



Project for Sustainable Agriculture and Rural Development in Mountain Regions (SARD-M)

Assessment of SARD-M Policies in the Hindu Kush – Himalayas: the case of Land Use Policies in Bhutan

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Executive Summary

The people of Bhutan have depended for centuries on the environment and natural resources for their livelihood, culture and well-being. Low population density in the past and isolation from external influences ensured sustainable use and management of natural resources. However, increasing population, commercialization and rapid globalization have influenced a transformation in social values, local institutions and traditional perceptions towards use and management of resources, which demand adjustments in policies and development approach.

To strike a balance between local priorities and globalization, Bhutan has adopted a 'middle path' approach to sustainable development in order to achieve maximum economic development without compromising its environmental, socio-cultural and biological diversity. Bhutan's development path into the new millennium emphasizes human development, culture and heritage, equitable development, governance and environment conservation, otherwise termed as Gross National Happiness (GNH) as articulated by His Majesty King Jigme Singye Wangchuck. It stresses that development needs to be understood as a process seeking to maximize happiness rather than economic growth alone. The four pillars of GNH largely correspond to the elements of SARD-M. Essential features of sustainable development have always existed in all sectoral strategies and development plans of Bhutan. Tourism in the country is regulated largely by a system of high tariff with the number of tourists averaging about 10,000 per year.

With 79% of the population engaged in farming, agriculture forms the main source of livelihood in Bhutan. Considering land as the most important resource, ICIMOD, in collaboration with the FAO SARD-M Project¹, commissioned a case study in Bhutan to look into the impact of land use related policies on sustainable agriculture and rural development. The main elements and observations from the study are summarized in the following paragraphs.

Land use in Bhutan is predominantly forests (72.5%) and agriculture (7.7%). The pasture and alpine meadows cover 3.9%. From 1958 to 2000, there was an increasing trend in the major land uses - forest, agriculture and pastures. Shifting cultivation, although declining, still forms an important land use within the arable agriculture. Major threats to agriculture include: unclear land use policies leading to unsystematic and arbitrary land use and management; narrow land base for agriculture; human-wildlife conflicts resulting in widespread crop damage; and loss of arable land to urbanization and infrastructure development. In forestry, major issues are increased use and strain on resources, conflict with livestock grazing in the forests, changing social values and traditional institutions in forest management and limited resources and capacity to enforce regulations. In pasture, quality deterioration and low productivity, lack of scientific studies on the impact of forest grazing and unclear rules in community ownership and management of pastures are major challenges.

A formal land use policy and legislation is lacking but there are a number of associated acts and rules governing land uses. Important ones are the Land Act (1979) and the Forest and Nature Conservation Act of 1995. The Committee of Council of Ministers take the final decision on issues related to changes in land use. Prominent policies within agriculture are to enhance food production and self-sufficiency with the provision of subsidies. Protection of wetlands from conversion to other uses is to ensure rice production for the future. The current levels of subsidies are thought to be insignificant for furthering agriculture and food production.

The Bhutan Forest Act of 1969 was the first legislation for regulating use and management of natural resources. The Act changed natural resource property rights and provided power to forest officials to protect, manage and control access to the forests. In 1995, this Act was repealed and replaced by the present Forest and Nature Conservation Act. The first National Forest Policy of Bhutan was formulated in 1974 and revised in 1991. For pastures, a draft Pasture Policy was

¹ For more information on the FAO SARD-M Project, see the project Website:
<http://www.fao.org/sard/en/sardm/home/index.html>

formulated in 1996, which is undergoing finalization. However, the Land Act has several provisions for grazing including the right to graze in State forests. The *tsamdros* (registered grazing lands) often overlap with forestlands and conflicts arise.

Institutionally, the King is the head of the State while the Prime Minister heads the Government. The Executive power is vested in the *Lhengye Zhungtshog*, a council of elected Ministers for a five-year term. Among several key responsibilities, the *Lhengye Zhungtshog* is the highest authority for government policies and their implementation. The country is divided into 20 administrative *dzongkhags* (districts), which are further divided into blocks or *gewogs*. The District Development Committee (DYT) and the Block Development Committee (GYT) are important grassroots institutions for planning and local development.

