

**NATURAL RESOURCES SYSTEMS PROGRAMME**  
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## Abbreviations and Acronyms

AIC	Agricultural Inputs Corporation
APP	Agriculture Perspective Plan
AREP	Agricultural Research and Extension Project
CBO	Community based organisation
DADO	District Agricultural Development Office(r)
DFID	Department for International Development
DoA	Department of Agriculture
DLS	Department of Livestock Services
ECAPAPA	Eastern and Central Africa Programme for Agricultural Policy Analysis
FGD	Focus Group Discussion
FUG(s)	Forest user group(s)
FYM	Farmyard manure
GARDP	Gulmi and Arghakhanchi Rural Development Project
GDP	Gross Domestic Product
HARP	Hill Agriculture Research Project
HMGN	His Majesty's Government of Nepal
ICIMOD	International Centre for Mountain Development
INGO	International non-government organisation
IPNMS	Integrated Plant Nutrient Management System
LI-BIRD	Local Initiatives for Biodiversity in Rural Development
LMS	Land Management Strategy
MoAC	Ministry of Agriculture and Cooperatives
MoFSC	Ministry of Forests and Soil Conservation
NARC	Nepal Agricultural Research Council
NEPAP	National Environmental Policy and Action Plan
NGO	Non-government organisation
NLUPP	National Land Use Planning Project
NRSP	Natural Resources Systems Programme
PFM	Participatory Farm Management
SALT	Sloping agricultural land technology
TORA	Theory of Reasoned Action
UNDP	United Nations Development Programme
VDC	Village Development Committee

## 1 Executive Summary

The purpose of the project was to identify ways to accelerate and upscale pilot research experiences to the wider community through developing supportive policy environments for improving land management strategies. The project set out to show whether information and insights from research can be effectively fed into policy making processes in such a way that policy decisions are taken and implemented which are more conducive to the adoption and adaptation of improved land management strategies that have proved successful in local research and promotion initiatives.

Six areas of land management decision at farm level were identified which farmers see as contributing to their two strategic land management goals of soil fertility management and soil conservation. A review of relevant research and successful local promotion activities in the hills of Nepal led to the validation of specific sets of practices or behaviours as suitable for widespread uptake within designated agro-ecological conditions. These related to increased reliance on *mul* (manure) for soil fertility, use of chemical fertilisers, planting fodder trees, planting hedgerows on sloping land, cutting rather than pulling of legumes at or after harvest, and stall feeding of livestock.

A Theory of Reasoned Action (TORA) analysis of farmers' attitudes, intentions and subjective norms with respect to the use of these practices showed that there are cognitive barriers and drivers to land management decisions some of which would be amenable to policy intervention. These drivers and barriers vary across socio-economic (in particular, gender, education and scale of farming) and farming system and topographical categories, and with degree of exposure to extension interventions. Social referents with significant positive influence on farmers' intention to adopt or continue using the practices include neighbours and family, experienced farmers, extension agents and forest user groups. In respect of fertiliser use, farmers generally expressed distrust of those who sell fertilisers. Attitudes, and the beliefs that underlie them, and the views of social referents both have widespread and significant influence on behavioural decisions.

A review of policies which impinge on land management decisions, and of the policy making process, identified possible gaps in current policy pertinent to land management behaviours. These relate to land tenure and land reform, flexibility of extension approaches and programmes, encouragement of private and community nurseries, quality assurance of fertiliser in the shops, and guidelines for handover and management of community forests. Policy makers' awareness of the direct and indirect impact of policies on land management decisions, and of developments in land management practices and strategies derived from research within the country, can be improved through structured interaction between them and research scientists, through briefing papers, and by increasing the amount and quality of information in the mass media on land management issues, including the constraints that farmers and communities face and the findings of recent and current research which shows opportunity for improvement.

The main activities were desk studies of published and grey literature, discussions with key informants (including policy makers, staff of NGOs and government departments working in programmes related to land management, and researchers in Nepal and the UK), meetings among the UK and Nepali members of the research team, and a substantial two stage survey of farmers' behaviour and attitudes, designed and conducted within the conceptual framework of TORA, in a cross-section of topographical and socio-economic contexts in the mid-hills. Findings were reported to and discussed at a stakeholder workshop. Some planned activities in

the final year, designed to test means of influencing policy makers and policy making discourse, were not achieved.

The project's outputs are likely to contribute to two components of NRSP's purpose level OVIs: knowledge derived from the project is being used by research partners in their own research and promotion activities; and, with further promotion of outputs, policy makers may use at least some elements of the knowledge gained, for example in initiating and responding to more interactions with scientists involved in land management research and interventions. Both contributions will benefit both male and female members of households that rely on the NR base in the hills for a substantial part of their livelihoods, and particularly tenants who would benefit from a clearer and more robustly implemented land tenure policy.

## 2 Background

Rural livelihoods in Nepal are still predominantly based on natural resources. Agriculture accounted for 41% of GDP in 1999 (WB 2000). The UN (1999) reports that "an overwhelming majority" of the population still rely on subsistence farming to make a living. The World Bank (1997) estimated 50% of the population nationally to be below the poverty line in the mid-1990s. Income inequality has increased over the last decade (UN op.cit.). Poverty is differentiated along ethnic, gender and regional lines. Of districts regarded as being in food deficit, 90% are in the hills, where ecosystems are regarded as "fragile" (DFID 2004).

By the end of the 1990s, a lot of research had been done in hillside environments in Nepal to address the issue of how farmers can improve the management of their land resources. This included studies based on long term trials relating to soil erosion and soil nutrient management, as well as research on existing local knowledge and its distribution in both spatial and socio-economic terms. Concern had been expressed by research managers and development agencies that while the findings from these studies were having some impact among the farmers directly involved in the research or farming in the vicinity of the organizations carrying it out, wider uptake seemed to be limited.

Research funded by DFID in the mid-hills had identified socio-economic factors amenable to policy intervention that affect household decisions on land management in respect of agroforestry (Garforth et al. 1999: R6881); was developing tools for assessing soil fertility which combine biophysical and socio-economic parameters (R7536); had identified locally viable options for maintaining soil nutrient status (R6757 – Pilbeam et al. 1999) and drawn out policy implications relating to credit, extension, information campaigns and input supply (Mathema et al. 1999); and was validating management strategies for community managed forests (R6918). Participatory action research had identified agroforestry practices which help control erosion and maintain fertility (Neupane 2000). Decision tools had been developed which facilitate location specific choices of fertility-enhancing intercrops (Keatinge et al. 1999) and subsequent studies (R7412) identified further viable soil and land management techniques. There are therefore research-based and farmer-developed technologies and strategies for improved land management which have been validated locally. The constraint explored by this project was the perceived lack of impact of this research on national policy towards agriculture and land management. Demand for the research was identified by NRSP management (NRSP 2000) echoing the conclusion of UNDP (2000) that in addressing poverty, HMGN had paid little attention to how "national policies can affect implementation of local projects, or how lessons from small-scale projects can help craft better national policies". DFID-Nepal recognised the importance of identifying entry points for dialogue with government, and that macro to micro linkages are essential for successful policy making and

implementation (Seeley 2000).

