

# 17 LINKING FIELD-LEVEL FINDINGS TO POLICY AND DECISION-MAKING IN NEPAL

C. Garforth<sup>1</sup>, G. Holt<sup>1</sup>, A. Subedi<sup>2</sup>, B. Regmi<sup>2</sup>, K. McKemey<sup>3</sup>, D. Gauchan<sup>4</sup>, B. Tripathi<sup>4</sup>, and J. Ellis-Jones<sup>5</sup>

## Abstract

*Decisions by policy makers and implementers affect the uptake of innovative land management technologies and the strategies through which farmers put them into practice. Field research in Nepal has identified drivers to adoption related to awareness, support from external agencies, risk aversion, uncertainty over costs and returns, labour requirements, and effectiveness of farmer groups, while a lack of inter-agency and inter-ministry sharing of information constitute barriers to successful policy formulation and implementation. The 'Theory of reasoned action' is being used alongside qualitative research to identify those barriers that may be most amenable to policy intervention. The research so far has highlighted the need to move from a linear to an iterative and interpretive approach to analysing policy processes. Future steps in the research will use actor-network analysis to explore how information from field-level research and experience can help to inform the policy-making agenda and contribute to effective implementation. Lessons learned in the process of carrying out the research have had an impact on the design, conceptual framework, and methods.*

## Introduction

This chapter reports on ongoing research funded by the Natural Resources Systems Programme (NRSP) of the Department of International Development (UK) (DFID) under the title 'Developing supportive policy environments for improved land management strategies – Nepal'. It recognises that the policy environment creates incentives and disincentives for individuals, households, and other local decision-makers to adopt more sustainable strategies for managing their land resources. It is premised on the twin assumptions that (1) there are land management strategies (LMSs), developed and verified through field level research, that are appropriate for uptake on a wide scale beyond the area where the research was conducted; and (2) there are constraints to their uptake, at both farm and landscape levels, which can be eased through policy decisions in the political and administrative arenas.

---

<sup>1</sup> University of Reading, UK. Address for correspondence: Chris Garforth, School of Agriculture, Policy and Development, University of Reading, PO Box 237, Reading, RG6 6AR, UK (c.j.garforth@reading.ac.uk)

<sup>2</sup> Local Initiatives for Biodiversity Research and Development (LI-BIRD), Nepal

<sup>3</sup> GAMOS Ltd, UK

<sup>4</sup> Nepal Agricultural Research Council (NARC), Nepal

<sup>5</sup> Silsoe Research Institute, UK

Effective management of land resources is an important element in improving the sustainability of local farming systems in the hills of Nepal and enabling them to contribute to poverty alleviation among food-deficit households that have little access to non-farm livelihoods. Many improved land management practices and strategies have been developed and validated at field, community, and landscape levels through on-farm, participatory research. But innovations often do not spread beyond the locality in which they were developed. This is partly a question of access to information about such innovations, pointing to the need for development of agricultural and knowledge information systems (AKIS), which can empower households and communities to pursue improved strategies. But constraints on the process of wider uptake and further adaptation occur in central and local government policy-making frameworks and in the operational policies of development organisations, government departments, non-government organisation (NGOs), donors, and private sector bodies.

Efforts to reverse land degradation processes require appropriate incentives for land users, principally farmers, both individually and collectively to change their behaviour. Government policies and the means through which they are implemented are major instruments to influence the behaviour of land users at local and national levels through incentives and sanctions. Without a clear understanding of how policies are made, who is involved in policy formation, how policies are implemented, and the potential impacts of proposed policies on the improvement of land productivity, effective engagement with policy processes to promote LMSs cannot be achieved.