The policy formulation process in Bhutan generally follows five phases of needs assessment, formulation, approval, implementation and monitoring. The Cabinet, Ministries and Planning Commission assess the need for change or introduction of new policies. Formulation follows priority setting, presentation to Government and public consultation within DYT and GYT. The policy agreed through consensus is submitted to the Cabinet for approval. Once approved respective ministries and agencies are mandated to implement the approved policies. The Planning Commission monitors the policy implementation and its performance. Overall, the policy implementation process promotes a decentralized system of decision-making to empower local communities and give them a voice in the nation-building. The Planning Commission constituted in 1971 is at the helm of policy formulation in the country. In 1991, the planning and policy divisions were created in all the ministries to establish a network of planning professionals. Each district also has a planning officer on its payroll.

The absence of an over-arching land use policy has made it difficult to arrive at a decision on land use change based on its suitability and capability. This leads to the use of good arable land for infrastructure. Between 1996 and 2001, more than 630 acres of wetland were lost to non-agricultural land uses in addition to 11,000 acres of agricultural land being administratively converted to forest between 1960s and 1990s. Despite this, the policy of food self-sufficiency has had positive impacts on production of cereals and horticultural crops. The rice production from 1989 to 1997 increased by 58% mainly from increases in yield. Similarly, the national maize production is reported to have increased by 21% from 1995 to 2004. In horticulture, the export of potato and mandarin from 1992 to 2005 has increased from 8,271 MT to 23,707 MT and from 14,725 MT to 23,284 MT respectively. The emphasis on forest and environment conservation has had negative impacts on people's livelihood from widespread crop damage by wild animals and from the ban on *tseri* cultivation.

So far, the Bhutanese experience with tourism has been largely positive. The tourism policy of the country is in line with its principle of GNH, centering on environment and culture rather than the accumulation of wealth from the industry. However, on the negative side there is an imbalance of benefits from tourism in terms of geographical regions and the urban versus rural areas. Tourism activities are concentrated in the urban centres and managed by people hired from such centres, with minimal involvement of local people or communities.

There seems to exist some kind of disparity in terms of reach and penetration of some well-intended policies. The discrepancy has been further aggravated due to differences in interpretation, where policies have been manoeuvred in favour of preferred situations. Due to remoteness and low literacy level, the awareness and understanding of various policies can be rated as low, thus nullifying the wisdom of policies. The wide variation in interpretation of policies and acts leads to a disparity in implementation and reach. The study also revealed a lack of policy advocacy to promote common understanding of the policies.

In conclusion, Bhutan has managed the process of development remarkably well, ensuring a harmonious balance between the natural environment, social and traditional values, and the forces of economic development. New challenges, however, continue to arise and Bhutan is vulnerable to degradation of its natural resource base. Appropriate policy interventions therefore become essential. Over the years, there have been changes and adjustments in the policies, reflecting dynamism in policy-making. Some important lessons learned include the need for a

strong and visionary leadership, which the country is fortunately blessed with, suiting policies with local contexts and needs, and cross-ministerial coordination for effective implementation of policies.

Some of the important recommendations and follow-up actions from the study include the need to urgently develop a national legislative framework, which would facilitate a systematic evaluation of the present land use and land users, as well as assess the capability of the natural environment to sustain the different land uses. Given the low level of awareness among the different layers of society and citizenry, there is a need to create appropriate platforms for public advocacy and conduct mass campaigns to raise the level of policy awareness. Bhutan needs to strike a finer balance between the environment conservation and its aspiration for economic development, particularly in the rural hinterlands. The current human-wildlife conflicts and the resultant impact on crops and rural livelihoods clearly show a tilt in favour of conservation.