The project built on previous research in two ways. First, it drew on recent research on policy making processes relating to natural resource management (e.g. Berkhout and Scoones 1999; Sutton 1999) which identified the need to build “development narratives” and provide clear, credible information to policy makers. Second, recent land management research in Nepal provided specific improved practices which became the building blocks in the project’s exploration of farmers’ strategic land management goals and the constraints and incentives they experienced in trying to meet them.

### **3 Project Purpose**

The purpose of the project was to identify ways to accelerate and upscale pilot research experiences to the wider community through developing supportive policy environments for improving land management strategies. The project set out to show whether information and insights from research can be effectively fed into policy making processes in such a way that policy decisions are taken and implemented which are more conducive to adoption and adaptation of improved land management strategies.

## **4 Outputs**

### **4.1 Overview of anticipated outputs**

The project addressed three outputs. The first was to identify information and knowledge from recent and current land management research which could be applied on a wide scale. The second was to identify and promote constraints to uptake and adaptation of land resource management strategies which are amenable to policy intervention. Finally, the project was expected to identify, validate and promote sustainable processes for informing policy discussions at national level, within government policy making structures and organisations that provide support services to rural land users. The first two outputs were achieved (Annex A: pp. A-13ff.) while the third was not completely achieved.

### **4.2 Information and knowledge for wide scale uptake**

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 a land management strategy 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 and Cooperatives (MoAC) 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 the 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: integrated soil fertility management and soil conservation. The practices and techniques which farmers relate to the addressing of these issues link soil, livestock, tree and crop management systems. The specific practices and technologies can be seen as tactical means to achieve these two strategic aims.

Land management practices and the strategic aims for which farmers use them were identified through a review of published and grey literature followed by discussions with researchers and development professionals (Annex D). Six “land management decision areas” were identified: increasing dependence on *mul* (farmyard manure); increasing dependence on chemical fertilizer; planting of hedgerows on sloping land (a modified version of SALT); planting of fodder trees; stall feeding of livestock; and cutting legumes at harvest rather than pulling up the plants. Suitability for widespread uptake was assessed through focus group discussions in six sites where the practices had been researched and/or actively promoted, and in six other sites with matching agro-ecological and socio-economic characteristics (Annex A: A-14 Table 4). In the intervention sites, factors which have supported uptake include the high level of interest and resource deployment of government and non-government organisations, 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 LMS. Farmers at these sites generally confirmed the technical success of the LMS in terms of higher production of food crops and fodder, enhanced fertility and reduced soil loss (Annex D: 21f.). Table 1 below summarises the main constraints and reasons for low levels of adoption of the practices at the six “non-intervention” sites (summarised from Annex A: Table 5). The most common, mentioned in all six sites, is the lack of support from district level agencies and NGOs, which presumably also contributes to one of the next most frequent reasons – lack of awareness or knowledge of improved practices.

**Table 1 Reasons for non-adoption and existing problems of the “potential uptake” sites**

<b>Reasons behind low adoption of LMS among farmers at six sites</b>	<b>Number of sites</b>
Weak or no support from development organizations (government, NGO)	6
Lack of awareness, knowledge or information flow	3
Scarce natural resources for implementing improved land management	3
Lack of suitable varieties	3
Shortage of (irrigated / khet) land	3
Effects of Maoist movement / activity	2
Site is remote / inaccessible	2
Difficult or steep terrain	2
Disadvantaged community (ethnicity, low education)	2
Lack of motivation	2
Lack of labour / time	2
Risk of failure or reduced yields	2
Existing practices and cropping patterns	2
Poor previous experience of development organisations	1

### 4.3 Constraints to uptake and adaptation

Analysis of constraints and motivations for adoption of improved land management was based on the Theory of Reasoned Action (TORA: Azjen and Fishbein 1980; Annex A: A-9ff.; Annex E). The first stage of the TORA fieldwork identified a large number of outcome beliefs in respect of the six areas of land management decision. Statistical analysis (Annex A: A-11) reduced this to between seven and thirteen per area. Table 2 summarises the salient outcome beliefs and referents (i.e. those whose views farmers respect) for each of the six areas of land management decision. The full list of outcome beliefs and referents is in Annex F.

**Table 2 Salient outcome beliefs and referents from stage one of the TORA fieldwork**

<b>LM practice</b>	<b>Salient outcome beliefs</b>	<b>Salient referents</b>
<b>Increased</b>	Forest is too far to bring leaf litter	Experienced farmers
<b>Stall feeding of</b>	Animals will be healthier	Research agencies
<b>Increased</b>	Will lead to increased weed problems	Experienced farmers
<b>Cutting rather</b>	Will not loosen the soil	Family
<b>Planting</b>	Roots will take up some of the field	Family
<b>Planting fodder</b>	Will fertilise the soil via their leaf litter	Family



	Will provide fodder for livestock	
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In the second stage, a questionnaire incorporating the salient outcome beliefs and referents was developed and applied to a stratified random sample of 254 male and female farm decision makers in six locations (Annex A: A-11f.). This was designed to generate measures of the six main TORA variables: current behaviour in respect of each area of decision, measured on a scale representing a number of separate practices relating to the behaviour; intention to continue or change behaviour during the next one year; outcome attitude for each of the outcome beliefs identified during the initial phase of the research, measured as (outcome belief) x (value of outcome); overall attitude towards each behaviour, measured as the sum of all outcome attitudes; referent subjective norm for each salient social referent, measured as (normative belief about the social referent) x (motivation to comply with that referent); and overall subjective norm, measured as the sum of all referent subjective norms. Correlation of intention with the other variables indicates those cognitive factors which are either driving or constraining the decision (Garforth, Rehman et al. 2004). The respondents were broadly representative of the farming population of the mid-hills, though poorer households are slightly under-represented. There were more women (51.2%) than men, nearly half were over 40 years (48.0%) and 10.7% were under 25 years of age, and those identified as of “low” economic status on the basis of food sufficiency criteria comprised 17.5% compared to 48.0% of “medium” and 34.5% of “high” status. The survey generated 252 usable responses.

The locations where fieldwork for stages 1 and 2 of the TORA data collection was done are shown in Annex A Tables 1 and 2 respectively.

Table 3 shows the current level of use of each of the six practices.