The aim of the project is to identify constraints to the widespread adoption of farmer-validated LMSs that are amenable to policy intervention and reform, and to find effective ways of getting these constraints onto the agenda of policy-making bodies and processes. The project began formally in March 2001, though implementation in the early stages was delayed through factors largely beyond the control of the project team and NRSP, and is currently due to end in February 2004. The three planned outputs of the project are:

1. information and knowledge from recent and current land management research which can be applied on a wide scale identified;
2. constraints to uptake and adaptation of LMSs, which are amenable to policy intervention, identified and promoted;
3. sustainable processes for informing policy discussions at national level, within government policy-making structures, and within organisations that provide support services to rural land users, identified, validated, and promoted.

## Activities and Findings to Date

### *Output 1: Identifying information and knowledge for wider application*

Identifying relevant information and knowledge was addressed initially through a review of published and grey literature and discussions with research teams working on soil fertility, land management, and scaling-up, including other NRSP projects. This was followed by field validation in 10 village development councils areas (VDCs) in Parbat,

Palpa, Myagdi, Tanahun, and Chitawan Districts (Regmi et al. 2002). The rationale for the field validation was to understand farmers' and other local stakeholders' perceptions of the strategies identified from the literature and in particular on their inherent viability. Field work was carried out at six locations where specific technologies or strategies had been developed or promoted with farmers ('intervention sites'), and then in six further locations, which had broadly matching agroecological conditions to the six intervention sites to form an assessment of the potential for widespread uptake (Regmi et al. 2002, Table 1). The strategies identified included fertility enhancement and maintenance through use of farmyard manure (FYM), composts, and/or chemical fertiliser; use of legumes within crop rotations; and modified sloping agricultural land technology (SALT).

Because of the security situation in the country at the time, a more restricted set of methods was used in this field work than originally intended. The main method used was discussions with focus groups established on the basis of gender and livelihood categories, backed up with transect walks or village tours and discussions with key informants including officers of the District Agricultural Development Office (DADO). In each intervention site, the focus groups identified factors that had facilitated or constrained the uptake of LMSs, and in each non-intervention site the research team assessed the similarity of socioeconomic and agro-ecological parameters with the intervention sites and explored with farmers the reasons for adoption or non-adoption of improved LMSs. These ranged from lack of awareness of alternatives to current practice and strategy, risk aversion, and perceived lack of support from local government and line agencies.

In the intervention sites, factors which have supported uptake include the high level of interest and resource deployment of government and NGOs, accessibility and exposure to new ideas, the involvement of organised and motivated farmers' groups, and the felt need to respond to negative pressures such as falling numbers of livestock and declining landholding size per household. The main constraints were related to concerns over high costs, low or risky returns, and the perceived (by some farmers) high labour demand of the LMSs. Farmers at these sites generally confirmed the technical success of the LMSs in terms of higher production of food crops and fodder, enhanced fertility, and reduced soil loss.

### *Output 2: 'The Theory of Reasoned Action' – identifying constraints to wider uptake*

As work began on output 2, the research team recognised that it was necessary to clarify the distinction between specific land management technologies and practices and land management strategies. The distinction hinges on the goals that land managers are trying to achieve through a particular combination of practices. While there is a lot of (mainly grey) literature on improved practices (as shown in Regmi et al. 2002) there is not much discussion in the literature about the strategic thinking that underlies the selection, adaptation, or rejection of these technologies and practices at household level.

Two clear approaches to the definition of an LMS emerged from discussions among team members. The first was to base the definition and selection of LMS for study in the project on existing Ministry of Agriculture land management policies. For example, the policy of encouraging farmers to incorporate both organic and inorganic fertilisers, which was inspired by the agriculture perspective plan (APP) initiative to encourage integrated plant nutrient management systems, could be used as the basis for defining a LMS. Others could be based on strategies promoted by NGOs, such as planting perennial species on terrace risers in order to increase fodder availability. This approach, however, assumes that the farmer or household adopts a particular practice or set of practices with a particular goal in mind. The second approach is to look at principal land management issues articulated by farmers and the combination of practices they employ at the farm level to address these issues. This second approach to defining the LMS was adopted. Two key land management issues were identified based on discussions with farmers during the field validation for output 1: integrated soil fertility management and soil conservation. The practices and techniques that farmers relate to address these issues link soil, livestock, tree, and crop management systems.

