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**Developing supportive policy environments for  
improved land management strategies - Nepal**

**Working Paper 1:**

***'Review of Land Management Policy in Nepal'***

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**October 2002**

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**Funded by the Department for International Development  
Natural Resources Systems Programme [R7958]**

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## Glossary

AKIS	Agricultural Knowledge and Information System
APP	Agriculture Perspective Plan
AREP	Agricultural Research and Extension Project
ARS	Agricultural Research Station
AsDB	Asian Development Bank
ASSP	Agricultural Support Services Project
CAS	Country Assistance Strategy (World Bank)
CBO	Community-based organisation
DADO	District Agricultural Development Officer
DFID	Department for International Development (UK)
DLS	Department of Livestock Services (MoAC)
DoA	Department of Agriculture (MoAC)
GARDP	Gulmi & Arghakhanchi Rural Development Project
GTZ	German Technical Co-operation (Deutsche Gesellschaft für Technische Zusammenarbeit)
HARP	Hill Agricultural Research Project
HMGN	His Majesty's Government of Nepal
I/NGO	International non-governmental organisation
ICIMOD	International Centre for Integrated Mountain Development
IPNMS	Integrated Plant Nutrient Management System
IPP	Intensive Pocket Package
LMS	Land management strategy
MoAC	Ministry of Agriculture and Co-operatives
MoF	Ministry of Finance
MoFSC	Ministry of Forests and Soil Conservation
MoLR	Ministry of Land Reforms
MoPE	Ministry of Population and Environment
NAF	Nepal Agroforestry Foundation
NARC	Nepal Agricultural Research Council
NASS	Nepal Agricultural Sector Strategy
NEPAC	Nepal Environmental Policy Action Plan
NGO	Non-governmental organisation
NPC	National Planning Commission
NRSP	Natural Resources Systems Programme
RARS	Regional Agricultural Research Station (NARC)

RECOM	Research Co-ordination Meeting
RTWG	Regional Technical Working Group
SAFTA	South Asia Free Trade Association
SALT	Sloping Agricultural Land Technology
SDC	Swiss Development Co-operation
SNV	Stichting Nederlandse Vrijwilligers or Foundation of Netherlands Volunteers
SSMP	Sustainable Soil Management Programme
STSS	Soil Testing and Service Section
TLDP	Third Livestock Development Project
WTO	World Trade Organisation

## 1. Background

Sustainable development depends on the management of natural resources and minimisation of negative environmental impacts of agriculture (UNEP 1999). Critical to both of these objectives is land management (Pachico et al, 1999). Reliable data on land degradation is lacking but it is likely that soil degradation alone has affected some 1900m ha of land world wide, of which about 550m ha is in the Asia—Pacific region (ESCAP 1993 cited in IBSRAM/FFTC).

Agricultural development has played a central role in relation to land degradation and the problem is particularly serious in marginal environments in developing countries where incentives for food insecure farming communities to protect land over the long term are outweighed by pressures to produce food in the short term. Unless sustainable farming alternatives that conserve soil are sought, developed, and implemented, land degradation and the impoverished living conditions of resource poor upland farmers are bound to worsen with time.

Given the continued degradation of natural resources, appropriate natural resource management policy decisions are arguably the most important among various policies implemented in developing countries (Babu and Roe 2000). The World Commission on Environment and Development 1987 and the United Nations Conference on Environment and Development 1992 provided impetus for nations to prepare new environmental laws, policies and strategies aimed at the control and management of land degradation. Some progress has been made but many more nations need laws and policies aimed specifically at combating land degradation. However, efforts to design and implement sound policies are thwarted by lack of adequate capacity in government agencies. This calls for the creation of suitable institutional arrangements for informing policy decision-making, dialogue and links between government and other institutions, and a division of labour between policy analysts, policy decision-makers, and policy researchers at various levels.

This project, 'Linking Field-Level Findings with Policy Making in Nepal' (R7958), is funded by the UK Department for International Development, Natural Resources Systems Programme, which seeks to link field level findings with national policy through the upward transmission of data from local trials to policy makers, and to validate mechanisms for the dissemination of complex messages to farmers.

### **Research aims and scientific objectives**

Land Management Strategies (LMS) hold the key to improving the sustainability of local farming systems in the hills of Nepal and contributing to poverty alleviation among households in food deficit with little access to non-farm livelihoods. Many improved LMS 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. Constraints on the process of replication occur in central and local government policy-making frameworks, and operational policies of development organisations, government departments, NGOs, donors, and private sector bodies. Development of agricultural and knowledge information systems (AKIS) is key to empowering communities pursuing these alternative strategies.

Efforts to reverse land degradation processes require appropriate incentives and actions to change the behaviour of land users – principally farmers. Government policies are the 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 likely impacts of proposed policies on the improvement of land productivity, effective engagement with policy processes to promote land management strategies cannot be achieved.

Successful policy implementation relies on good communication between policy makers and stakeholders that enact policy. DFID-Nepal recognises the value of working within a national

policy framework, the importance of identifying entry points for dialogue with government, and that macro to micro level linkages are key to a successful policy strategy (Seeley). The project includes therefore an assessment of the way in which stakeholders in the communication of land management information in Nepal function.

The aim of R7958 is to identify effective ways of informing policy-making processes by identifying constraints on the widespread adoption of proven land management strategies (LMS), that are amenable to policy intervention and reform, through the following objectives:

1. Classification of existing policy instruments used to formulate and implement policy relating to land resource management, according to their nature and level of direct impact, and analysis of the probable relationships between the policy process and intended outcomes;
2. Development of qualitative and quantitative indicators to assess performance of LMS at field level in terms of their ecological efficiency, sociocultural acceptability and market orientation; and
3. Identification of linkages between private and public agricultural service providers and the following:
  - funding and other state bodies concerned with land management policy;
  - other service providers and decentralised local authorities;
  - farmer representatives on extension decision-making bodies, NGOs and CBOs.

Working Paper 1 briefly reviews the context of the project's aims relating to policy research and policies for sustainable development. This is followed by a review of plans and current policies affecting adoption of land management strategies (LMS) at farm and landscape levels in Nepal; key actors in policy development and lines of communication between these agencies.

### **Policy types and objectives of analysis**

At its simplest, a policy is a rule that influences the behaviour of an individual, firm, or organisation (Ender 2001). Historically, policies are made by the state, or agencies of the state, such as public institutions and bureaucracies. Despite the increasing involvement of non-state actors in the policy-making arena, many social problems can only be solved through government.

Policy is not merely a statement of intent but 'the determination of a course of public action towards an aspect of the economy, including the goals the government seeks to achieve, and the process of putting it into practice' (Ellis, 1992). Statements of intent can be translated and policy implemented through specific policy measures in the form of laws, regulations, programmes and projects. Policies guide public sector resource allocation but it is mainly policy measures, made up of specific objectives, human and material resource inputs and an action plan that have direct impact on institutions and organisations.