**Table 3 Indicators of current levels of practice in relation to the six behaviours for the whole sample (n=252)**

Behaviour	Current level (mean; scale)	Comments
Use of <i>mul</i> for soil fertility	-3.15; -10 to +10	of ten <i>mul</i> practices, only one (adding leaf litter) is done by more than 50%
Use of chemical fertiliser for soil fertility	-0.19; -4 to +4	81% use chemical fertilizers – 77% combined with <i>mul</i>
Planting hedgerows	-3.76; -5 to +5	14% have planted hedgerows
Cutting instead of pulling legumes at harvest	+2.25; -6 to +6	58% cut rather than pull legumes (90% with extension, 29% without)
Stall feeding livestock	-0.2; -3 to +3	70% stall feed all year
Planting fodder trees	-0.59; -4 to +4	87% planted fodder trees (16% purchased seedlings)

Table 4 shows the principal drivers or motivators identified for the sample as a whole. These are the outcome attitudes which correlate significantly with behavioural intention. They show clearly that improvements to soil and prevention of soil loss are important drivers, alongside other more immediate benefits. This is shown schematically in Figure 1. The arrows in Figure 1 are based on significant correlations between behavioural intention and specific sets of outcome beliefs and attitudes. For example, intentions towards the planting of hedgerows on sloping land are informed by farmers’ attitudes that it will help to prevent soil loss, while at the same time increasing the availability of fodder for their livestock (Annex F: Annex 5, Table 17). The cutting of legumes is encouraged by the belief that it will contribute both to soil

fertility and soil conservation, both of which are important outcomes for those farmers who adopt the practice.

**Table 4 Cognitive Drivers**

<b>Behavioural decision area</b>	<b>Drivers (whole sample)</b>
Increased reliance on mulch for soil fertility	mulch will be good for crops
Increased reliance on chemical fertiliser for	fertiliser will increase crop production
Planting hedgerows	hedgerows will prevent soil loss
Cutting instead of mulling leucaena at harvest	cleaner swine production
Stall feeding livestock	animals get better care and protection
Planting cover crops	will increase soil fertility

The significance of the various drivers differs considerably with topography and with exposure to extension, the two factors on which the sample was stratified, and with socio-economic characteristics of gender, age, education, household size, distance to market, economic status, and affiliation to groups and organisations. This is even more the case with barriers to a change in behaviour. The only barrier which appears to operate at the level of the sample as a whole is the belief that chemical fertiliser will make soil hard and difficult to plough or dig. Table 5 shows some of the main barriers for specific categories of respondent (Annex A, Table 10 and pp. 22f.).

**Table 5 Cognitive barriers to behaviours for specific subsets of farmers**

		to farmer group
Increase reliance on chemical fertiliser for soil fertility	soil will become hard and difficult to plough or dig	whole sample
	increase in weeds and/or leafy growth	high hills exposed to extension
	soil will become acidic or damaged	river basin not exposed to extension
	unreliable supply of fertiliser	high hills not exposed to extension
Planting hedgerows	roots will make ploughing difficult  no seedlings available	no experience of planting hedgerows; distant from market; not exposed to extension  no experience of planting hedgerows; distant from market; not exposed to extension
Cutting instead of pulling legumes at harvest	(none)	
Stall feeding livestock	not enough fodder to feed animals  dependent on forest for extra fodder	women; high hills  mid-hills not exposed to extension; farmers with some Kharbari land; smaller holdings
Planting fodder trees	difficult to find seedlings  lack of village co-operation  shade is a problem for crops	women; far from market; not members of an organisation; mid-hills exposed to extension  24-40 years old; most educated  no formal education; not members of an organisation

Notes: (1) This list is indicative rather than exhaustive. A full analysis of barriers and drivers for different categories of farmer is given in the detailed report on the survey (McKemey et al. 2003).

The main social referents identified by respondents fall into two broad categories: local and external to the village. The latter include extension agencies in the government and non-government sectors as well as commercial input suppliers such as shopkeepers. The former include CBOs such as forest user groups and the community as a whole, as well as family members, neighbours and other farmers. Table 6 shows the influential social referents for each of the six behaviours, in decreasing order of influence, for the sample as a whole. Again, there are significant differences between categories of respondent.

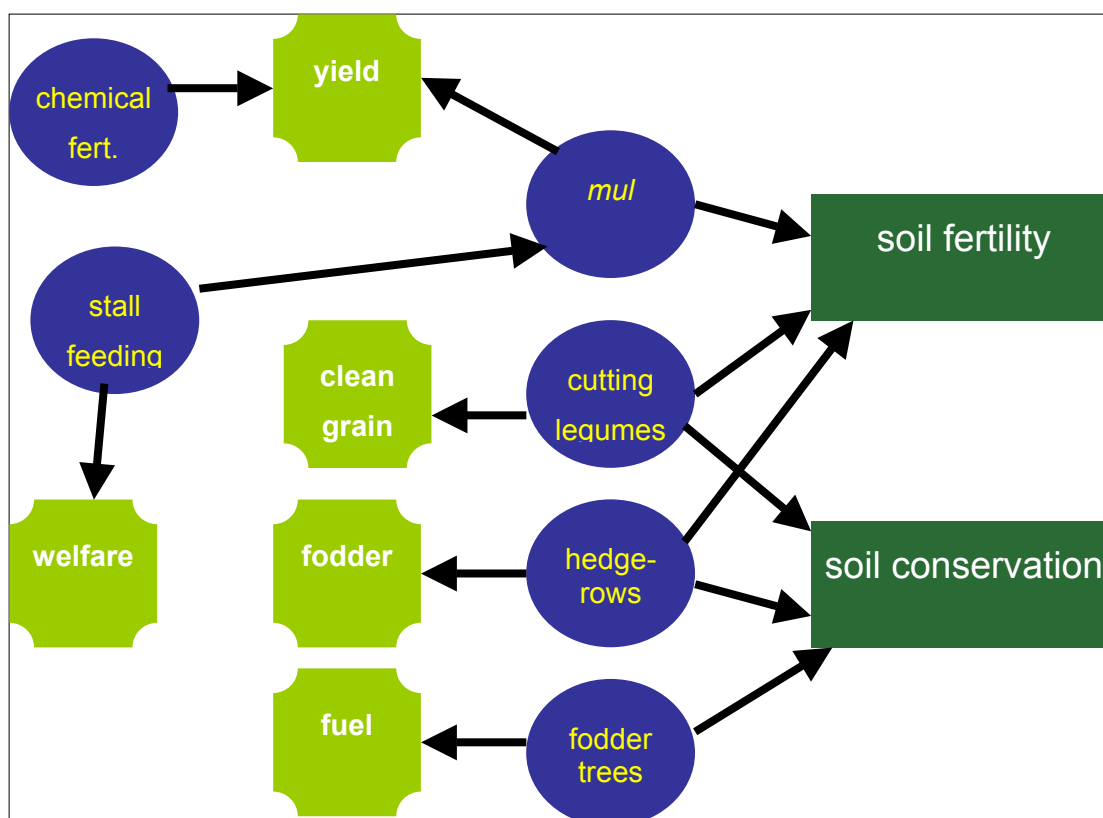
**Table 6 Influential social referents**