Constraints to the improvement of LMSs by farmers are being explored within the conceptual framework offered by the 'theory of reasoned action' (TORA,) (Ajzer and Fishbein 1980). TORA has been applied extensively in a range of disciplinary fields including public health, nutrition, agriculture, and forestry to explore the cognitive decision-making processes of different social groups. It is acknowledged as one of the most reliable theoretical approaches to understanding the cognitive constructs underpinning individuals' decision-making processes (McKemey and Rehman forthcoming). It hypothesises that the expressed intent to undertake a particular behaviour is the best predictor of actual behaviour; that behavioural intention is dependent on two factors – attitudes and the subjective norm (which is essentially the social pressure felt by the individual to behave or not behave in a particular way); that attitudes depend on a combination of the individual's belief that a particular behaviour will lead to a particular set of outcomes and the values they attribute to those outcomes; and that subjective norms are a function of the individual's normative beliefs regarding how they feel 'important others' would expect them to behave and their motivation to comply with these 'others' (Figure 17.1).

The field work element of the TORA methodology comprises two main steps: qualitative field research based on semi-structured interviews and group discussion to elicit output beliefs and social referents, followed by a sample survey using a formal questionnaire to assign quantitative values to the separate constructs in the model. Correlation analysis shows the strength of relationships between the various constructs. The outputs of the analysis can then be used to plan information, advisory, and policy interventions to address those factors that are most strongly associated with the performance or non-performance of the behaviours – in the present case, LMSs and the specific technologies and practices through which they are expressed. The main

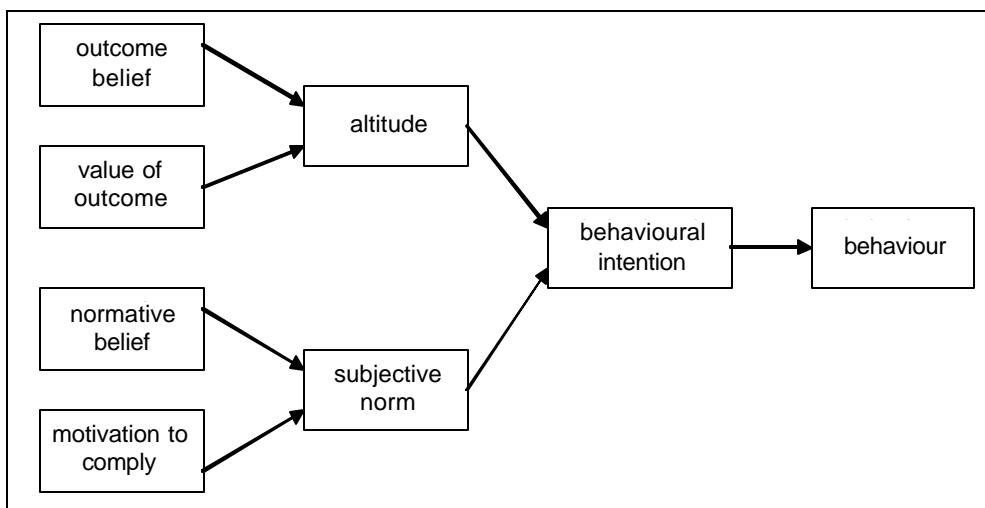


Figure 17.1: Schematic presentation of the 'Theory of Reasoned Action'

purpose of using TORA in this project is not, however, to design information and advisory programmes for farmers, but to identify constraints and motivating influences that might be amenable to policy intervention. The outputs of the analysis will be a key input to a workshop with policy makers in July 2003.

The team carried out the qualitative phase of the field work in November 2002 through interviews and discussions with 30 households in 6 villages, some in areas exposed to extension interventions relating to land management and some in areas not exposed, and in a range of altitudes. The outcome beliefs derived from the interviews and discussions give an insight into the strategic thinking behind the use or non-use of particular techniques. The final TORA questionnaire addressed six behavioural decision areas relating to the two strategic issues identified above. Taken together, these six allow land management to be viewed from an integrated perspective of livestock, forestry, and crop management systems:

- increased dependency on FYM;
- increased dependency on chemical fertilisers;
- cutting rather than pulling legumes when harvesting;
- planting hedgerows (live barriers);
- stall feeding;
- planting fodder trees.