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Acronyms

ADB	Asian Development Bank
BCCI	Bhutan Chamber of Commerce and Industries
CCM	Committee of Council of Ministers
DoF	Department of Forest
DYT	District Development Committee
FAO	Food and Agriculture Organization of the United Nations
FSD	Forestry Services Division
FYP	Five-year plan
GNH	Gross National Happiness
GYI	Block Development Committee
IPM	Integrated pest management
LUPP	Land Use Planning Project
MDGs	Millennium Development Goals
MoA	Ministry of Agriculture
MT	Metric tonnes
NA	National Assembly
NEC	National Environment Commission
NGO	Non government organization
NMC	National Mushroom Centre
NSB	National Statistical Bureau
NSSC	National Soil Services Centre
NWAB	National Women's Association of Bhutan
PP	Plant protection
PPD	Policy Planning Division
RAC	Royal Advisory Council
RGoB	Royal Government of Bhutan
RNR	Renewable Natural Resources
RSPN	Royal Society for Protection of Nature
SARD-M	Sustainable Agriculture and Rural Development in Mountain Regions
TAB	Tourism Authority of Bhutan

I . Background

In 2000, an International Conference on Sustainable Agriculture and Rural Development was held in Adelboden, Switzerland, which urged countries to improve livelihoods of mountain people. One of the outcomes of this conference was the FAO Sustainable Agriculture and Rural Development in Mountain Regions Project (SARD-M), which looked into the existing agriculture and rural development policies with the view to improve the policy environment thereby contributing to the enhancement of livelihoods of the mountain people.

In general, SARD aims to increase agricultural production and improve people's livelihoods while ensuring that the natural resource base continues to provide productive environmental and cultural services. In the context of mountain areas, there is a general consensus that the lack of clear understanding of sustainable agriculture and rural development policies hinders effective policy interventions. The SARD-M Project thus seeks to answer to what extent the national policies converge or diverge with SARD framework at national, regional and local levels. It also attempts to understand the policy-making and implementation processes at different levels, assess major impacts of the present policies and compare lessons learned and experiences gained by different countries.²

As part of the SARD-M project coordinated regionally by ICIMOD, Bhutan was selected to carry out a case study focusing on the assessment of policies related to land use and how they affect the agricultural and rural development in the country. This paper is the outcome of the assesment, which provides an overview of the land use polices, the policy formulation processes and some impacts of the existing policies on agricultural production and rural development. The paper is laid out in six major chapters.

Chapter one provides an overall country background looking at the major natural resources and their sustainability, and the historical development perspectives including the concept of Gross National Happiness (GNH), which is unique to Bhutan. Chapter two focuses on the emerging pressures on resources, land use and changes over the years, major issues and threats in agriculture, forestry, pastures, human settlements and tourism sectors. Land use policies and policy adjustments comprise the theme of chapter three, dwelling on the policies in the Renewable Natural Resources (RNR) sector and the institutional arrangements for policy change decisions. Chapter four is about the processes for design and implementation of policies in Bhutan. It also talks of the institutional evolution in the country, the political transformation and milestones and how policy-making has progressed over the years. Chapter five describes some of the impacts and implications, both positive and negative, of polices mainly in the RNR sector. A brief analysis of the strengths and weaknesses of the policies is also provided. Conclusions, lessons learned and recommendations form the contents of chapter six.

1.1 Major resources

Bhutan is a rural and agrarian society with over 79% of the population engaged in farming. Agriculture is the main source of livelihood for the Bhutanese. It is also the single largest sector providing mass employment in the country. Land is thus the most important resource and asset for the Bhutanese, and any issues or policies related to land affect almost the entire population. The choice of land policies as an entry point for rural development can therefore be justified in the Bhutanese context and for the purpose of this study.

Bhutan is richly endowed with natural resources and biological diversity that exceeds the expectations from a small country. The main resources include natural forests, minerals, crops, animals and abundant water. Forests cover over 72% of the land area, with ecologically diverse types including firs, mixed conifers, blue pine, chir pine, broadleaf mixed with conifers, upland and lowland hardwood, and tropical forests. Bhutan has a rich flora with over 6,440 species of vascular plants. Of the known 5,446 species, as many as 750 are endemic to the Eastern Himalayas and 50 or more are endemic to Bhutan itself (BAP, 2002). Several species are of high

² See Framework for Rapid SARD-M Policy Assessment in Annex 1.

conservation value, for instance, *Taxus baccata* and *Cordyceps sinensis*. The forests also harbour high value and export-quality mushrooms. There are an estimated 160 species of mammal fauna in the country. Although the avifauna is still not well known, around 770 species have been recorded. Crop diversity is enhanced through Bhutan's relative isolation from other parts of the continent. Many of the native crops, as well as those introduced, possess significant genetic diversity and are ecologically well-adapted to the specific requirements of the local environment. Rivers and lakes form major inland resources of the country. The main river systems include Manas, Sunkosh, Wang Chu, Mangde Chu and Amo Chu. Most of the rivers originate from lakes in the upper regions and are fed by downstream catchments.