<b>Behavioural decision area</b>	<b>Social referents with significant correlations between subjective norm and behavioural intention (whole sample)</b>
Increase reliance on <i>mul</i> for soil fertility	Extension agencies (government and NGO) Neighbours and family Experienced farmers
Increase reliance on chemical fertiliser for soil fertility	Shopkeepers (negative subjective norm)
Planting hedgerows	(None)

Cutting instead of pulling legumes at harvest	Family and neighbours Community Extension agencies (government and NGO)
Stall feeding livestock	Neighbours and family Community Extension agencies (government and NGO)
Planting fodder trees	Family Community Extension agencies Forest users group

Within the TORA framework, the relative influence of the attitude and normative components is determined by comparing the correlations between intention and attitude, and between intention and subjective norm. In all six behavioural decision areas, both attitude and subjective norm correlate significantly with intention, so both can be considered influential. For two of the decision areas (use of *mul* and cutting legumes), the influence was roughly equal. For two (stall feeding and planting of hedgerows) the normative component was more influential. The remaining two (chemical fertilisers and planting fodder trees) show a stronger correlation for the attitudinal component, indicating that the outcome beliefs which constitute attitudes have a greater influence on intention than the views of social referents (Annex F: Annexes 1-6).

**Figure 1 Main drivers for six behaviours relating to soil fertility and soil conservation**



Analysis of the TORA data suggests several potential policy implications. One common thread is that local R&D and extension activity has been effective. There are significant differences in many aspects of the behaviours between farmers who have been exposed to extension and those that have not. Another is that extension programmes need to be responsive to differences

between areas (topography, farming system) and categories of farmer and household.

Zone sensitivity in extension applies particularly to promoting the better management and use of *mul*, with the technical content of extension reflecting the availability of leaf litter and other organic matter. Promoting tree planting to provide more leaf litter would be an option where this is currently a constraint. More generally, the decline in livestock numbers suggests that promoting the production of higher quality *mul* and using it as efficiently as possible will be increasingly relevant to many households. At the same time, particularly for households with few or no livestock, work on developing and promoting alternative means of soil fertility management (including green manure and improved rotations) should continue. In some places in Nepal, a market in animal manure has emerged (e.g. between intensive poultry operations in the Hetauda area and commercial vegetable producers in the Pokhara Valley). There may be ways in which government and NGO agencies can facilitate the development of more local markets in *mul*. There are also implications here for the management regimes adopted by forest user groups, who control access to forest resources which are vital for many farmers' production of high quality *mul* in sufficient quantities.

The need for policy and effective policy implementation relating to fertiliser has already been taken on board by MoAC, with the new (2002) Fertiliser Policy. Local testing of the quality of fertilisers available in the market can help to counter the uncertainty and vulnerability that farmers face. Empowering farmers through better information on nutrients in chemicals, through enabling CBOs to undertake quality testing and generally through encouraging them to demand quality testing from DADOs may help make current policy more effective. On the extension front, a more balanced emphasis on the use of fertiliser within an overall nutrient management strategy which will maintain soil quality rather than focusing only on maximising production is also reflected in the current fertiliser policy.

With hedgerows, a major constraint is the lack of seedlings. Facilitating the development of local nurseries, and supporting the farmer-to-farmer supply of seedlings, are obvious starting points in areas where hedgerow planting is a viable option for farmers. Participatory technology development to adapt the technology (species, spacing, management) to new areas will be important. To overcome barriers to uptake, extension should address negative perceptions about rooting systems and encourage a more informed assessment of competition. This could be linked effectively with extension on the continued maintenance and management of hedgerows to optimise benefits and minimise negative effects.

Extension has been effective in promoting the cutting rather than pulling of legumes, particularly in raising awareness of the soil fertility effects. This awareness is lower among women, suggesting that it would be sensible to focus attention on female members of farming households – who are in any case more likely than men to be the ones harvesting legumes and so will be making the on-the-spot decision. The clean grain benefits could also be emphasized, but for farmers who are growing legumes for sale this will not be a strong motivator unless they are able to secure a price differential for clean grain. There is perhaps a role for CBOs here in promoting the idea among consumers and farmers alike.

Although stall feeding is widely practised, there is scope for enhancing current practice. As with *mul*, a critical factor in some areas will be the way in which community forest is managed, given the significance of “dependence on forest” as a barrier for some categories of farmer. At the same time, promoting the planting of trees on farmers' own land and the forage benefits of hedgerows would increase fodder availability.

These findings suggest some specific areas for policy review and change.

1. Support for extension reform. Donors are frustrated with the progress achieved under

AREP. The evidence of this study is that extension does have a positive impact on attitudes towards improved land management but that greater differentiation is needed in the planning and targeting of extension interventions. Extension methods based on local experimentation have potential for finding appropriate solutions to some of the barriers identified (e.g. in relation to *mul* production and planting of fodder trees). Training of extension staff at all levels, both pre- and in-service, can help to foster the skills and attitudes supportive of these changes. A useful step forward would be to discuss this potential with those who plan, fund and deliver such training. But significant improvements in farmers' access to effective and responsive extension services will only come with successful reform of the whole structure of public sector extension (see section 4.2 below), which is a matter for the Planning Commission to consider.

2. Community forest management. District Forest Office staff have a high level of influence on the management plans for community forest handed over to Forest User Groups. These plans affect people's access to organic matter for *mul* production and to fodder for livestock. More flexibility in the development of management plans, to reflect local circumstances and needs, would help to overcome some of the barriers identified in this study. This is within the remit of senior officers in the Ministry of Forests and Soil Conservation who are responsible for reviewing the procedures and requirements for management plans and for providing guidance to District Forest Officers.
3. Fertiliser policy. While the new (2002) fertiliser policy does address some of the concerns raised by farmers in this study, particularly with its more balanced emphasis on IPNM (see below, section 4.2) and the removal of subsidies, quality assurance is a high priority. Much more needs to be done to intensify testing of fertilisers available on the market, which in turn requires more resources for DADOs. This is an area where civil society organisations can have an impact, by putting pressure on DADOs on behalf of farmers to use the available testing equipment for quality checks. In the longer term, any future programme of reform and strengthening of local government should consider giving local authorities authority and capacity to carry out testing and impose sanctions on suppliers (at all levels) found to be adulterating or misrepresenting their products.
4. Land tenure. Tree-planting on farmland and the establishment of hedgerows are discouraged by insecurity of land tenure, particularly for those holding land on annual or informal tenancy arrangements. The Land Act amendment in 1997 was designed to increase security of tenure by removing "dual ownership". Implementation, however, has been weak. Mass media have a role to play here in ensuring that people are aware of their rights under the legislation. Civil Society organisations can support through advocacy with the judicial system and support for specific legal challenges.
5. Credit for establishing local nurseries. Under APP, credit and subsidies are focused on the commodities identified with specific regions. This commodity focus ignores the capital needs of enterprises that would contribute significantly to improvements in land management. Lack of seedlings is a constraint to the planting both of fodder trees and of hedgerows. Senior officers in MoAC should be encouraged to review the guidelines for implementation of APP to allow support for the establishment of local nurseries by private entrepreneurs, CBOs and communities.