With regard to each decision area, specific related management practices were identified, for example, methods adopted in the production and application of FYM. After piloting the questionnaire, the team completed the second phase of the field work in February 2003, through interviews in 8 locations with a total sample of 240 respondents, stratified to ensure adequate representation of men and women and different livelihood categories. Data entry was completed in March and analysis will be carried out in Nepal during May 2003.

### *Output 3: Exploring the policy-making process*

Sutton (1999) suggests that policy decisions in developing countries are often made on the basis of limited knowledge. Policy making frequently depends on generalisations from poorly interpreted statistics or on policy narratives that at once simplify and set an agenda for action. In the agricultural sector, practical knowledge of how sub-sectors function and respond to change is poor and there is a shortage of biophysical and socioeconomic data. Attempts to improve decision support mechanisms incorporate two objectives: the transformation of available data into useful information, and the management of information in order to maximise knowledge potential (Holt et al. 2002).

The team has carried out an initial review of relevant policies and policy-making processes in Nepal. The former was done through a desk study of policy documents (Subedi et al. 2002) and the latter through key informant interviews followed by a one-day consultation meeting in Kathmandu with policy makers (Holt et al. 2002). These studies suggest it will be appropriate to abandon a linear model of policy making in favour of a more complex interpretive approach that acknowledges negotiation, iteration, and the importance of actor-networks in establishing knowledge that contributes to the making and implementation of policies (Clay and Schaffer 1984; Keeley and Scoones 1999). In this model, networks of actors engage in the joint production of understanding of a problem. Policy-makers and implementers are both actors. Interaction can be a creative 'forward and backward mapping' between problem definitions and assessments of policy solutions that can produce fresh insight into a problem and new directions for policy. From this perspective, formulation and implementation overlap and interact, and implementation becomes communicative action between policy actors and their target groups. Understanding the process by which issues surface in the policy-making agenda and how shared perceptions emerge among policy makers about the nature of problems and solutions will provide a key to identifying points at which information from field-level research can have an influence.

The consultation highlighted gaps in current policy and unintended negative consequences of policies that have been applied beyond the area to which they are most appropriate, for example, implementing community forestry policy in the high mountains, which has negatively affected migratory livestock farming (Holt et al. 2002). More detailed analysis of the policy-making process is continuing and will culminate in a stakeholder workshop planned for July 2003. In particular further analysis is needed to validate the following preliminary conclusions:

- social, political, and economic circumstances in Nepal critically influence and limit the effectiveness of the policy-making process;
- inter-ministry and inter-agency coordination over policy formulation is lacking and information sharing ineffective;
- participation of relevant actors in policy making from the private and non-governmental sectors and the farming community is lacking;
- plans and project documents are developed mainly from external consultancy for external funding requirements with little local input;
- farmers' interests and indigenous knowledge are seldom reflected or represented in policy.

## Learning from the Research Process

The research project was originally conceived within a linear model: identify improved LMSs; identify policy constraints to their wider uptake; and then seek to reduce these constraints through informing the policy-making process. During the research so far, the team has learned lessons that will affect how the remainder of the project is carried out and will lead to a more useful set of eventual findings. These lessons include:

- land management innovations in one village do not necessarily spread to neighbouring communities with apparently similar circumstances, even when the innovation is highly visible: in order to understand this better, we will now look for innovations that have spread autonomously and explore the reasons for this;
- a major cause of non-adoption of innovations seems to be a general lack of confidence among community members: this suggests that community empowerment must be seen as an integral part of any strategy to encourage improved land management. We will incorporate discussions with participating communities about general issues relating to life chances and aspirations into the field work;
- it is too simplistic to separate policy making and policy implementation into two separate activities and processes, involving different sets of actors: our analysis of policy making will be done using an actor-network approach, which explicitly recognises the interaction and mutual learning that goes on between these two interrelated processes;
- the role of change agents (extension workers, adaptive research projects, NGOs, and innovative farmers) is clearly an important factor in the speed of adoption of land management innovations: the policy-making analysis will include exploration of decisions regarding the employment and deployment of public sector and NGO extension staff.