The main policy instruments are legal and economic measures. Legislative policies can best be understood as mechanisms for making social choices. Law functions as an instrument for defining public policy through the enactment and implementation of a set of consistent, authoritative and general rules and procedures that enable a society to achieve its preferred goals and objectives (NPC/IUCN, 1991). These rules can specify mandatory, permissible and prohibited behaviour, as well as penalties for violations and liabilities for the consequences of actions, which transgress the interests of others (NPC/IUCN, 1991). Usually, regulations set minimum standards and other mechanisms are introduced to encourage higher standards. Legislative policies include restriction on land use (e.g. prohibition of open grazing), land zoning, and land tenure, while economic instruments include credit, subsidy, taxation and pricing policies. Legal and

administrative mechanisms can be combined with fiscal and economic instruments for more effective decision-making and policy formulation.

Policy measures do not necessarily correspond to policy statements of intent and equally policy statements may have no measures to enforce them. In many countries policy is used as a way to placate donors more than to set out government thinking and implement change. The problem is exacerbated by the fact that it is also possible for binding policy to be contained in hidden or informal documents such as memos.

The effectiveness of a particular policy-making approach is directly related to the social and political circumstances and the economic context in which policy is made. Functioning of administrative systems of the government in response to policy choices plays a critical role in the effectiveness of the policy-making process and policy outcome. Public institutions and bureaucracies mainly concerned with administration and enforcement of decisions tend to be enduring and resistant to change.

### **Policy levels and impact analysis**

Policies are designed and implemented at different levels:

- ◆ macro policies dictate the national and international environment—structural adjustment and poverty reduction programmes, multi-lateral trade agreements and exchange rate mechanisms such as subsidies, pricing and taxation;
- ◆ meso or sectoral policies are the most common form of policy statement or strategy for diverse spheres of influence such as livestock, environmental protection, agriculture, transport etc.; and
- ◆ micro policies at local level generally relate to building institutions and setting or enforcing regulations and other activities which need to take account of local conditions.

Effective policy reform requires multi-level change. Policy may be set centrally and implemented at one or more lower levels. Macro policies interact with other national and global factors and are least amenable to reform but both environmental and societal effects of macro policy can be assessed at micro level in order to build a case for reform.

Sectoral policies have indirect impact in other related and unrelated sectors and direct impacts are influenced by policy targeted at other sectors. Side effects and cumulative effects of multiple policies create positive and negative feedback loops between policies making impacts difficult to identify and measure; a subsidy on wheat grain to increase food security may instead promote its use for feed (Ender 2001). Sectoral policies need adequate local institutions to implement them; land taxation is aligned with national fiscal policy but operates through local collection of land taxes.

Sectoral and local policies are effective only in an enabling higher level environment; targeted policies can be rendered ineffective by macroeconomic policies affecting the economy, employment, institutions and income distribution.

Policy impacts are usually assessed within a conceptual framework based on policy goals (efficiency versus equity); sectors (agricultural versus general); types (prices, institutions and technology); levels (commodity, trade and macroeconomic); or point of intersection with the supply chain (Ellis 1992). An example of an environmental impact analysis of macroeconomic policy is given in Table 1 (Salinger 2001).



**Table 1. Example of analysis of macro-economic policies impact on soil erosion**

Policy	Soil erosion:	
	% Reduced	% Increased
Investment on soil conservation	9	
10% reduction in input prices	9	
10% reduction in fertiliser price		9
Investment on productivity-improving research		8

*Source: (Thrikawala and Kotagama 1998)*

In order to determine the most appropriate mix for policy-making, it is necessary to relate to the local social, political and economic context of communities that will be affected. In the context of global communications, international organisations, research groups and NGOs, bring a diversity of public and private viewpoints to policy-making at domestic and international levels, merging international and domestic boundaries in the process of making policy. For example, World Bank Sector Wide Approaches bring development agencies together with government and civil society to construct national policy.

The single most important instrument for modifying policies at the national level to promote environmental sustainability objectives is the World Bank Country Assistance Strategy (CAS) defining features of fiscal incentive and regulatory environment that are responsible for destructive land use activities and outlining remedial measures required. The CAS also typically addresses ways to arrest or slow degradation of the natural resource base. For individual sectors such as agriculture, infrastructure, energy and transport, Economic and Sectoral Reviews provide most of the important policy decisions. To date, World Bank Environmental assessments have tended to concentrate on protection of cultural heritage sites and rights of indigenous people but in future are likely to focus more attention on agricultural practices and soil composition. Other World Bank instruments that provide opportunities for supporting LMS activities are National Environment Action Plans and Environmental adjustment loans.

### **Sustainability policy objectives**

With the advent of new goals for development that incorporate ecological and social sustainability, policy-making processes must be able to respond to and take account of the fundamental nature of sustainable development. The criteria for effective and rational land policy-making include co-ordination, flexibility, responsiveness to ecological distress signals and equity (NPC/IUCN, 1991). Therefore, although land management is a function of sustainable *environmental* development it cannot be considered in isolation from social, economic and institutional objectives of sustainable development (Hall 2000; Pachico et al. 1999) and environmental policies need to be consistent with the economic and political environment (Babu and Roe 2000).

Lack of access to agricultural land is probably the main contributor to rural poverty but poor quality of land, such as in the rainfed areas of the Hindu Kush region, has become a major obstacle to agricultural growth and alleviation of poverty (Khan 2000). Land degradation aggravates poverty but equally poor agricultural practices induced by poverty exacerbate land degradation creating a downward spiral of human and environmental exhaustion.

Population pressures in the Himalayas have forced millions of poor farmers to clear forests and cultivate fragile marginal lands in order to expand and intensify agriculture to meet the demand for food. Since the 1980s, this process has caused rapid loss of topsoil and a fall in productivity, which has increased the need for agricultural expansion. Poor management of arable and pasture land, heavy application of soil dressings, and over use of pesticides have exacerbated soil erosion and mineral leaching and in some areas the delicate hillside environments have been disrupted

making land even more vulnerable to accelerated soil erosion and gully (IDRC 1998). Damaging knock-on effects include increased flood risk during monsoons, reduction in winter stream flows for irrigation, more sediment in rivers, and declining water quality.

FAO believes that the prospects for rural poverty reduction during the coming 30 years depend on the nature and direction of farming systems development. Strategic priorities for which are sustainable management of soil and water resources, coupled with market-orientation. Strategies include agricultural intensification, diversification, crop integration, livestock, and forestry, with cash cropping where markets are available. In the densely populated and cultivated Himalayan hill regions the Highland Mixed Farming System, comprising cereals, legumes, tubers, fodder, fodder trees and livestock, is prevalent. Local germplasms of major crops are conserved year after year because crops are highly acclimatised to the peculiar harsh dry, and cold climates as well as the short growing period. Large livestock are mainly used as draught animals and for milk and manure production, whilst small animals such as Angora rabbits produce low-weight, volume and perishability, but high value, products (ICIMOD, 2001). Communities operating these systems are barely eking out a subsistence existence.