These policy issues are already under scrutiny in Nepal, particularly in the NGO and CBO sector and among donors. For example, the land tenure issue is the subject of widespread advocacy by NGOs, who have initiated discussion with and lobbying of government, both around substantive policy issues (strengthening the rights and protection of tenants; access to land for the poor and landless) and the weak implementation of the current Land Reform Act

1974 (MODE-Nepal 2004). Similarly, the management of forests which have been “handed over” to forest user groups is the subject of current debate and lobbying, in response to what appear to be changes in the guidelines which increase the influence of traditional principles of state forest management at the expense of local livelihoods needs. What this research offers is additional fuel for the debates around these, showing specific potential impacts on land management strategies of policy changes. Key audiences for the findings, therefore, include NGOs and CBOs, as well as government policy makers and donors.

It is interesting to note from section 4.3 above that economic status (low, medium, high – based on food sufficiency criteria: Annex F: Appendix 2 qu. 8) was not *per se* associated with particular barriers for any of the six decision areas. So in general terms, policy implications cannot be disaggregated by poverty in terms of broad economic categories. However, there are barriers which particularly effect those in more remote areas, those not members of organisations, those with fewer livestock and those with less exposure to extension and other development services – all of which can be taken as associated to varying degrees with poverty. Support for extension reform would benefit particularly those in remote areas and those currently with little or no extension support. To the extent that women are discouraged from stall feeding because of lack of fodder, review of community forest policy could lead to faster handover of forest to forest user groups, a greater voice for group members in their management, and management plans which prioritise sustainable offtake of fodder for livestock.

#### 4.4 Informing the policy process

Current policies impacting on land management decisions were identified through review of documents and discussions with stakeholders (Annex A: A-21; Annex B) and the policy making process was also reviewed. Table 7 suggests gaps in the policy environment in which farmers are making decisions. A summary timeline of relevant policies and legislation is shown in Annex A (p.A-26, Table 12).

**Table 7 Gaps in current policies likely to affect adoption of land management strategies at farm and landscape levels**

Desirable land management strategy	Constraints not currently addressed by policies
Investment in tree planting and other land improvements at	Insecure tenure due to dual land ownership
Investment in soil conservation measures (fruit trees, bunds)	Small fragmented and uneconomic holdings
Use of organic nutrients and restricted use of agrochemicals	Credit available for external fertiliser and pesticide
Investment in land improvement and soil conservation	Lack of credit for perennial crops, trees, green
Incentives to build farmers' capacity for land improvement	Lack of institutional policies and programmes for
Land use based on land capability and potential at farm and	Lack of institutional policies and programmes on
Rapid spread and uptake of land management technologies	Isolated, fragmented, scattered commodity approach
Integrated plant nutrient management systems (IPNMS) and	Lack of farmer information, training, seeds and

## technologies

Table 8 summarises the views of stakeholders on the factors which constrain policy makers in developing policies supportive of good land management. Issues relating to the generation, dissemination and analysis of information are clearly predominant.

**Table 8 Institutional constraints on policy making in Nepal**

Issues identified	Constraints
Human resource capacity for policy analysis and formulation	Senior level planning and research staff at NARC, DoA/DLS, MoAC and MoFSC lack capability and trained manpower on policy analysis and policy formulation. Specifically there are insufficient trained manpower for policy research and development.
Use of and access to Information Technology	Modern information technologies (email, internet etc.) are rarely used in government departments in the policy making process, including dissemination methods such as broadcasting and their perceived effectiveness.
Financial rules and regulations inflexible	Allocation of research and development budgets on integrated soil fertility and land management is limited. In addition HMGN financial rules for expenditure systems are not flexible.
Poor communication, linkages and coordination among related actors	Poor availability, accessibility and relevance of information from different institutions within the Government as well from I/NGOs and private sector bodies due to lack of common platforms and regular mechanisms for information sharing on technical issues relating to LMS.

Improving the contribution of science-based knowledge and information to policy making requires that the outputs of research are fed into the general discourse on rural development and livelihoods within Nepal, including among local representatives of external agencies such as donors and research organisations and international NGOs. Perhaps the best way of doing that is through face to face interaction between policy makers and researchers. This could take the form of short workshops and seminars to provide updates on the latest research, or ad hoc briefing sessions on specific projects (Annex A: A-28).

Interaction can be taken a step further through field visits, where policy makers can see for themselves the outputs of research and the impact on land management and farmers' livelihoods of their uptake. This would be one way of enabling farmers to have a direct voice in the development of the discourse among policy makers. Researchers can use the mass media both to help set the agenda for public discussion about land management issues and also in a more targeted way to communicate with policy makers and those close to them. Stakeholders suggested that short briefing papers setting out problems and their solutions are particularly helpful (Annex G).

However in the current political situation and the reality of administration in rural Nepal, lack of awareness or acceptance by policy makers of the successful results of land management research is probably not the biggest obstacle to the wider uptake of land management improvements. The results of the TORA analysis suggest that improved communication between communities, facilitated by intermediaries such as NGOs and field level officers of central government departments and local administrations can have a substantial effect on farmers' acceptance, uptake and adaptation of successful land management strategies. Weak policy implementation has long been a fact of life in the agricultural and natural resource sector. The present stand-off between government and the Maoists means that policy implementation in the majority of rural districts has become even more problematic than before. But it would be an oversimplification to blame the Maoist "problem" for disrupting government efforts to implement potentially beneficial policies. As the World Bank staff



appraisal report on the tenth plan and PRSP states: “the Maoist insurgency is, in part, a reflection of the rising disenchantment with inefficiency and corruption in the public sector, large persistent inequalities including along ethnic and gender lines, and poor delivery of public services” (World Bank 2003: 2).

## 5 Research Activities

For Output 1, the main activities were desk studies of published and grey literature, discussions with key informants (including policy makers, NGO and government staff working in programmes related to land management, and researchers in Nepal and the UK), and meetings of the UK and Nepali members of the research team. Field validation of technologies was carried out in ten VDCs in four Districts, through discussions with officers in the District Agricultural Development Offices and focus group discussions with male and female members of farming households in twelve villages. For Output 2, the main activities were the two stages of the TORA study (described above) the results of which were reported to and discussed at a stakeholder workshop. All activities for Outputs 1 and 2 were achieved, though with some modification in the light of the fluid political and security situation during the period of the project. Activities for Output 3 (see LogFrame below: section 10) were not fully achieved partly because of the worsening political and security situation, partly because changes of personnel at three of the partner organizations contributed to a loss of momentum and continuity, and partly because of a loss of synergy with project R7536 which ended prematurely. In particular, the training of researchers in how to engage with the policy process (3.8), the implementation of a questionnaire for policy makers (3.7) and a final stakeholder workshop (3.6) did not take place.