## Next Steps

In the light of the lessons learned so far, the immediate next steps are to:

- complete the analysis of the TORA survey data, in a way that builds capacity among the Nepalese researchers in this form of analysis and interpretation;
- explore from literature and from known instances in the field, contributory factors in the spread of land management innovations beyond the boundaries of extension or project intervention or beyond the source of the innovation if it has derived from local knowledge;
- explore ways to empower community members to make a balanced assessment of the risk involved in adopting land management innovations;
- derive an actor-network matrix for extension mechanisms based on an AKIS model through interviews with key informants active in fieldwork areas;
- delineate further the central and local government policy-making frameworks and identify any changes introduced as a result of recent political instability.

The main link between output 2 and output 3 is the stakeholder workshop planned for July 2003, in which the main participants will be policy makers and senior managers of

organisations with mandates relating to land management. The purpose of that workshop will be to:

- explore the extent to which the constraints to uptake of LMSs identified through the TORA analysis are amenable to policy intervention;
- further elaborate our analysis of the policy-making process, including the extent to which policy makers use available information to assess the likely consequences of their decisions;
- identify ways in which policy makers become aware of alternative actions and the effects of policy on land management decisions at household and landscape levels;
- explore means of increasing the flow of information between the various actors involved in policy making and implementation;
- develop a detailed plan for the final year of the project – for achieving output 3.

The essence of the final year's activities will be to test ways of introducing lessons from local research into the policy-making and implementation discourse and monitoring the effect of this on policy makers' awareness of the extent to which their decisions can strengthen the motivators and minimise the constraints to the uptake of sustainable LMSs. The research process so far, including the opportunity to present the work in progress and receive feedback from peer review, has highlighted the need for flexibility and learning during the implementation of a programme of research: the team has been able to modify their plans for the final stages of the research in ways that are likely to lead to a more useful set of findings.

## References

- Azjen, I.; Fishbein, M. (1980) *Understanding Attitudes and Predicting Social Behaviour*. Englewood Cliffs (USA): Prentice-Hall
- Clay, E. J.; Schaffer, B. (eds.) (1984) *Room for Manoeuvre: An Exploration of Public Policy in Agricultural and Rural Development*. London: Heinemann
- Holt, G.; Subedi, A.; Garforth, C. (2002) *Engaging with the Policy Process in Nepal*, Working Paper 2, NRSP Research Project R 7958 'Developing Supportive Policy Environments for Improved Land Management Strategies – Nepal'. Reading: University of Reading
- Keeley, J.; Scoones, I. (1999) *Understanding Environmental Policy Processes: A Review*. Brighton: Institute of Development Studies
- McKemey, K.; Rehman, T. (forthcoming) *TORA Methodology*, Working Paper 4b, NRSP Research Project R 7958 'Developing Supportive Policy Environments for Improved Land Management Strategies – Nepal'. Reading: University of Reading
- Regmi, B.; Subedi, A.; Tripathi, B.P. (2002) *Field-level Land Management Technologies in Nepal Hill Regions*, Working Paper 3, NRSP Research Project R 7958 'Developing Supportive Policy Environments for Improved Land Management Strategies – Nepal'. Reading: University of Reading
- Subedi, A.; Holt, G.; Garforth, C. (2002) *Review of Land Management Policy in Nepal*, Working Paper 1, NRSP Research Project R 7958, 'Developing Supportive Policy Environments for Improved Land Management Strategies – Nepal'. Reading: University of Reading
- Sutton, R. (1999) *The Policy Process: An Overview*. London: ODI