Finding means to arrest land degradation holds the key to reducing the vulnerability of the poor (ODI 2000). Specific environmental and agricultural policies will therefore only be effective if set within a strong policy context underpinning agricultural and rural development, and the adoption of explicit poverty reduction goals and policies. Such policies include the removal of urban bias in national trade and price policies which impact on commercialisation of farming systems; road building to decrease input and transport costs; health and education services to increase labour productivity; private sector investment; and access to information (Dixon et al 2001). It is essential also to increase the participation of women in development activities because women play a crucial role in land use decision-making (FAO, 1998).

The institutional dimension of sustainable development recognizes that policy operates in an indirect way and that the way policy is implemented determines its effect on livelihoods as much as does its formal content. Policies are mediated through organisations, markets, media, and legal codes and very often the internal politics of these shape the way in which a given policy reaches people, if at all. Even the poorest constantly interact with institutions and organisations (Keeley and Scoones, 1998; Hobley and Shields 2000) but existing institutions need to be remodelled and strengthened to provide optimum policy effects (Toufique 1999).

Good governance implies the reallocation of resources and responsibilities among different branches or levels of government (decentralization) or between government and private sector. Effective decentralisation involves *devolution* of decision-making to the community and *deconcentration* of operational power to peripheral sub-units. Decentralisation and strengthening of local institutions are key issues for fostering sustainable farming systems (FAO 1998). Farmers' organization-research-extension linkages within a supportive legislative and policy environment help dissipate the problems of poor governance in technology dissemination (Hussein 1999).

Priority therefore needs to be given to soil conservation programmes that incorporate participatory research and extension methodologies. Various communities have evolved indigenous systems of land resource management already, which need decentralised institutional arrangements to provide a framework for scaling-up and replicating successes from a locality. There has been considerable rhetoric regarding participatory and bottom-up processes of resource management and decision-making in the Hindu Kush region but empowerment of local bodies through decentralisation remains inadequate (SEEPOR 2000). Systems such as panchayat reinforce the power of local elites but the erosion of traditional sociocultural values upon which the panchayat is founded have also undermined the capacity of informal systems to operate. A 'third way' is needed which does not reproduce punitive hierarchies but which does enable collective decision-making.

## **2. Policies and programmes impacting on land management in Nepal**

### **2.1 Environmental and land use policies**

A broad interpretation of land policy includes any policy taken by the state or other institution that affects the use and management of land directly or indirectly (Blaikie and Sadeque, 2000). Land management is the subject of five key areas of concern in Nepal – agriculture, land tenure, forestry, national parks & wildlife, and decentralization.

However, land policies in Nepal are generally found to exacerbate land degradation due to marked differences in approaches shown by different government departments and agencies in land use-planning policies for water, energy, demography, industrial development, and tourism prepared. This diversity has led to a mosaic of land degradation problems and contributing factors (Dhar 2000). Some progress has been made in the forestry and protected area management sectors but performance in agriculture is unsatisfactory.

Encouraging widespread adoption of sustainable agricultural practices is critical for an economy dependent on the sector for approx. 60% of GDP. Despite a succession of National Plans, productivity has barely kept pace with population growth and food security. A wide range of farming practices is found suited to specific localities; agricultural specialisation and intensification exist alongside extension and diversification. Incentives for farmers to conserve soils are reduced by local factors including population density, slopes, insecure land tenure, low initial productivity, and limited access to markets.

#### **Forest and Land Management Acts**

The Forest Nationalization Act (1957) largely exacerbated forest degradation through poor management of public forest resources and land at landscape level, and heavy deforestation. The introduction of the Forest Act (1993) and Forest Regulations (1997), which provide legal authority for forest user groups (FUGs) to control community forestry have begun to reverse the negative trend. Supportive legislation has encouraged activities such as the Hill Community Forestry Project to promote forest user groups which have had great success in taking over management of deteriorating government forest land and creating a sustainable supply of timber, fodder and fuel wood.

The Pastureland Nationalization Act (1974) was introduced to manage pastureland under increasing livestock population pressure but with poor dissemination and ineffective enforcement, failed to reverse pastureland degradation. The Soil Conservation and Watershed Management Act (1982) was introduced to tackle land degradation caused by poor management, deforestation, soil erosion, floods and landslides but did not include local indigenous practices and measures have been ineffective. Both these Acts are influential for land management at landscape rather than farm level. The Land Resource Management Study and possible follow-up credit scheme could support further measures to ensure natural resource sustainability.

#### **National Agricultural Plans**

Land-use policies and strategies were initiated from the Fifth Plan (1975-80), which divided the country into three ecological belts, mountain, hills and plain (*Terai*). Emphasis was given to soil conservation, watershed management, and land-use surveys to identify flood and soil erosion prone areas (NPC/IUCN, 1991). The Seventh Plan (1985-1990) shifted focus to forestry, soil conservation programmes for afforested marginal lands, and an intensification programme for agricultural areas. The Eighth Plan (1993-1997) for the first time incorporated specific environmental objectives in sectoral policies through vehicles such as the Agriculture Perspective

Plan (APP) and Agricultural Support Services Programme (ASSP) (see below). The current Ninth Plan (1997-2002) focuses on poverty alleviation programmes some of which include strategies for soil conservation and fertility improvement, and land use capability-based planning. The Ninth Plan also seeks to advance environmental objectives through identification of particular problems, including soil erosion, flooding and landslides.

### APP

The Agricultural Perspective Plan (APP), supported by the AsDB and other donors, is the latest in a series of long-term (1996-2016) plans in the agricultural sector but focuses on a smaller number of priorities than previously to produce tangible impacts and realise economies of scale for commercialisation (APROSC/JMA, 1995). The overall aims of the APP are to accelerate agricultural productivity growth through transition from subsistence to commercial agriculture, crop and farm diversification, and comparative advantage. To implement the APP policy makers are challenged to identify immediate, short-term and long-term strategies for periodic plans, such as the Intensive Pocket Package strategy (IPPs). Under the APP, priority has been given to soil fertility research and extension particularly through integrated plant nutrient management systems (IPNMS) that incorporate both organic and inorganic fertilisers (Ministry of Agriculture, 2002). However, the impact of the APP on land management and land degradation is expected to be limited because it does not give adequate attention to land ownership issues and tenure arrangements, and future impacts on soil fertility from the expansion of intensive farming in hill and mountain areas (Blaikie and Sadeque, 2000).