The way in which the fieldwork was carried out and the data analysed for Output 2 enabled Nepali partners to develop new methodological skills related to TORA. The fieldwork for both stages of the TORA analysis was designed in Nepal by a team from the UK and Nepali partner organizations. Staff at LI-BIRD were introduced to the concepts and methods, carried out stage one of the fieldwork with the support of UK staff, participated in the design of the stage two questionnaire, undertook the data entry and preliminary analysis, and drafted parts of the report.

Policy makers were involved at two main stages: in the review of policies and policy making (Annex B; Annex C) and in the review of the empirical findings at a workshop in September 2003 (Annex G). Data collection for the analysis of the policy making processes in Nepal included a series of key informant interviews using a prepared checklist of questions and discussion points with five senior staff (section chiefs) in the Ministries of Agriculture and Cooperatives, and Forests and Soil Conservation followed by a one day consultation meeting in Kathmandu with fourteen participants ranging from managers of donor-supported projects to Deputy Directors in government ministries. The 36 participants in the 2003 workshop included representatives from national and international NGOs as well as members of the National Planning Commission, senior civil servants ranging from Deputy Directors of Divisions of relevant Ministries to the Secretary, Ministry of Agriculture and Cooperatives.

On reflection, the degree and depth of policy analysis was limited within the research design. The research team was able to present a coherent description of the policy landscape and a formal account of how the process of policy development works. More intensive, iterative interaction with key actors would have produced a depth of analysis that would have allowed more specific points of entry into the policy process to have been identified. Methods drawn from an actor-oriented perspective (Biggs and Matsuert 2004; Garforth 2005), for example, such as the Actor-Linkage Matrix, would have revealed more detail about the interactions between specific sets of actors within the policy process. In future research, it would be interesting to explore the use of TORA to analyse aspects of the policy process itself.

Understanding the behaviour of policy makers, and the beliefs and attitudes which influence that behaviour, would take our understanding of the policy process a step forward: TORA would seem an appropriate tool in this context. It would be necessary to identify specific behaviours by policy makers and other actors in the policy process which would enhance awareness of relevant research outputs and increase the likelihood of these being taken into account in the development of policies. If these behaviours are not entirely under the control of the actors, then the Theory of Planned Behaviour (TPB)<sup>2</sup> might be a more appropriate framework. TORA (or TPB) alone would not provide a complete analysis of the policy process: it would, however, identify any significant cognitive barriers and drivers towards achieving a greater influence of NT research on policy, from which communication and other strategies could be devised for addressing those barriers and capitalizing on the drivers.

Planned inputs were achieved. Resources required for the Output 2 fieldwork, and the capacity building in the TORA methodology and analysis, were greater than anticipated.

## **6 Environmental assessment**

### **6.1 What significant environmental impacts resulted from the research activities (both positive and negative)?**

None so far.

### **6.2 What will be the potentially significant environmental impacts (both positive and negative) of widespread dissemination and application of research findings?**

In the RD1, it was suggested that “application of the findings to facilitate policy changes will lead to an improvement in soil quality and fertility, and a reduction in soil erosion and silting of water courses, from application of land management strategies at field and landscape levels”. However, as indicated at the end of Annex A, the influence of policy changes on land management decisions in the hills is likely to be minimal for the foreseeable future given (a) the history of weak policy implementation in Nepal, and (b) the disruption in rural areas created by the Maoist insurgency, counter-insurgency operations and political instability.

### **6.3 Has there been evidence during the project’s life of what is described in Section 6.2 and how were these impacts detected and monitored?**

No

### **6.4 What follow up action, if any, is recommended?**

None given the current circumstances in Nepal

## **7 Contribution of Outputs**

NRSP’s purpose is *to deliver new knowledge that enables poor people who are largely dependent on the NR base to improve their livelihoods*. The project’s outputs are likely to contribute to two components of NRSP’s purpose level OVI: knowledge derived from the project is being used by research partners in their own research and promotion activities; and, with further promotion of outputs, policy makers may use at least some elements of the knowledge gained, for example in initiating and responding to more interactions with scientists involved in land management research and interventions. Both contributions will benefit both male and female members of households that rely on the NR base in the hills for a substantial part of their livelihoods, and particularly tenants who would benefit from a clearer and more

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<sup>2</sup> TPB adds to the TORA framework the notion of “perceived behavioural control”, i.e. the extent to which the individual feels he or she is free to adopt the specified behaviour if they want to.

robustly implemented land tenure policy.

The relevant NRSP Hillside System output is *Ways to accelerate and scale-up pilot research experiences to the wider community determined and promoted*. The project outputs will contribute to scaling up to the extent that policy makers do pay more attention to, and take the initiative to update themselves about, the findings from scientific research and development relevant to land management. More immediately, the project outputs do indicate ways in which researchers can ensure that policy makers are better informed about research findings.

Of the project's three purpose level OVIs, the first (*links improved between policy makers and Nepal research organisations through use of policy briefing papers related to APP*) has been substantially attained. Evidence for this is in the comments by policy makers at the stakeholder workshop in September 2003 and the continuing interaction between Nepali researchers involved in the project and policy makers. We have no firm evidence that the other two have been attained yet (*By 2004, two policy initiatives will be under active discussion by HMGN policy making bodies, to support improved land resource management strategies; and By 2004, target institutions in Nepal make changes in policy which are supportive of improved land resource management by farmer, following decisions informed by use of briefing papers*).

Of the two main Nepali research partners, one has expressed interest in further use and development of research methodologies based on TORA. Stakeholders at the September 2003 workshop broadly accepted the conclusions derived from Outputs 1 and 2 about how policy making could be better informed and how a dialogue between researchers and policy makers could be made more constructive.

The project outputs could be further promoted through a re-vamp of the project website (to make the various reports and briefing papers more accessible and to encourage electronic dialogue), through targeted distribution of briefing papers, and face-to-face meetings with policy makers in Nepal.

## 8 Publications and other communication materials

### 8.1 Books and book chapters

Garforth, C., Holt, G. Subedi, A., Regmi, B., McKemey, K., Gauchan, D., Tripathi, B., and Ellis-Jones, J. 2005. *Linking field level findings to policy and decision-making in Nepal*. pp. 239-246 in: Renewable Natural Resources Management for Mountain Communities, edited by M Stocking, H Helleman and R White. Khatmandu, ICIMOD.

Garforth, C. 2005. *Increasing impact: making it work*. pp. 299-308 in: Renewable Natural Resources Management for Mountain Communities, edited by M Stocking, H Helleman and R White. Khatmandu, ICIMOD.

