMENTATION

The project was implemented through the following phases: (i) preparatory (ii) Modelling and (iii) handing over. The present report concerns activities implemented over the period from the 10th of January to the 25th of February 2009.

Phase 1 - Preparatory Phase

This phase lasted three months. Activities undertaken included (i) identification of the area (ii) sourcing spatial data and preparing the base map, (iii) choosing the appropriate mapping scales (vertical and horizontal) (iv) procuring workshop materials, (v) consulting and Mobilizing students and stakeholders, selecting trainees and (vi) organizing the logistics.

Identification of Project Area

The Dinsho Wereda, which houses the head quarter of the Bale Mountain National Park, was selected for Modelling. This was done in consultation with FZS and SoS Sahel and Farm Africa. The scope was decided to be at the Wereda level to help Wereda level planning and implementation. Some areas of other Weredas were also included. This is because the models assume a rectangular shape.

Sourcing of Data and Preparation of the Base Map

Preparation of the base map featuring color-coded contours has been the responsibility of the Consultant. This proved to be a frustrating process because of the misunderstanding among Farm and Sos Sahel and the consultant and also the lack of experience in doing similar activities.

The topographic sheets from which contour digital data were derived were readily available at the Ethiopian Mapping Agency. The terrestrial contour interval is 20-m ranging between 2380 - 4120 m elevation. This process involved scanning of the hardcopy using an A0 scanner, geo-referencing the digital image and digitizing the contour layers. Intervals of 20 meters depth contours were generated starting from 2380 above sea level. We used a horizontal scale of 1:12,500. This has incorporated a large area but has a limitation in terms of locating places on the model as the scale is smaller than1:10000. One elder commented that “you know we could have put a lot of information on the model if it was a bit bigger”.

The model measures 360-cm x 280-cm and has been constructed using three base tables each measuring 280-cm in length and 120-cm in width. The height of the table was 60-cm. Making three tables instead of one has ensured easier access to the working space. The card boards were not perfect in their cutting so we had a problem of perfecting the sides where each joined another.

Procurement of workshop inputs and their on-site delivery

The success of any Participatory 3D Modelling exercise heavily depends on the availability of all necessary inputs at the location where the event will take place. We

could find most of the necessary materials from Merkato and some from Robe town in Bale except the crepe papers and colored pins.

The materials were ordered according to specifications listed in the handbook "*Participatory 3-Dimensional Modelling: Guiding Principles and Applications*" and in consultation with Giacomo Rambaldi, author of the handbook. An updated supply list is available on the Internet at http://www.iapad.org/supplies/items.htm . The pins and crepe papers were sent from Netherlands courtesy of the Technical Centre for Agricultural and Rural Cooperation EU-ACP (CTA) which has been supporting the adoption of the P3DM method in Africa.

Consulting and Mobilizing Students and Stakeholders

Representatives from 24 Kebeles (3 from each) including traditional leaders, elders, and farmers, men and women, and youth attended the mapping exercise and contributed to the collation of the knowledge base which formed the basis for depicting resource distribution and use of the 3D model. In order to properly mobilise the villagers, a member of the staff of MELCA visited each village to meet with the heads of the Kebele and other community members. In each village the team introduced the planned workshops (mapping and planning), the importance of village involvement and selection of representatives and benefits deriving from villagers' participation.

Selection of trainees:

Selection of trainees was done in consultation with FZS and SOS Sahel. MELCA coordinated most of the selection and the mobilization of local community. Students from Dinsho primary and secondary schools and local youth groups have also participated. Local authorities in Dinsho were also informed about 3D Modelling exercise.

Preparation of the draft legend

A draft legend was prepared before the construction of the map. Two elders have participated. The community has added and elaborated the draft legend at a later stage. Prioritizing and getting a consensus among mapmakers on which items are relevant and what should be featured on a map, is the first step in a participatory process aimed at addressing community-based issues related to the territory and its resources. It is worthwhile noting that all trainees acted as co-facilitators and went through all roles necessary for learning good facilitation practice.