Contemporary agriculture-related policies and action plans on agricultural land management, elaborated in the APP and reiterated in the Nepal Environmental Policy and Action Plan (EPC, 1993), and responsible agencies, are summarized in Table 2.

Apart from the routinely formulated five-year periodic plans, the government has prepared a number of sectoral plans. Five master plans were formulated in the early 1990s for forestry, horticulture, livestock, irrigation and dairy sectors. But many of these, such as the Nepal Agricultural Sector Strategy and Basic Needs Programme, have not yet been implemented.

Under the Department of Agriculture (DoA), the Soil Testing and Service Section (STSS) is responsible for soil and land resource surveys; land evaluation and suitability studies; soil fertility evaluation, management and conservation studies; soil analysis and collection of national level soil data; and extension services appropriate for carrying out these responsibilities. In practice, these activities are severely limited due to the lack of manpower in the DoA.

**Table 2. Agricultural land management policies and action plan of the APP and NEPAC**

Policies	Action Plan	Responsible Agency <sup>1</sup>
Improve soil fertility management by increasing supplies of farmyard manure and reducing livestock density on arable land	Encourage planting of trees, shrubs, and grasses on private land to provide fodder	DoA, DLS
	Where appropriate encourage stall-feeding using fodder from trees on private land	DLS, NARC
	Promote low-cost vegetative and cultural soil conservation measures	DSC, DoA, NARC

<sup>1</sup> See Section 3.1

Promote policies to increase soil fertility directly	Encourage modification of farming systems to enhance nutrient cycling using nitrogen fixing species	MoAC, NARC
	Improve availability of chemical fertilisers by removing constraints to private sector investment in purchase and distribution	NPC, DoA
	Develop agro-ecology-based recommendations for fertiliser application including use of lime on acidic soils	DoA, NARC
Develop a farmer-responsive extension system	Improve participation through the group approach	DoA, DLS
	Finalize pilot schemes for contracting out services to the private sector	MoAC, NPC
	Promote rapid information dissemination through on-farm adaptive research	DoA, DLS, NARC

*Source: EPC, 1993 (cited in Blaikie et al, 2000)*

## 2.2 Institutional and extension policies

The current legal frameworks for decentralisation in Nepal are the Decentralisation Act 1998 to enhance uptake of government programmes, and the Local Self-governance Act 1999 to give voice to the poor in local decision making. The Decentralisation Act 1998 offers greater opportunity for information dissemination through the use of District Information Centres established under the Participatory District Development and Local Governance Programmes. But, whilst government has embraced decentralisation and capacity building for planning and managing in Village Development Committees and District DCs the role of the Ministry of Local Development in providing policy guidance is weak.

The APP vision is of a unified management system at the local level bringing together all government agencies and NGOs under one umbrella agency. In 1992, the National Land Use Planning Project, introduced under the Asian Development Bank (AsDB) Agricultural Strategy Support, proposed a land use planning and monitoring system to operate as a technical framework for co-ordinating agencies involved in sustainable agricultural development.

### **GARDP (Gulmi & Arghakhanchi Rural Development Project)**

Recent donor-funded institutional support to agricultural projects includes GARDP, which ran from 1990-1995 and was funded by the European Commission (3.1 mEuros). GARDP provided institution building and technical support for government decentralisation policies and public sector reform, established sound monitoring and evaluation practices, and aimed to improve Local Development Officers' dialogue with farmers. The project strengthened local ability to prepare, plan and obtain finance for small-scale development projects and resulted in the following achievements: 125 km of roads built; 630 water points established; 45 irrigation schemes rehabilitated or built; 170 school buildings constructed/maintained; 24 adult literacy programmes, Village Planning Training to develop the self-help approach.

### **ARS Research and Extension Impact Studies**

A smaller project (1993-1994) with Lumle Agricultural Research Station monitored extension impact and trained staff in impact analysis. The project found that extension had a large and mainly positive impact but demonstrated unevenly distributed benefits that largely bypassed women and the very poor. Findings from the 1994-5 Lumle and Pakhribas studies showed that farmer adoption of technology, perceived impact of economic benefits and internal rates of return for both centres were large, and fully justified the investments made, but again distribution of adoptions was uneven and research could be more responsive to local needs.

## **HARP**

The Hill Agricultural Research Project (1998-2001) was set up by DFID to develop an improved hill agriculture research system by enabling NARC to adopt consistent and strategic approaches including competitive research policy, through facilitated change-management, workshops and defined work programmes with sanctions for failure to meet objectives (Hussein and Montague 1999).

## **ASSP**

The ASSP was designed to transfer technology to the local level (farmers) through training and development of contact groups to act as key providers of agricultural services to their members and effective channels of communication between their member-farmers and agricultural service providers. Under the ASSP all service delivery agencies at the district level were brought under a single administrative unit.

## **AREP**

An on-going Agricultural Research and Extension Project (1997-2003) aims to improve management and capacity of agricultural research and extension services nationwide through client and-location specific adaptive agricultural technology and an improved technology delivery system. As a consequence, the agricultural service has become more focused and extension services delivered in a more effective manner but the mid-term review found that overall institutional reform of extension services is progressing slowly (MASDAR 2001).

## **2.3 Trends in social and economic policies influencing access and opportunity**

Nepal is a heterogeneous society with a complex ethnic mix overlaid by great disparity in social and economic opportunity. Although 40% of women and 60% of men over ten years old are considered economically active, 42% of the population live below the poverty line. Human capital is weak as indicated by an illiteracy rate of 64%, and high infant, child and maternal malnutrition and mortality. There are at least four caste groups and 36 different ethnic groups. Indisputably, caste is an important issue in access to and rights over resources. Scheduled castes (dalites) constitute 20-25% of the population, and have limited access to resources, education and employment.

90% of the population live in rural areas vulnerable to natural disasters such as floods and landslide where illiteracy is twice as high as urban areas. The very poor are located predominantly in the particularly harsh mountain and other remote regions where soil erosion is highest (Hussein and Montague, 1999). Factors outside the physical hillside environment such as macro and sectoral policies continue to provide more disincentives than incentives to farmers to conserve soils (SEEPOR 2000).

### **Poverty alleviation**

Macro-economic stabilisation and structural adjustment policies introduced in the past decade, and increasing reliance on market forces through membership of the World Trade Organization (WTO) and South Asian Free Trade Association (SAFTA), have renewed concern over poverty arising from inequitable distribution of benefits. Research into the micro level impact of macro level policy began in 1994 with a review (Phase I 1994-1996) of the distribution of poverty and landlessness and policy changes, followed by Phase II (1997-2000), which built capacity to analyse macro-micro linkages and stimulate policy reform (MIMAP-NEPAL), and the Ninth Plan (1997-2002) incorporates specific policy on poverty reduction on the basis that this will enhance farm household capacity to manage land in a sustainable way.