### 8.2 Journal articles

#### 8.2.1 Peer reviewed and published

#### 8.2.2 Pending publication (in press)

#### 8.2.3 Drafted

Garforth, C., Subedi, A., McKemey, K., and Regmi, B. 2005. *Using TORA to explore farmers' attitudes toward land management in Nepal* to be submitted to Journal of Rural Studies

Regmi, B., McKemey, K., Garforth, C., and Subedi, A. 2005. *Farmers' attitudes towards soil conservation practices in the hills of Nepal* to be submitted to Agricultural Systems

McKemey, K., Garforth, C., Subedi, A., and Regmi, B. 2005. *Farmers' attitudes towards soil fertility management in the hills of Nepal* to be submitted to Experimental Agriculture

### 8.3 Institutional Report Series

**Subedi, A., Holt, G., and Garforth, C. 2002.** *Review of Land Management Policy in Nepal* The University of Reading and LI-BIRD 28pp R7958 Working Paper 1

**Holt, G., Subedi, A., and Garforth, C. 2002.** *Engaging with the Policy Process in Nepal* The University of Reading and LI-BIRD 25pp. R7958 Working Paper 2

**Regmi, B., Subedi, A., and Tripathi, B.P. 2002.** *Field-level land management technologies in Nepal Hill Regions* LI-BIRD and NARC 28pp. R7958 Working Paper 3

**McKemey, K., and Rehman, T. 2003.** *The Theory of Reasoned Action and Its Applications to Understand the Relationship Between Attitudes and Behaviours: An Introduction and a Review* GAMOS and The University of Reading 41pp. R7958 Working Paper 4

**McKemey, K., Regmi, B., Subedi, A., Garforth, C., Holt, G., Gauchan, D., and Tripathi, B.P. 2003.** *Farmers' attitudes towards land management strategies: a Theory of Reasoned Action analysis* The University of Reading, LI-BIRD and NARC 163 pp. R7958 Working Paper 5

### 8.4 Symposium, conference and workshop papers and posters

**Garforth, C., Holt, G. Subedi, A., Regmi, B., McKemey, K., Gauchan, D., Tripathi, B., and Ellis-Jones, J. 2003.** *Linking field level findings to policy and decision-making in Nepal.* Paper presented at NRSP-ICIMOD workshop, Kathmandu and Pokhara, February 2003. 9pp.

### 8.5 Newsletter articles

**Author or Authors, Initial. Year. Title.** Publisher/Institution. XXpp. (Page numbers)

### 8.6 Academic theses

**Author or Authors, Initial. Year. Title.** Publisher/Institution. XXpp. (Page numbers)

### 8.7 Extension leaflets, brochures, policy briefs and posters

**Garforth, C., and Martin, A. 2004.** *Review of land management policy in Nepal* R7958 Briefing Paper 1 The University of Reading 3pp

**Garforth, C., and Martin, A. 2004.** *Engagin with the policy process in Nepal* R7958 Briefing Paper 2 The University of Reading 3pp

**Garforth, C., and Martin, A. 2004.** *Improved field level management strategies* R7958 Briefing Paper 3 The University of Reading 3pp

**Garforth, C., and Martin, A. 2004.** *Farmers' attitudes towards land management strategies* R7958 Briefing Paper 4 The University of Reading 3pp

### 8.8 Manuals and guidelines

**Author or Authors, Initial. Year. Title.** Publisher/Institution. XXpp. (Page numbers)

### 8.9 Media presentations (videos, web sites, TV, radio, interviews etc)

**Author or Authors, Initial. Year. Title.** Publisher/Institution. Format.

### 8.10 Reports and data records

#### 8.10.1 Project technical reports including project internal workshop papers and proceedings

**Garforth, C., Martin, R., Subedi, A., and Regmi, B 2004.** Report on the Stakeholder Workshop on Developing a Supportive Policy Environment for Improved Land Management, Nepal, September 2003.

#### 8.10.2 Literature reviews

**Author or Authors, Initial. Year. Title.** Publisher/Institution. XXpp. (Page numbers)

#### 8.10.3 Scoping studies

**Author or Authors, Initial. Year. Title.** Publisher/Institution. XXpp. (Page numbers)

#### 8.10.4 Datasets

**McKemey, K., and Regmi, B. 2003.** *SPSS dataset from survey of farmers' attitudes towards land management strategies.* LI-BIRD, GAMOS and The University of Reading.

#### 8.10.5 Project web site, and/or other project related web addresses

<http://www.rdg.ac.uk/IRDD/01-01.shtml>

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## 10 Project logframe

**Prepared by:** *Chris Garforth and Jim Ellis-Jones, December 2000*

**Revised:** *Project team, June 2001 (Inception Report); Chris Garforth, December 2002, following MTR*

**Current revision:** *Chris Garforth, 16 July 2003*

<b>Narrative Summary</b>	<b>Objectively Verifiable Indicators</b>	<b>Means of Verification</b>	<b>Important Assumptions</b>
<b>Goal</b>			
Improved hillside farming strategies relevant to the needs of marginal farmers developed and promoted	By 2002 new methods of cost effective soil and water conservation and tillage systems, which explicitly benefit the poor, validated in two targeted areas. By 2002 new approaches to maintenance and	Reviews by programme manager Reports of research team and collaborating/ target institutions Dissemination	Target beneficiaries adopt and promote systems and approaches Enabling environment exists Budgets and
<b>Purpose</b>			
Ways to accelerate and upscale pilot research experiences to the wider community determined through developing supportive policy environments for improving land management strategies.	By 2003, links improved between policy makers and Nepal research organisations through use of policy briefing papers related to APP. By 2004, two policy	Reports of target institutions Agendas and minutes of policy making bodies Data collected and collated by	Policy makers respond to advocacy by civil society Economic environment encourages soil and land management

	By 2004, target institutions in Nepal make changes in policy which are supportive of improved land resource management by farmer, following decisions informed by use of briefing papers.	strategy documents	
<b>Outputs</b>			
<p>1. Information and knowledge from recent and current land management research which can be applied on a wide scale, <i>identified</i>.</p> <p>2. Constraints to uptake and adaptation of land resource management strategies, which are amenable to policy intervention, <i>identified and promoted</i>.</p> <p>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, <i>identified, validated and promoted</i>.</p>	<p>By 2002, three widely applicable improvements to land management being promoted by target institutions to farmers and policy makers</p> <p>By 2002, two briefing papers on policy constraints prepared and submitted to HMGN, by target institutions with support from research team</p> <p>By 2004, three target institutions will <i>be actively discussing changes</i> in their policies for service delivery or infrastructure, in support of improved strategies</p> <p>By 2004, 15 researchers trained in effective interaction with policy making processes and with providers of technology services to farmers</p> <p>By 2004, at least two articles accepted by peer-reviewed journals documenting research outputs</p>	<p>FTR</p> <p>Reports of target institutions</p> <p>Dissemination materials</p> <p>Briefing papers for HMGN and target institutions</p> <p>Reports of training activities</p> <p>Reports on participatory evaluation of training activities</p> <p>Acceptance letters from journals</p>	Target institutions use outputs to influence policy making
<b>Activities</b>	<b>Budget and milestones</b>		

