

PROJECT PURPOSE

Examine non-timber forest product (NTFP) commercialization in Mexico & Bolivia, identify factors influencing success, & agree multiple definitions of success.

The decision-support tool (DST) was developed from data collected on 10 NTFPs, in 18 communities, during an interdisciplinary research project using socio-economic surveys at community and household level and quantitative and qualitative analysis of value chains. The contribution of NTFPs to poverty reduction, gender equality, sustainable resource use and equitable access to natural resources, along with the structure and function of 16 different NTFP value chains, was analysed to enable identification of attributes which make a chain successful. Despite a continued interest in NTFP commercialization in rural development, there is a need for information and tools to support decisions taken on NTFP selection, the relative success of different products, and how and where investments should be targeted. Such decisions are taken by:

- ◆ Local communities considering investing in the establishment of a commercial enterprise;
- ◆ Government and NGO development and conservation agencies;
- ◆ private sector institutions involved in trading / marketing forest products.



Interviewing market traders, Mexico

METHODS:

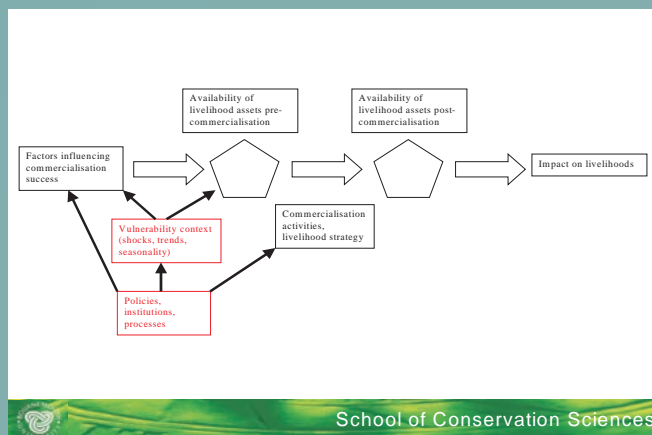
66 factors, critical to overall commercialization success, were identified from community & market research. Simple factor scoring enabled probabilities of success to be predicted, on the basis of a Bayesian Belief Network the project developed.

Why this approach? Making predictions requires a modelling approach that enables:

- ◆ integration of quantitative and qualitative information;
- ◆ prediction of specific outcomes from generalised information;
- ◆ an appropriate type of output for supporting decision-making (e.g. risk analysis).

Why a BBN powered decision-support tool?

- ◆ variables represented as probabilities and therefore enables uncertainty analysis;
- ◆ a common framework is provided for integrating different data types: useful for analysing evidence from different sources, e.g. case studies;
- ◆ BBNs can learn probabilities and model structure from data.



School of Conservation Sciences

INTRODUCING DATA:

The model is based on consideration of five types of capital asset required to support rural livelihoods: Human, Social, Environmental, Physical and Financial assets. The potential impact of NTFP commercialization on livelihoods can be measured by the available assets before and after commercialization.

The project team scored the factors, presented as questions, for each case study, e.g. Factor: 'Degree of horizontal integration' Question: Is there an organisation that links producers or processors to buyers?

The DST user interface prompts factor scoring by providing a small number of possible answers to specific questions;

"Evidence of overharvesting?" [Yes / No]

"Degree of community organisation?" [High / Low]

"Magnitude of returns to labour?" [Low / Med / High]

Where answers are unknown, the value is inferred from the combined case study data. Where answers are uncertain, a likelihood (on a sliding scale of 0-100% probability of being correct) can be entered in association with a particular response.



Selecting mushrooms to collect, Mexico

THE DST, A METHODS MANUAL & OUR FINAL PUBLICATION WILL BE AVAILABLE IN LATE 2005. TO RECEIVE A FREE COPY PLEASE EMAIL Elaine.Marshall@unep-wcmc.org. Miss Elaine Marshall, UNEP-WCMC, Cambridge, Dr Kathrin Schreckenber, Overseas Development Institute, London, Dr Adrian Newton, School of Conservation Biology, University of Bournemouth, U.K.