Recent macro policies affecting land management at farm level include the removal of fertiliser subsidy in 1999, and increased private sector participation in fertiliser import and delivery, which has created incentives for increased use of locally available organic fertilisers. A credit subsidy on tea and fruit trees in selected hill districts<sup>2</sup> was announced in the 2001 government budget to encourage perennial vegetation on fragile slopes in the eastern hills and reduce soil erosion and land degradation.

### **Land tenure**

Gross disparities in land ownership are one of the major causes of poor land management, poverty, social discrimination and injustice. Nearly 80% of the population still depends on land for their livelihoods but historically land has primarily been a source of revenue for government. The Human Development Report-Nepal (1988) estimated that the bottom 40% of agricultural households own only 9% of total agricultural land, with an average holding of less than 0.5 ha, while the top 6% owns more than 33% of total land area. Land tenure laws constitute a major constraint upon environmentally sound land management practices. Although land reform was initiated through the Land Act (1964), which fixed a ceiling on land holding size, land reform measures have failed to provide land to the poor and have mainly benefited the ruling class who exercise a monopoly over state support services (Ghimire, 1995). Amendments to the Land Act (1964) in 1997 to remove dual ownership of land could not be enforced sufficiently effectively to eliminate the prevailing dual land ownership system.

### **Gender**

Women continue to be mostly employed in agriculture since opportunities in the off-farm sector are scarce. The low level of female literacy (19%) and health hazards associated with pregnancy constitute additional barriers to women's opportunities and the number of female teachers and health workers remains very low. Although women in mountain areas of Nepal tend to work longer hours and have a greater workload than men do, women have a significant role in farm decision-making. The Eighth Plan introduced the first commitment to 'equal and meaningful participation of women in development' and established a Women Farmers Development Division in the Ministry of Agriculture to mainstream gender issues in all agricultural policies and programmes. The Rural Water Supply Project has successfully pioneered user group managed water supply schemes; greatly reducing the time women spend collecting water yet few agricultural programmes are specifically designed to reach women.

## **2.4 Summary of land use and related policies**

There is no discrete definition of a set of policies and in a world of complex economies tied together by globalisation this will be the case in any sub-sector. Delimiting a policy area is a pragmatic affair, the framework of policies that impinge on land management is potentially large and in order to construct and define appropriate and manageable boundaries reflexive questions are employed, such as, *How far back in time should policies be examined?* and *Which policies only indirectly related to land management should be included?*

Direct policies may be conceived at landscape level (forestry and watershed management) and at farm level (agricultural practices) but these distinctions are a guide rather than discrete categories. Indirect policies that particularly affect land management at community level are land tenure and fiscal policies (Srivastava et al 1999). Land tenure policies increasingly determine the ability of communities to maintain long-term or sustainable practices, whilst insecurity of tenure tends to promote clearance of protective forest and scrub cover in marginal agricultural areas. Only if

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<sup>2</sup> 2% for tea in feasible tea production pocket districts of the eastern hills; 2% for fruit tree plantation in hill districts where integrated development packages have been initiated.

property and access rights are equitable and well established can resource users begin to have a stake in the long-term productivity of the land. Fiscal policies that impact on land management include: incentives that discourage a systems approach by targeting credit to monocropping and pesticide use; and fertiliser and irrigation subsidies discourage efficient use of water and animal manure resources.

Inevitably the study will progressively focus on the most relevant and influential policies upon which successful future land management strategies are contingent. Table 3 provides a summary of legislation and policies in various sectors, over a fifteen-year period, that have implications for land management strategies, and upon which future policy for land management will be built.



**Table 3. Summary of land use legislation and policies, and impacts on land management at farm and landscape levels**

														Outline of objectives and impact on land management			
88	89	90	91	92	93	94	95	96	97	98	99	00	01	02	03		
<b>Forestry Master Plan</b>														Strong emphasis on community forestry envisages protection of land against degradation by soil erosion, floods, landslides and desertification			
<b>Forest Act</b>														Forest degradation trend reversed and improved farm level land use systems through increased tree planting on-farm and stall-feeding livestock			
<b>Environmental Action Plan</b>														Reinforces agriculture-related land management policies of the APP			
<b>Forest Regulations</b>														Provides legal authority to FUGs			
<b>Seventh Plan</b>																Focus on soil conservation of afforested land and agricultural intensification	
<b>Eighth Plan</b>																Specific environmental and sectoral policies (e.g. APP)	
<b>APP (-2016)</b>																Emphasis on accelerated agricultural growth with packages: for fertiliser supply and integrated soil fertility management	
<b>Ninth Plan</b>														Poverty alleviation through strategies for soil conservation and fertility improvement			
<b>Land Act Amendment</b>														Not effectively disseminated or enforced, many people lack knowledge of rights, however, if effectively enforced it would impact on adoption of better land management practices such as plant nutrient recycling and soil conservation			
<b>Fertiliser subsidy withdrawn</b>														Easy access to chemical nutrients removed and higher price of chemical nutrients provides incentive to use organic nutrients			
<b>Tea and fruit tree subsidy</b>														Permanent vegetation encouraged and land stabilisation facilitated			
<b>GARDP</b>																Introduced monitoring and evaluation for agricultural extension and encouraged increased outreach to farmers	
<b>NLUPP</b>																Introduced land use planning for and monitoring of extension for sustainable agricultural development	
<b>AREP</b>																Emphasis on public-private partnership in technology generation and input delivery easy, cost-effective delivery of plant nutrients at farm and landscape levels, participatory approach to development of land management technology and flow of information	
<b>HARP</b>														Development of appropriate technology and information for sustainable hill land management through IPNMS, fruit tree planting and agroforestry			
<b>Decentralisation Act</b>														Enhanced dissemination to, and capacity for planning at, local level			
<b>Self-governance Act</b>														Introduced mechanisms for increasing local decision-making			

Sources: NPC/IUCN, (1991); Blaikie and Sadeque (2000); Chapagain, (2000); Bhatia (2000); Upadhyaya (2000); Ninth Plan (NPC, 1997); HMG/MOFSC (2001); Blaikie and Sadeque (2000); Chapagain, (2000); Bhatia (2000); MOA/AREP (2000). Key to policies: Direct *landscape level*, *farm level*; Indirect *fiscal & land tenure*; *Institutional*

### Gaps in current land policies and constraints to policy making

The Ninth Plan (1997-2002), Agricultural Perspective Plan (1996-2016), Forestry Master Plan (1988) and Nepal Environmental Policy and Action Plan (1993) are the main government policy and planning documents specifically intended to influence land management strategies. The Ninth Plan is influential at both farm and landscape levels, while the APP focuses on the agricultural sector and land productivity at farm level. Forestry policies are more often targeted to landscape level. However, implementation of policies through strategy and programme formulations is lacking. Institutional obstacles and unfocussed government policies impede progress for land management. There are broad policy guidelines for soil fertility improvement in the APP and the Ninth Plan but no detailed operational guidelines, strategic actions or work plans have been drafted by research and development agencies to guide policy into action.

