

Mapping the forest in three dimensions

By Amy MALING, Community Extension Team (CET) Leader of Srepok Wilderness Area
Photos by Tray EM, 3D map trainer, Amy Marling

Corrugated cardboard, plywood, office glue, scissors, a paint brush or two and a bucket. If this sounds to you like materials for a high school art class, then think again. Welcome to the world of Participatory Three Dimensional Modeling (P3DM) – a process which aims to generate active participation in community land use planning by getting stakeholders to physically construct a three dimensional map of their region.



Materials used in the 3D modeling workshop

A picture is worth a thousand words – so a three dimensional physical map model must be worth at least a small booklet!

That's the theory anyway and P3DM has been popularly used for some time in countries like Vietnam, Thailand and the Philippines for increasing public participation in problem analysis and planning and decision making related to resource use and tenure in protected areas/forests.

At a highly successful workshop held in Sen Monorom in June, WWF's Cambodia Programme introduced P3DM as one of its tools to further define the strategic approaches to managing the SWA and the Monduliri Protected Forest (MPF) as a whole.

Experience in other countries has shown how P3DM, combined with Geographic Information System (GIS) technology, can help resolve land use and tenure conflicts.

The Cambodian government is currently strengthening and refining the country's land use laws and classifications through a process called Participatory Land Use Planning (PLUP). It is hoped that introducing P3DM may also assist the PLUP processes in the country.

The objective of WWF's P3DM workshop was to develop a pool of trainers on 3D map modeling and identify methodologies to assist its use in PLUP programs in Cambodia and Monduliri in particular. A related objective was to train community members in the village of Pu Chrey (or Nang Khe Leuk) in the use of P3DM to assist in planning and managing their natural resources.

Over the course of the workshop, participants successfully cut, stuck and painted their way through meters of material to produce the final model of the MPA. The sense of achievement amongst the workshop participants and the camaraderie engendered during the construction process will stand the 'trainers' in good stead as they pass on their knowledge of the process to other community and group.

Course outline

The training officially started on June 7 with the Monduliri Provincial Governor, Nya Reng Chan, gracing the opening program. With him also was the head of the Forestry Cantonment in the province who has been consistent in his support of the SWA project. The workshop attracted a total of 45 people, 11 from various NGOs in the country, 6 from provincial offices in Monduliri province, 4 community representatives, 12 WWF staff, 3 FA-SWAP project counterparts, 8 community rangers and police both from MPF and PPWS.

Creating their masterpiece

Divided into three working groups, first in line were **the tracers**. Those with excellent map knowledge belong to this group headed by the map



Tracing the contours of the region



Contour layers

guru himself, Huy Keavuth. Basic mapping knowledge is important for a more accurate tracing of the rather complex contours of both MPF and PPWS. Thus, ability to read and understand map features is a vital factor. Any mistake from this first assembly line would mean error up to the last line, the gluers. All contours having the same elevation were traced on to corrugated cardboard using the based map previously printed by Keavuth and a carbon paper as tracing material. After tracing, the cardboards were then passed to the cutters.

The cutters were composed of participants with artistic inclinations. Who would be more apt to lead this group than Tray? He's the team's artist in case you do not know. The traced boards were then cut and made ready for assembly. Last in line was the **Gluers** group headed by Kimsear. This was the most exciting part as the participants slowly saw the map materialise as they glued each layer together.

The next part was the painting and the champions for this stage were the community representatives, community rangers and police who know very well the ins and outs of their respective areas. The different rivers and tributaries were identified and marked using a blue yarn. Each river was also labeled with their names written in strips of paper and pinned in their corresponding locations. Next, major and secondary roads were identified and then the different type of vegetation and existing land uses. Different colors of yarns were used to delineate the extent of the boundaries. Certainly, seeing their masterpiece slowly coming into life was a splendid experience for the participants.



Different land uses were painted

A means not an end

As the trainer stressed, assembling the 3-dimensional map is not the end but the start of a more important endeavour. This training would be made more meaningful if the project can be used to address land security and resource management issues by the active involvement of local communities and concerned government offices.

Undeniably, a lot more is yet to be done as far as utilizing the 3D map to its fullest. Foremost is encouraging community members to contribute their local knowledge into 3D map development. A series of community workshops will be conducted to complete the information which they will later use in land use and/or resource management planning.

Impressions from the participants

Community representatives noted that while they may have had difficulty understanding the lecture being translated from English to Khmer, physically making the model themselves greatly assisted them to understand the process. "Now it is easy for us to read the map," they said. "We now clearly understand the real situation inside MPF and PPWS, the forest condition, the different land uses. We can see where the streams are and we can locate our villages. This new technology is important to us," they added.

Thanks all round

Organising a successful workshop is not a matter of luck, it relies on a lot of dedicated people working hard to make it happen. Thanks to the Community Extension Team staff, Tray, Neoun, and Chan for working so very hard to prepare things for this training session. Well done guys. Keep up the good work!

In behalf of the SWAP team, we would like to thank all the WWF people who in one way or another contributed to the success of the workshop. First of all to Huy Keavuth for unselfishly sharing his GIS expertise from day one. Special thanks to Eang Hourt, Sophun and Sam Ang for patiently accompanying me in buying all other materials like map pins, yarns, glues, etc.

Gratitude is also extended to Asnarith for lending his artistic skills in preparing the participants' certificates and to Saveth for ensuring their arrival in Senmonorom. Thanks to Bora for the Certificates of Appreciation; to Kimsear for patiently translating all the training references and handouts into Khmer and acting as translator for the trainer. Thanks also to the Administration staff in Monduliri: Janeth, Sreymom and Nop for ensuring the training venue was as comfortable as possible and MoE provincial counterpart, Somphos, for lending a hand. Last but not the least, a very big thank you to WWF Cambodia management for their invaluable support.

for a living planet