15

Methodological proposal for farmer-scientist land use planning

MAC. Tzinnia Carranza L.

• Background

Since the beginning of the decade, the federal government of Mexico has planned to create an ecological reserve in the communal land of the Chimalapas Forest. This is situated in the heart of Tehuantepec Isthmus, in the state of Oaxaca, Mexico. However, the *campesino* farmers are also aware of the ecological importance of their region. They consider it to be the most important reserve for plant, animal and genetic resources in Meso America.

The campesinos have taken the initiative in deciding what, where, and how to conserve, regenerate and utilise their forest resources. They recognise the potential for improving their quality of life through the appropriate use and sustainable exploitation of natural resources. Thus, the communities have drawn up land use plans in order to create a campesino-managed ecological reserve.

The municipal authorities were appointed as an advisory group responsible for the preparation of a study on the Forests of the People of the South East, A.C. With the help of the ODA, they began working in the region to design a methodology that facilitated local participation by campesino communities in ecological land use planning. The process aimed to make the campesinos directly responsible for managing their own resources.

The method adopted uses and integrates both technical expertise and local experience and knowledge. The process was difficult for there are few similar examples from which to draw experiences.

Initially, the work progressed satisfactorily but became more complicated when the campesinos were required to maintain the technical rigour that land use planning demands. Thus, it was very important to maintain a close relationship between the diverse groups which took part in the study. This was assisted by the use of participatory methods and the input from technical experts. We now have a methodological proposal but there is still a long way to go. We know that it is only through hard work and by learning from our experiences, that it will be possible to improve the approach.

• Conceptual framework

Ecological land use planning is an approach which attempts to assess both the social and natural characteristics of the resource base. It proposes that land use plans should integrate the human and natural features of a landscape in order to achieve balanced development, that is in keeping with the region and conserves and improves it's environment.

To be successful, land use planning must be a self-managing instrument. It must emerge from the community and have full participation and support of men and women. Central to the approach, is an awareness of the local culture.

Within this community approach, it is necessary to include scientists from a range of disciplines. These must have the capacity to work in an interdisciplinary fashion and so better understand the dynamics of the system under study. However, throughout the land use planning process, we must remember that

Source: PLA Notes (1997), Issue 28, pp.68–70, IIED London

natural systems are complex and dynamic. They are shaped by a variety of factors that are continually changing.

• Methodology

A systematic approach was developed to promoting participatory approaches to community assessment. This aimed to help understand and organise the community's knowledge of their relationship with the environment and their own cultural processes. The approach emphasised the importance of local knowledge as the key to developing projects that reflected local perspectives.

The method is outlined in a 'Manual of Ecological Land Use Planning'. It draws on several approaches, including '*Evaluacion Rural Participativa (*ERP or PRA) and Cultural Dialogue, which consider that knowledge is developed, from the outset, by practical experience and that theory evolves through an analysis of practical reality.

The work was developed with an advisory group called the 'planning team'. This consisted of a co-ordinator, scientists from various disciplines and campesinos from the target villages who were involved in the work on a full-time basis. Their function was to co-ordinate the community teams and key informants and train them in the land use planning approach. This focused on developing self-help approaches to understanding the technical aspects of the planning process and gathering and analysing information.

At the community level two groups were formed: an advisory team made up of people who attended meetings, assemblies and workshops and a voluntary support team, which as well as participating in the above activities, helped the scientists in their fieldwork.

The technical work required specialists in diverse disciplines, including botany, soil science, cartography, geology, zoology, hydrology and anthropology. The anthropologists were responsible for studying social, cultural, economic and political factors. Throughout the process, the different groups worked together in teams to attend meetings and workshops and undertake research in the field. Multidisciplinary teams were formed with representatives from each of the main disciplines participating in the study.

The planning stage consisted of four phases, which are described below.

Descriptive phase

The aim at this stage was to understand the social and natural characteristics of the target area. Two workshops were held in each community. The first explained the concept of land use planning to the community. This was done by defining community land use planning in terms of a model of development that the community aspires to. The approach explained how land use planning helps to bring about the community's desired development.

The second workshop used ERP to explore the community's history, priorities and plans for the future. Problems are analysed in all sectors, including environment, health, services and infrastructure, agriculture, livestock and politics. Discussion centres on the causes of these problems, possible solutions and the advantages and disadvantages of each.

Problems and their causes are then prioritised. Seasonal calendars are drawn. Village maps are created and these are annotated to provide information on soil quality, vegetation, animals and natural resources.

Also in this stage, fieldwork was carried out by the scientists to examine the natural resources in more detail. However, they worked with the campesinos and taught them how to use Geographical Positioning Systems (GPS), compasses and altimeters and also how to read the detailed maps and charts they produced at a scale of 1:20 000. They also showed the campesinos how to survey the soil and plant and animal populations and analyse and interpret the data.

At the end of this phase, both the community and the scientists had developed a clear understanding of the status of their natural resource base and possible ways of exploiting it sustainably.

Source: PLA Notes (1997), Issue 28, pp.68–70, IIED London

Diagnostic/analytical phase

During this second phase, the community draws on its understanding of the resource base, gained in the first phase, to develop a campesino model of ecological land use planning. This analyses different land uses and defines the most appropriate forms of utilisation and conservation that are consistent with models of sustainable development.

Using their own land classification, the community defines the socio-political factors that affect the management and conservation of each type of resources. They reflect both on the ecological importance of land use planning and sustainable resource-management. This requires the prioritisation of different resources and the definition of the criteria by which they rank the importance of resources.

Prognosis

In this stage, a model for land use planning over time is constructed which integrates the information gathered by the scientists and campesinos. This is undertaken through a workshop designed to develop a campesino ecological reserve that has the full support of local people. At this stage, the scientists present their information which complements the campesino knowledge and helps build up the land use planning proposal. It is only in this phase that the maps drawn by the scientists and campesinos are brought together. This enables everyone to reflect on the process and analyse potential areas of conflict.

Ecological criteria for the land use planning are developed, as are time-lines to establish the scheduling of the work.

Proposals

Finally, proposals are developed that integrate both the natural and human priorities. This creates the potential for balanced development which is in keeping with the needs of the region and improves and conserves the environment.

At this stage the community designates a committee responsible for the long term implementation of the land use planning. This can include, for example, a calendar of game hunting and fishing seasons, establishing local rules, and prioritising their projects into short, medium and long term goals.

• Challenging inequalities

Through ecological land use planning, communities have the opportunity to manage their resources in a sustainable way which is consistent with their own culture. They decide how best to utilise resources in a way that also conserves them. Land use planning trains campesinos to survey their resource base and manage and implement their own projects using locally available skills and resources.

The approach seeks to adapt an academic methodology into one that can be managed by the community. It gives a voice to all those who have been kept in silence for more than five hundred years. It also offers a practical example of how the utopia of sustainable development can be turned into a reality.

• **M. C. Tzinnia Carranza L.** Co-ordinadora del area de Ordenamiento Ecologico. Maderas del Pueblo del Sureste, A. C. Email: lsc@hp9000a1.uam.mx

Source: PLA Notes (1997), Issue 28, pp.68–70, IIED London