Effective and efficient use of land faces a multitude of problems including unequal land distribution, dual ownership land tenure, land fragmentation, and an excessive ceiling on land holding size. The system of dual ownership severely limits productivity as neither owner nor tenants are motivated to invest in the land. Many of the present economic and agricultural policies for agricultural development relating to credit, price, research, and extension services, favour monoculture of major cereal crops at the expense of diversified farming systems and soil conserving legume crops. Credit, institutional support and other incentives are directed towards high external chemical-based inputs whilst incentives for farmers to adopt integrated management systems, soil conservation and sustainable agriculture are presently lacking. Table 4 lists some of the major gaps in current policies.

**Table 4. Gaps in current policies likely to affect adoption of land management strategies at farm and landscape levels**

Desirable land management practice	Constraints not currently addressed by policies
Investment in tree planting and other land improvements at farm level	Insecure tenure due to dual land ownership
Investment in soil conservation measures (fruit trees, bunds) and transport of bulky plant nutrients (e.g. compost) to distant fields	Small fragmented and uneconomic holdings
Use of organic nutrients and restricted use of agrochemicals linked to soil compaction and water pollution	Credit available for external fertiliser and pesticide inputs
Investment in land improvement and soil conservation measures (vegetative cover, terraces, fodder, fruit and other tree crops, perennial cash crops, hedgerows)	Lack of credit for perennial crops, trees, green manures
Incentives to build farmers' capacity for land improvement and collective land management at landscape level (roadside tree plantation, terrace banks, wasteland)	Lack of institutional policies and programmes for local level soil and land management farmer and user groups
Land use based on land capability and potential at farm and landscape levels	Lack of institutional policies and programmes on land use planning and zoning
Rapid spread and uptake of land management technologies and coordinated, systems approach to R&D	Isolated, fragmented, scattered commodity approach to technology generation and dissemination from various agencies (MoAC/NARC, MoFSC, I/NGOS etc)
Integrated plant nutrient management systems (IPNMS) and green technologies (green manures, cover crops, hedgerow plantation and legume crops) widely adopted at farm level	Lack of farmer information, training, seeds and planting materials, and subsidy due to unfocused policy on extension of IPNMS and green technologies

### **3. Land management planning and policy development in Nepal**

#### **Historical context**

Systematic policymaking processes started in Nepal in the mid 1950s with the concept of national development plans in five-year cycles. The National Planning Commission (NPC) at the centre is the responsible authority for coordinating the formulation of national development plans, as well as evaluating the annual plans of the line agencies.

Since the first Five Year plan of 1956-1961, national periodic plans have been the chief means of articulating government development objectives, policies and plans. Until now, nine periodic plans have been developed and implemented. The Fourth Five Year plan (1970-75) was the first to incorporate the concept of regional planning through the development of growth axes, the corridor development approach, which divided the country into five developmental regions (Chitrakar, 1990).

Policy-making is largely a central activity: area-specific policy is relatively uncommon. Broad policy goals are stated in national five year or longer-term perspective plans. The National Planning Commission (NPC) provides guidelines and directives on national goals and objectives to ministries and agencies of the government. Specific policies that impact at farm and landscape level are identified and formulated by concerned agencies and institutes such as R&D organizations of the government and submitted to the ministries for approval.

Policies are also formulated by planning Divisions and Sections of Ministries and their Departments and Agencies, at the direction of Ministers and high-ranking administrative officials (secretaries). Policies are approved by cabinet whose decision is final for all but the major economic and legislative policies. These require approval from lower and upper national assemblies, the general assembly of parliament, and the King, and can be implemented only after public notices are issued in the official Gazette. For lesser operational policies the procedural steps involved are as follows:

- Definition of policy goals
- Identification of specific policy to meet these goals
- Formulation of specific identified policy
- Approval from Government (Cabinet)
- Approval from Parliament (both lower and upper house)

The present policy making process in most cases lacks detailed scientific policy analysis and evaluation and there are no formal mechanisms for participation of relevant actors from private sectors, including the local community in such a procedure.

#### **Institutional constraints on policy making**

Historically, government political culture and bureaucratic traditions have remained centralized and hierarchical. Inadequate training of civil servants, and lack of accountability in administration, has discouraged participatory policy making. Lack of a land resource capability database has been an obstacle in the formulation of science-based land use strategies and policies (APROSC 1986). Lack of resources and access to modern information technologies combined with inflexible financial rules provide little scope for improving performance. Poor communication and coordination between departments and agencies within government ministries further inhibit efficient policy formulation (Table 5).

**Table 5. Constraints on policy making in Nepal**

<b>Issues identified</b>	<b>Constraints</b>
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 not flexible	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, linkage 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

### **3.1 Key actors in land management policy in Nepal**

Presently, relevant government Ministries and Departments are involved in making policy and are supported directly or indirectly in the process by donor agencies—World Bank, AsDB, DFID, GTZ, SDC, SNV, USAID—and several donor-funded projects. An annotated subset of key actors in relation to land management and their involvement with the process is provided below.

#### **(a) Ministry of Agriculture and Cooperatives (MoAC)**

The Planning Division of the Ministry of Agriculture provides operational guidelines on policy to the DoA, DLS and other agencies of the MoAC for agriculture-related land management activities and programmes. Guidelines conform with broader national policy goals of the planning commission.

The Department of Agriculture (DoA) and Department of Livestock Services (DLS) are programme implementation agencies. They also plan and carry out district level land and soil management programmes including training and demonstrations, through their respective district agricultural and livestock development offices. Soil Testing and Service Section (STSS) in the DoA is involved in farm soil survey, integrated plant nutrient management extension work. It is supported by five regional soil laboratories established in the five developmental regions of the country. STSS acts as the main technical body in supporting soil and land management related policy in the MoAC.

#### **(b) Nepal Agricultural Research Centre (NARC)**

NARC is the national body for conducting and coordinating agricultural research. The Council is mandated to provide policy and programme guidelines and approve budgets for Regional Agricultural Research Stations (RARS), commodity programmes, and Disciplinary Divisions for agriculture technology development in accordance with national policy goals and priorities of the MoAC and NPC.

The Research-Extension Coordination Meeting (RECOM) and Regional Technical Working Group (RTWG) meetings are examples of regional forums for research and development workers that are coordinated by NARC RARS. These provide feedback to policy makers, and identify policy issues and planning activities to be undertaken at national level. National budget

and planning workshops have been less effective in providing feedback for planning and policy making purposes.