1.2 Resource sustainability

The Bhutanese have for centuries depended on the natural environment and natural resources for their livelihood, culture and well-being. In the past, low density, subsistence use and isolation helped maintain the sustainable use and management of natural resources. However, distinct patterns of change are visible today with increasing economic and development aspirations. Economic development can be generally correlated with decline of natural resources, with a rapid transformation in social values, local institutions and traditional perceptions (FAO, 1999).

Forest use in Bhutan forms an integral part of farming systems and is linked with traditional practice and culture. However, such traditional and customary regulations are weakening, leading to unsustainable use. In Bhutan, forests are used for various purposes: for fuel, timber, flag poles, pasture, shifting cultivation, *sokshing* (woodlot for collection of manuring leaf litters), shingles, medicines, dyes, etc. The current fuelwood consumption has almost reached the level of annual sustainable harvest. Although Bhutan is forest sufficient at the national level, it is not at the local levels due to over-harvesting and degradation.

The current population growth rate of over 2% is high. The Royal Government of Bhutan (RGoB) forecasts a steady decline in the population growth rate (Table 1) but is doubtful if the predicted fall in rate is achieved. Data to show the growth decline are certainly lacking. Population growth rate and resource degradation are correlated, raising sustainability concerns.

Table 1: Population and growth rate of Bhutan, 1997-2011

Year	Population (m)	Growth rate (%)
1997	0.619	2.92
1998	0.636	2.83
1999	0.654	2.74
2000	0.672	2.65
2001	0.689	2.56
2002	0.725	2.43
2003	0.742	2.35
2004	0.759	2.26
2005	0.775	2.17
2006	0.792	2.08
2007	0.808	1.99
2008	0.823	1.91
2009	0.838	1.82
2010	0.853	1.73
2011	0.867	1.63

Source: 8FYP Doc

Sustainability issues in biodiversity arise from habitat destruction and fragmentation, brown sector (construction, industries) development, over-exploitation, human-wildlife conflicts, replacement of indigenous crops and varieties by exotics, poaching of endangered species, and inadequacy in policy formulation or enforcement. Hydropower plants are based on a run-of-the-river system taking advantage of the natural fall of rivers to generate power. Implementation of proper watershed management plans and inter-ministerial coordination are crucial.

1.3 Historical development perspectives

Until the 1960s, Bhutan was a self-contained traditional rural society. The nation had very little of the infrastructure associated with a modern nation state (Bhutan 2020). The majority of the Bhutanese lived under harsh conditions, toiling every day for their livelihood. People totally depended on land and forests, cultivating or collecting as much food as they required. They raised livestock, wove cloth and made their own pottery. Communicable diseases were widespread and life was short. There were no motorable roads.

The harbinger of modernization, His Majesty the late King Jigme Dorji Wangchuck, ushered Bhutan to the world in 1961, joining the global community after years of self-imposed isolation. Modern development began with the building of roads, schools and hospitals. Provision of communication facilities, health care, sanitation, water supply and electricity also received priority in the development agenda. Today, the access to primary health care has crossed 90% and 65% of the rural population has access to safe drinking water. Child immunization is more than 90% and the average life span has stretched to 66 years. Trade and economic activities have expanded. In short, Bhutan has achieved a lot within a short time.

All the while, Bhutan has adopted a ‘middle path’ approach to sustainable development in order to achieve maximum economic development without compromising its environmental, socio-cultural and biological diversity. Indeed, harmony with nature is embodied at the highest policy level as reflected by the statement of HM King Jigme Singye Wangchuck:

Throughout the centuries, the Bhutanese have treasured their environment and have looked upon it as the source of life. This traditional reverence for nature has delivered us into twentieth century with our environment still richly intact. We wish to continue living in harmony with nature and pass on this rich heritage to future generations.