Phase II - Community mapping phase

The preparatory phase was followed by the community mapping phase. All activities under this phase were carried out at the Dinsho Secondary school. It involved the following key activities:

Introducing and orienting trainees on facilitation techniques and participatory 3D Modelling

This was a critical process as it is crucial that the trainees understand the concept of participation and what the purpose of the Modelling is. Participants were given introduction on the stages of the model building, and each participant got the P3DM guide book to help them refer when they need much more information.

Assembling the blank model;

Trainees, local youth and some elders participated during the assembling process. It was an exhaustive process but the youth worked at it courageously. It was a pity that we did not get all the base maps at the same time. Otherwise we could have done

the whole model in one go and avoided the pitfalls of boredom and sitting with out work. The youth have mastered easily the techniques of tracing of cutting of the cardboards and building the model. It was fascinating to watch how the whole landscape shapes itself as each card board comes and rests on top of the others. This process took three weeks as we did not get all the three base maps at the same time.

Drafting and fine-tuning the map legend;

A draft legend was made before the start of the model building. The two elders had identified eighteen points, three lines and six polygons. After the assembling of the model is finished, elders came to populate the first model. The first elders have shown what they did to the community members. The community members have added some and modified the others. For example, the first elders had assigned green pins for church and white for Mosque. One person said that both should be white as both are places of peace. This was done so.

Transposing cognitive maps;

The local community has used pins, lines and polygons to populate the models with their knowledge. They have identified sacred sites, water points, rivers, forest lands, agricultural lands, mineral waters

Transferring data from and to the 3D model;

Some information was transferred from the Topo map to the 3d Model. This includes the road from Addis to Goba. A mountain pick called Shawiso was wrongly put on the map. It created a lot of confusion but the community have corrected.

Extracting data using digital photography;

A good photograph was taken of the first model. This was done by tilting the model perpendicularly and taking photos with Nikon 90D camera from a distance of four meter.

Phase III - Handing over of the model

The model was handed over to local government in the presence of local community, representative from the Zone, the deputy administrator, representative from SOS Sahel and Farm Africa and Frankfurt Zoological Society and MELCA. A slide show, which showed the process of building the model, was presented. The local community explained to the participants the points and features on the map. The participants commented how impressed they were by the power of the model to show how knowledgeable the communities are and the challenge that both the government and the community face to conserve their environment.

MAPPING EXERCISE SUMMARY FACT SHEET

Organizing Institutions	MELCA Mahiber
Funding Partners	Frankfurt Zoological society and SOS Sahel and Farm Africa
Venue	Dinsho High School
Dates	January 10 to February 15, 2009
Duration of the actual P3DM exercise	One month
Duration of preparatory work	Three Months
Participants	
▪ Villagers	Dinsho, Sinana, Goba, Agarfa and Adaba Wereda elders
▪ Trainees from various institutions:	FZS, Bale Mountain National Park and MELCA staff
▪ Students and teachers	From Dinsho elementary and high school
▪ Resource persons	Million Belay – P3DM facilitator Zeleke Kebebew and Henok Eyob- GIS advisors.
The Model	
Horizontal scale	1:12,500
Vertical exaggeration	2x
Elevation contour interval	20 meters
Highest elevation on the model	4120 m a.s.l.
Lowest elevation on the model	3280 m a.s.l.
Final size of the model	360 cm x 280 cm
Area covered	1,575 sq. km or 157,500 hectares (or 45 km x 35 km)
Geographical Coverage of the exercise	
Region	Oromia
Zone	Bale and West Arsi Zone
Weredas	Dinsho, Sinana, Goba, Agarfa and Adaba

REFERENCES:

Giacomo Rambaldi and Jasmin Callosa-Tarr. 2002. Participatory 3-Dimensional Modelling: Guiding Principles and Applications. ASEAN Regional Center for Biodiversity Conservation (ARCBC), Los Baños, Philippines. ISBN: 971-8986-47-2.