Soil Science Division in NARC is actively involved in soil and nutrient management research and developing soil fertility maps and land use plans using GIS. It is involved in the farmers' day-to-day land management strategies through developing fertiliser recommendations for different crops and crop varieties developed in the country. The division has also been involved in the development and management of technologies for the sloping lands in the mountains. Pasture and Fodder Division of NARC is also involved in the development of pasture and fodder technologies for the pasture and open grazing land. It has been associated with Leasehold Forestry Project in collaboration with MoFSC and some of the local NGOs and the local institutions.

### **(c) Ministry of Forest and Soil Conservation (MoFSC)**

Ministry of Forest and Soil Conservation (MoFSC) is concerned with the conservation of forest, soil and wildlife at the landscape level. Forest Department, Soil Conservation Department and Forest Research and Survey Center are mainly concerned with the management of land. In addition there are various Donor-funded projects involved in forestry, soil conservation and watershed management related activities in Nepal. MoFSC uses community forestry approach for both better management of trees, community benefits and for better management of land. Soil conservation, bioengineering and maintenance of greenery are the major approaches employed for land management and environmental conservation. Issues of sustainable land management of the ministry overlap with agricultural and other sectors. Department of Soil Conservation is responsible in the management of land at the watershed / landscape level through developing soil conservation and land management policies, laws and programmes. It also has some specific projects and programmes that operates at the farm level soil and land management through its districts level soil conservation offices

### **(d) Ministry of Land Reforms (MoLR)**

Ministry of Land Reforms and Land Management (MoLR) is a nationally mandated body to develop policies and laws for the distribution, planning and management of land in the country. It implements land management policies and collects land revenue through its district land revenue offices in the country. It has also special projects and programmes on land resource mapping and land use planning. The Topographical and Land Use Survey Department in the ministry has been working on the development of broad national ecological land use maps for developing land use policies and legislation.

### **(e) Sustainable Soil Management Programme (SSMP)**

The Sustainable Soil Management Programme (SSMP) is implemented jointly by Helvetas and Intercooperation as part of a continuing programme to implement soil management programmes in selected rainfed (*bari*) land in ten Mid-Hill districts employing a network of local NGO-DADO (district government office) collaborative ventures. Operational policies are guided by district level meetings of the INGO programme managers and annual meetings of the National Steering Committee of which selected representatives from MoAC, MoFSC and MoF are members (Subedi and Bajracharya, 2000).

### **(f) Third Livestock Development Project (TLDP)**

The Third Livestock Development Project is an AsDB-funded project within the Department of Livestock Services working with farmers and farmers' groups in the Western Development Region focusing mainly on promotion of low cost fodder and forage technologies (Pradhan *et al*, 2000), with huge implications for land and soil management of fallow and rough grazing areas, terrace risers and banks, wastelands and land slide areas, through sole, inter and cover legume cropping, and hedgerow and roadside plantation of fodder tree species. TLDP

informs the MoAC and other policy-making organizations about ground realities of and policy constraints on these technologies.

### (g) National Agroforestry Foundation (NAF)

National Agroforestry Foundation (NAF) is a non-governmental organization (NGO) involved in the sustainable management of land for improving the livelihood of the farmers through the promotion of agroforestry programmes. It has mainly focussed its programmes on the promotion of fodder trees and forage grasses to enhance farmers' income and the productivity of land. NAF works directly with farmers and local communities to create awareness and strengthen their capacity to adopt agro-forestry technologies through the provision of technical know-how, materials support, extension and training. It also conducts on-farm trials and farmer-managed agroforestry demonstration plots.

### (h) International Center for Integrated Mountain Development (ICIMOD)

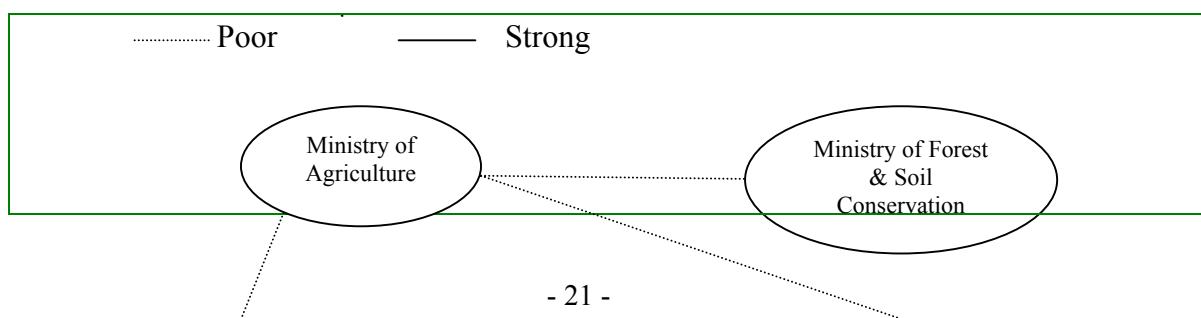
ICIMOD is a regional institute established to help promote the development of an economically and environmentally sound mountain ecosystem and to improve the living standards of the mountain people. It acts as a focal point for documentation, training, and applied research and demonstration on a wide range of issues that the governments and the people face and provides advisory and consultancy services on the sustainable development of the mountains. Its Mountain Farming Systems Division and Natural Resource Management Division are mainly involved on research related to management of mountain land. It has tested and promoted sloppy land technologies (SALT) such as bioterracing and hedgerow planting for the management of marginal mountain lands. It has assisted the countries in the Hindu-Kush Himalayan regions through the promotion of sustainable mountain technologies and information for appropriate land management policy making.

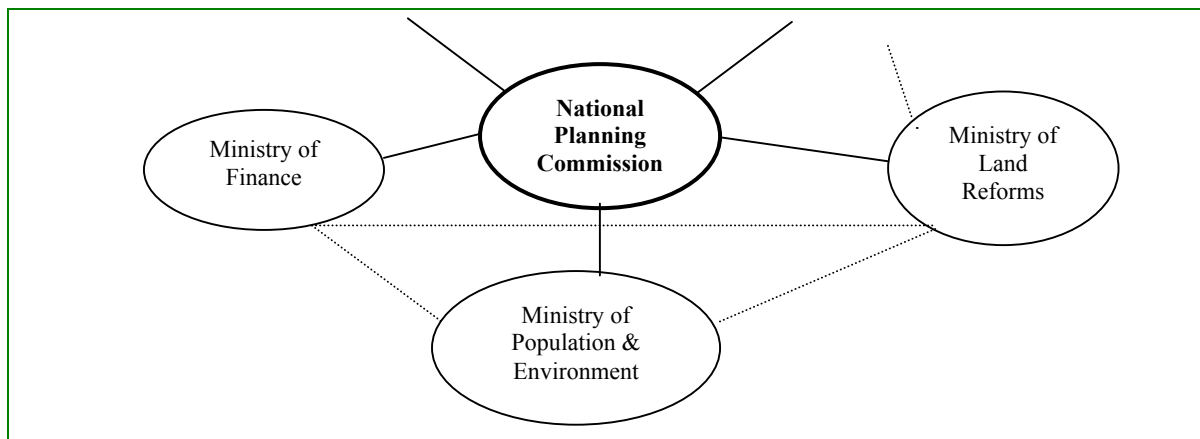
## 3.2 Coordination and flow of information

Figure 1 presents the flow of information between and among land related key policy makers in Nepal. Institutions and stakeholders involved in the development of land resource management priorities, action plans and policies are scattered in different ministries and institutes. The effective co-ordination of land management policy efforts requires regular communication between diverse land related stakeholders. Yet unfortunately, the flow of information among government ministries associated with land management is often irregular and *ad hoc* (Fig 1).