Bhutan’s development path into the new millennium focusses on human development, culture and heritage, balanced equitable development, governance and environment conservation. Strategies to realize these goals include infrastructure expansion, improving access and enhancing social services and ensuring sound macro-economic policies combined with effective governance. The vision document Bhutan 2020 serves as a milestone for planning and development, which are translated into sectoral policies, strategies and programmes through five-year plans (PRSP, 2004). The key social targets are consistent with the Millennium Development Goals (MDGs).

Table 2 provides the major development indicators and their changes from 1974 to 1998. Data for recent years are lacking. Bhutan has made impressive strides in health, education, transport and communication, agriculture and income. Physical infrastructure has improved and continue to do so. Health and education coverage has improved over the years.

Table 2: Development and progress indicators

Indicators	1974	1985	1998
Health			
Life expectancy (years)	-	46	66
Infant mortality rate (per thousand)	-	142	71
Health coverage (%)	-	50	90
Hospitals (numbers)	11	27	28
Basic health units (nos)	0	65	145
Education			
Enrolment rate (%)	-	-	72
Literacy (%)	-	23	54
Primary schools (nos)	71	145	243
High schools (nos)	20	30	52
Private schools (nos)	0	1	7
Transport and Communication			
Length of road (km)	1,332	1,755	3,376
Telephone exchanges (nos)	7	13	26
Telephone connections (nos)	480	1,880	9,314
Post offices (nos)	51	54	106
Suspension bridges (nos)	20	175	320
Agriculture			
Agriculture extension centres (nos)	15	121	159
Seed production farms (nos)	9	10	11
Forest cover (%)	-	-	72.5
Protected area (% of total area)	-	-	26.23
Power and Income			
Electricity generation (m units)	4	40.5	1,791.64
Villages with electricity (nos)	62	95	375
Towns with electricity (nos)	17	23	39
GDP in million Nu	-	2,392	14,477
GDP growth (%)	-	6.8	6.7
Exports as % to GDP	-	11.4	33
Imports as % to GDP	-	43.5	42.5
Foreign exchange reserves (million USD)	-	20.6	252.22

Source: Ninth Five-year Plan Document

Gross National Happiness

Unique to Bhutan and articulated first by His Majesty King Jigme Singye Wangchuck, the concept of Gross National Happiness (GNH) emphasizes that development has several dimensions other than those associated with the Gross Domestic Product (GDP). It stresses that development needs to be understood as a process which seeks to maximize happiness rather than economic growth alone (Bhutan 2020). GNH places the individual at the centre of development efforts, in recognition of the spiritual and emotional needs of that individual, in addition to the material needs. In the words of Henry van Dyke, "Happiness is inward, and not outward; and so, it does not depend on what we have, but on what we are". GNH asserts that increased consumption of goods and services should not exclusively define development and human aspirations. On the other hand, GDP essentially measures human prosperity and well-being in plain economic standards, which are gauges of economic activities (Kavanagh, 2005).

The main constituents of GNH, from a Bhutanese perspective, are the preservation and promotion of culture, sustainable and equitable development, promotion of good governance and conservation of environment (Thinlay, 1999). These elements give a tangible expression to the central tenets of GNH and embody the guiding principles related to the independence, sovereignty and security of the country. The concept of GNH rejects the notion that there is a direct relationship between wealth and happiness. Instead, it asserts that the key to happiness is

in satisfying non-material needs and spiritual growth once the basic material needs are fulfilled. Happiness may be highly subjective, but all humans share this subjectiveness.

There is considerable common ground between the principles of SARD – economic, social, environmental and institutional – and the sustainable and equitable development, culture and heritage, environment and good governance pillars of GNH (Table 3).

Table 3: Commonalities between GNH and SARD-M

SARD Component	GNH Pillars			
	Sustainable and equitable socio-economic development	Preservation and promotion of culture	Conservation of environment	Promotion of Good Governance
Economic	Mix of economic activities – result based; indicator based on conservation of social, environmental and human capital; redistribution of happiness through income redistribution			
	Balanced and equitable development; focus on vulnerable groups; resource sustainability over economic gains; 'happiness depends on relative income, not absolute income'			
Social		Right to choose, change and revise elements of multiple cultural identity; happiness exists and grows with sharing		
		Continuity of traditional and monastic institutions; promote local arts, crafts and artefacts; inner spiritual development, balance between materialism and spiritualism		

Environmental			Wrathful nature of Himalayan ecology – vigorous greening and biodiversity preservation policies	
			Forest and biodiversity conservation; 26% wild life sanctuary and 72% forest cover; biological corridors; equilibrium between man and nature, reverence of nature	
Institutional				Governance oriented to collective happiness, parliamentary democracy; institutions are systems of quality relationships
				Combination of local acumen and resilience with genuine virtues of Western democracies; administrative and political decentralisation; integrity, transparency and accountability.