EVALUATING POTENTIAL POLICY INTERVENTIONS ON LIVELIHOODS:

The current situation is reflected in the left hand column for mushrooms, maguey/mexcal and jipi japa palm (top, middle, bottom rows respectively). 3 different interventions are considered from left to right:

1. (2nd column) provide credit for community level NTFP-based enterprises ;
2. (3rd column) improve rural transport and communication infrastructure ;
3. (4th column) promote better management of the communal natural resource.

Potential intervention impacts can be visualized by considering the availability of the 5 capital assets: Natural, Physical, Social, Human and Financial, represented as spokes on the pentagon. These spoke values represent the availability of individual assets as inferred by the DST from data for the 3 case studies. The area within the pentagon represents the overall availability of the combined assets for engaging in successful NTFP commercialization.

Intervention 1 generally increased financial capital and had little effect on natural capital, with intervention 3 having a pronounced impact on availability of natural capital. In cases where specific assets are severely lacking, targeted policy interventions can have significant impacts, increasing the probability of commercialization success. In the 3 case studies the lack of natural capital assets is striking, and policy interventions aimed at improving management of natural resources will likely have a greater impact than other policy options shown.

TESTING THE MODEL:

Incorporating the NTFP case studies:

One BBN was developed incorporating results for all the case studies combined. Outputs are predicted at household and community level for each of the 5 asset types, and illustrated as a set of likelihoods associated with 5 impact categories, ranging from very negative to very positive. The output for natural capital at community level might look like the bar graph below:

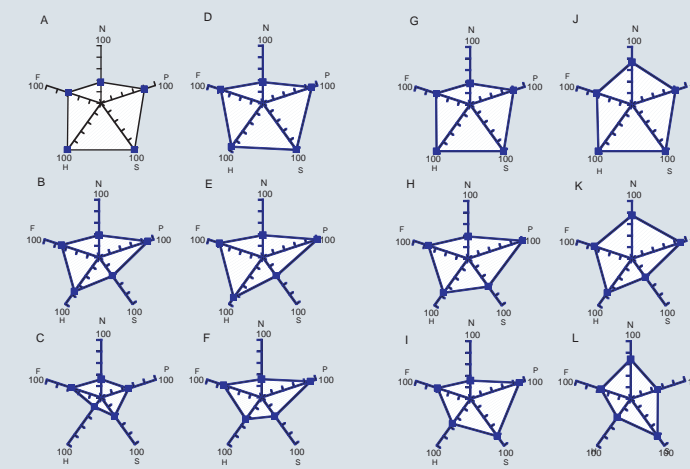


Validating the model:

The output of the DST was compared with an independent data set which was obtained by asking our research partners to assess the impact of commercialization of 'their' NTFP case studies against a suite of household & community-level indicators defined by CIFOR (Global NTFP study). The validation showed that the DST predicted the same kinds of impacts at community and household level, as those indicated by the set of CIFOR scores.

Lessons learnt:

- ◆ Successful NTFP commercialization, defined as increasing all 5 capital assets is difficult to achieve in practice;
- ◆ Positive impacts on 1 asset type, or at 1 scale, may need to be traded against negative impacts on another asset or at a different scale (e.g. financial capital at the expense of natural); DSTs cannot help with "value judgement" decision making.



Radar diagrams illustrating the availability of different assets for commercialization of three case study NTFPs

PROJECT OUTPUTS:

The DST provides:

- ◆ the opportunity to explore potential impacts of different policy options or development interventions on livelihoods;
- ◆ a better understanding of the different combinations of factors determining successful NTFP commercialization;
- ◆ a tool to inform decision-making based on more efficient investment of financial, technical and political support.

The collective research findings and the outputs from the DST provide guidance to help policy makers and practitioners reduce the risk of failure resulting from inappropriate interventions and help NTFP commercialization make a positive and sustainable contribution to the lives of the poor. It is intended that the DST be of interest to those individuals and organisations currently working or wanting to initiate a programme of work supporting community based NTFP commercialization, particularly in Latin America, including:

- ◆ decision-makers in government and non-government organizations;
- ◆ the donor community working at national and regional policy levels;
- ◆ field technical staff from research and development organizations.