	<i>Budget:</i>	00/01	01/02	02/03	03/04	04/05	<b>Total</b>	
Establish scope of review of recent research, through consultation with R7536, and with R7865 and R7866 (Scaling up projects)	staff	2428	18442	19612	12344	1975	<b>54799</b>	Farmers articulate demand for soil/land management technologies
	o'heads	1142	4030	4192	3802	557	<b>13723</b>	
	equip.		750				<b>750</b>	
(a)Conduct, through desk study and discussions with research organisations, NGOs and CBOs, review of recent and current research to identify land management strategies and technologies which have been locally adopted and adapted by farmers	T&S		9750	7948	7070	1135	<b>25904</b>	Farmers agree to participate in the research
	misc.		7074	7574	5174	400	<b>20222</b>	
	<b>Total</b>	<b>3570</b>	<b>40046</b>	<b>39325</b>	<b>32458</b>	<b>4068</b>	<b>115399</b>	
	<b>Milestones</b>							
	(a) Scope of review agreed through participation in workshop on scaling up processes and discussions with PLs, by end of month 1							
	(b) Review completed and socio-economic factors affecting technology uptake identified by end of month 4							Target institutions recognise soil/land management as important policy issues
1.2 (b) Prepare overview of current policies likely to affect adoption of land management strategies at farm and landscape levels	(b2) Overview of policies completed by end of month 7 (30/9/2001)							
	(b3) Overview of policy making processes completed by end of month 7 (30/9/2001)							
1.2 (c) Prepare initial overview of policy making processes	(b4) Overview document on Policy Analysis methodology circulated to research partners by end of month 7 (30/9/2001)							
1.2 (d) Prepare overview of Policy Analysis methodology, and review of scaling up concepts	(c) Information identified, and validated through peer review and PFM with farmers, by month 9 (30/11/2001)							
Assess viability and relevance of strategies and technologies on a wider scale, using Participatory Farm Management methods and discussions with CBOs, NGOs and extension organisations	(d) Meeting and workshop held by month 10 (15/12/2001)							
Meeting of research partners in Nepal to review findings from Output 1 and plan fieldwork for Output 2; followed by one day workshop to brief key policy makers and seek their agreement to support and participate in the subsequent stages of the research.								



<p>2.1 Field studies in four case study sites to assess constraints to uptake of new strategies, and potential demand<sup>3</sup>:</p> <p>timeline of changes in land management strategies, and of factors which have facilitated the changes, using Phase I of PLAR process</p> <p>focus group discussions with farmers, based on gender and livelihood categories, to establish socio-economic factors influencing demand, decision-making processes and constraints to adoption of strategies identified at 2.1, and to identify salient attitudes and beliefs for TORA survey</p> <p>design and test TORA questionnaire</p> <p>household survey to estimate potential demand under favourable policy environment, and to apply TORA questionnaire</p> <p>2.2 Identify individuals and organisations in policy formulation processes relevant to upscaling, through stakeholder analysis and individual discussion with key informants</p> <p>2.3 Assess policy environment and analyse policy making process within local government bodies, district administration and national Government bodies, and within service providing organisations, using a resource based framework</p> <p>2.4 Stakeholder workshop to (a) explore constraints amenable to policy intervention, (b) map policy making process using a resource based framework, (c) identify ways in which policy makers are made aware of alternative actions, and (d) develop a detailed activity plan for Output 3 activities.</p>	<p><i>Overall report on Activity 2.1 by month <u>28</u> (30/6/2003)</i></p> <p>questionnaire finalised, and research / sample design approved by biometrician, by end of month <u>23</u> (31/1/2003)</p> <p>survey completed and written up by end of month <u>27</u> (31/5/2003)</p> <p>brief paper on key actors in policy formulation process prepared by end of month 15 (31/5/2002) (<u>Working Paper 2</u>)</p> <p>report on policy environment and policy making processes completed by end of month 18 (31/8/2002) (<u>Working Paper 2</u>)</p> <p>stakeholder workshop proceedings, and detailed plan for Activity set 3, submitted to NRSP by end of month <u>29</u> (31/7/2003)</p>	
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<p>[The activity set for Output 3 is provisional and in outline only: it will be developed fully during Activity 2.4]</p> <p>3.1 Through self-completion questionnaire and discussion, assess awareness of policy makers on (a) land management issues and (b) opportunities for policy to influence uptake of appropriate technologies.</p> <p>3.2 Facilitate on-going dialogue between researchers, end users and policy makers, using processes identified during Activity 2.4</p> <p>3.3 Monitor response of policy makers to dialogue and information, and facilitate adjustment in process as necessary</p> <p>3.4 Produce briefing papers to inform policy makers</p> <p>3.5 Place appropriate information with mass media</p> <p>3.6 Hold stakeholder workshop to review impact of the process on policy</p> <p>3.7 Re-assess awareness of policy makers <i>through self-completion questionnaire</i></p> <p>3.8 Produce training materials, and conduct training activity, for NR researchers on scaling up through linking with policy process</p> <p>3.9 <i>Prepare FTR and disseminate findings to academic and policy making audiences through appropriate publications</i></p> <p>3.10 <i>Meeting to brief policy makers on project findings</i></p>	<p>brief report on awareness of land management issues among policy makers completed by end of month <u>31 (30/9/2003)</u></p> <p>interim report on dialogue and information process completed by end of month <u>34 (31/12/2003)</u></p> <p>two briefing papers on policy constraints distributed by end of month <u>32 (31/10/2003)</u></p> <p>Information broadcast on national radio station, in support of adoption of land management strategies and related policy change, by end of month <u>32 (31/10/2003)</u></p> <p>stakeholder workshop held by end of month <u>37</u> and proceedings delivered by end of month <u>38 (30/4/2004)</u></p> <p>training materials produced by end of month <u>38 (31/4/2004)</u></p> <p>training activity complete by end of month <u>40 (30/6/2004)</u></p> <p>two articles for policy making audiences, and one for academic journal, submitted by end of month <u>40 (30/6/2004)</u></p> <p>FTR submitted by end of month <u>40 (30/6/2004)</u></p> <p>Meeting with policy makers held by month <u>40 (30/6/2004)</u></p>	
		<p><b>Pre-conditions</b></p> <p>NR-based livelihoods remain viable in prevailing economic environment</p>

## 11 Keywords

Nepal, land management, policy, TORA, farmer attitudes, soil fertility