To some extent vertical flow of information exist from policymaking level (National Planning Commission, which is a highest policy making body) to government ministry and government ministry to its institute with in the same ministry through official letters, meetings and informal means of communication. However, flow of information horizontally through meetings, official letters and other means is often irregular and poor between government ministries and institute within the same ministry. For example the information flow between Ministry of Agriculture and Co-operative (MoAC) and Ministry of Forest and Soil Conservation (MoFSC) and Ministry of Population and Environment (MoPE) is irregular and *ad hoc*. The flow of information between these ministries and field level activities is also poor.

**Figure 1. Flow of information among government ministries**



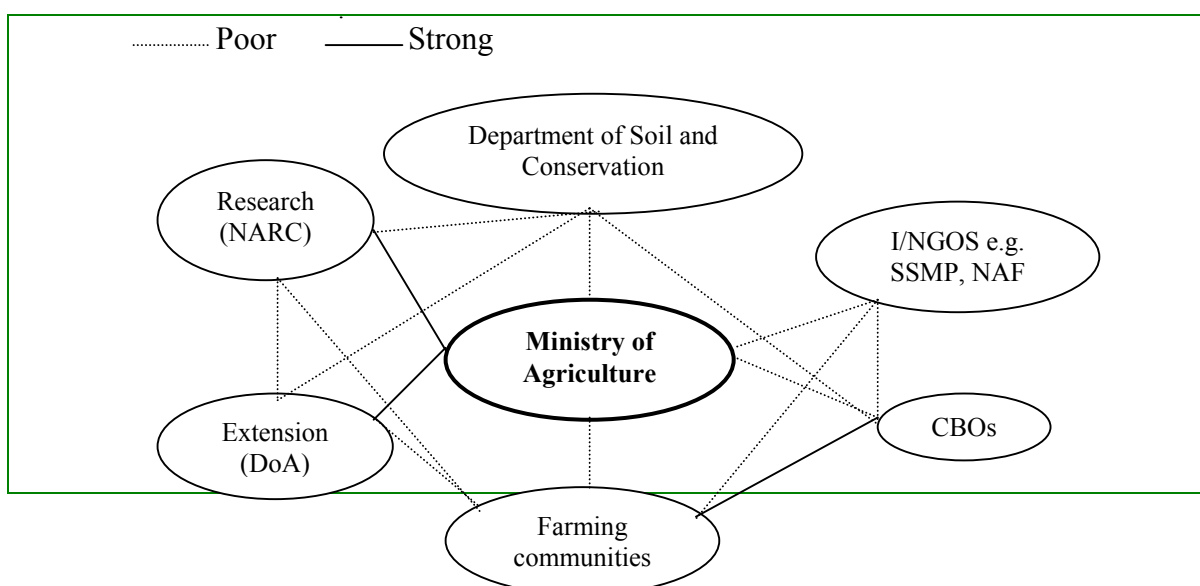


At the regional and national level, Research-Co-ordination Meeting (RECOM) and Regional Agricultural Technical Working Group (RTWG) and the budget and planning workshops have been used as the mechanism for planning and policy feedback but has not been utilized effectively for policy making purpose. In fact such forum has been mainly developed for the technology development and transfer and therefore, issues related to policymaking is limited. However, they can be important mechanisms for bringing research-based information into the policy making process.

There is a poor availability, accessibility and relevance of information flowing between the government (Ministry of Agriculture and Cooperatives) and the private-I/NGO sectors, grass-root institutions and farming communities due to lack of common platforms and regular mechanisms for information sharing on issues relating to policy debates and development (Figure 2).

MoAC, a major policy making institution for agricultural land, also lacks expertise and separate authorised cell to co-ordinate land management policy. Similarly other land related policy bodies (MoFSC, MoLR) focus land management issues in their own ministry and sectors and constrained by the resources and expertise in the co-ordination of relevant stakeholders for the LMS policy development in the country. There are also no explicit mechanisms for the participation of farming communities and the civil societies in the development of policies. This results in the poor feedback and regular flow of field level information to policy decision making in the country.

**Figures 2: Flow of information among Ministry of Agriculture, its institutes and other stakeholders in the private-I/NGO sectors and farming communities**





### 3.3 Summary of historical and contextual factors

Institutions and stakeholders involved in the development of land resource management priorities, action plans and policies are scattered in different ministries and institutes. The flow of information among government ministries associated with land management is often irregular and *ad hoc*. There is also a poor availability, accessibility and relevance of information flowing between the government and the private-I/NGO sectors, grass-root institutions and farming communities due to lack of common platforms and regular mechanisms for information sharing on issues relating to policy debates and development. Presently the country lacks systematic and integrated land management and soil fertility management policies based on the land capability, land suitability and crop suitability for developing suitable nutrient management planning and policy-making.

Scientific Planning and policy making for sustainable land management is a complex process because of their interaction with diverse sectors. The complexity of land management sector calls for a holistic approach to translating land management policies into administrative and management actions. The issues are multidimensional and interrelated, and therefore require a mix of integrated strategies. Guidance must come from the policy statements and translated into operational plans that help implementation of land management activities. The existing policies need to be simplified, harmonized and brought into line with other policies. This requires interdisciplinary, and inter-institutional /ministry collaboration, co-ordination and participatory policy making process that adequately and regularly links field level information to policy decision making.

The review reveals that policy-making processes are highly complex. Political, social and economic circumstances influence the policy making process and determine the policy outcome. In particular: further study and analysis are needed for the validation of the following assertions:

- ◆ 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 from the private and non-governmental sectors, and farming community is lacking;
- ◆ Plans and project documents are developed mainly from external consultancy for external funding requirements with little local input; and
- ◆ Farmers' interests and indigenous knowledge are seldom reflected or represented in policy.
- ◆ This can be achieved through further review, analysis and interview with relevant stakeholders in order to provide conclusive answers to the following research questions:
  - How is policy identified, formulated and implemented?
  - Who are the stakeholders involved in policy making?
  - How does information flow among different actors in the process of policy making?
  - What specific policies are likely to affect the adoption of land management strategies?



- What are the constraints and gaps in present policymaking processes to achieving the above?

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