Both concepts have an emphasis on sustainability and equity issues. Focus on mainstreaming marginalized and disadvantaged groups is another common concern. Cultural plurality and promotion, social freedom and strength of traditional institutions are common features of both concepts. Both emphasize nature and biodiversity conservation, and sustainable forest and resource management. People-centred development, systems and processes, participation and synergy, and collective decision processes are other common characteristics.

Thus, GNH adequately encompasses the SARD-M concepts and principles. In fact, it goes beyond, emphasizing the non-material and spiritual needs of human beings. Although the concepts evolved in isolation, the substantial overlap perhaps underline the hopes and aspirations of the mountain people.

Sustainable development strategy

While Bhutan does not have a formal sustainable development strategy document *per se*, elements of sustainable development exist in all the sectoral strategies and plans of the Government. Many of the development priorities promulgated by the international development agencies such as environment conservation, human development, decentralization, participation

and empowerment, gender and equity are not new to Bhutan (Vision 2020). These priorities may not have been referred to in the terminology of today, but they have been the essential components of the Bhutanese approach to development.

Bhutan 2020: A Vision for Peace, Prosperity and Happiness (Planning Commission Secretariat, 1999) is a longer-term strategy document providing the overall framework for sustainable development in the country. It sets the future directions for charting out a distinctive development path for Bhutan based on the sustainability principles in the main areas of environment, culture and heritage, governance and human development.

As a medium-term approach, Bhutan follows a cycle of five-year development plans, which are based on the long-term vision and strategies. From the five-year plans, annual plans (or rolling plans) are developed and implemented at the district levels.

Institutions of governance

Throughout its history, Bhutan has been proudly independent, owing its unification to Shabdrung Ngawang Namgyal in the seventh century. The monarchy was established by Sir Ugyen Wangchuck in 1907; since then Bhutan has been an enlightened monarchy. Since 1953, after institutionalization of National Assembly (NA), it acts as the highest legislative instrument for governance. As the legislative body, the NA has 150 members which include 100 members (*chimi*) as elected representatives of people, and the remaining are government nominees. There are six councillors who are also elected from and by the people and they collectively form the Royal Advisory Council (RAC). RAC advises the King and the Government on matters of national importance, acts as bridge between the Government and people. They also ensure implementation of laws and decisions of NA. The 10 Ministers (Home, Foreign Affairs, Finance, Communications, Agriculture, Health, Education, Trade, Labour and Human Resources, and Work and Human Settlement) who are elected by the NA members, form the Council of Ministers and act as the highest Executive Body of the Government. The Judiciary forms the third wing of the government.

At the regional and local levels, the country is divided into 20 administrative units called *dzongkhags* or districts (Figure 1). Each *dzongkhag* is subdivided into blocks or *gewogs* (201 in total). Each *dzongkhag* has an administrator called *dzongdag*. Each *gewog* is administered by its head (*gup*) and his assistants through the *Gewog Development Committee* (GYT) with elected members for a period of three years. The members assist in the preparation and implementation of *gewog* development plans. At the district level, the *District Development Committee* (DYT) with the *gups*, the *chimi* (elected members of the National Assembly) and local representatives of different ministries as members, implements the development plans.

The private sector with business orientation although at a nascent stage is represented by the Bhutan Chamber of Commerce and Industries (BCCI) at national level. BCCI has branch office in each district, which facilitates the development of trade and industries at the local level.

As the whole government system operates on a social service agenda, NGOs have not emerged as institutions. As an exception, the Royal Society for Protection of Nature (RSPN) and the National Women's Association of Bhutan (NWAB) are considered as NGOs who operate at national level. However, there are efforts to promote foundations, self-help groups, cooperatives, and NGOs.

Bhutan Administrative Boundary

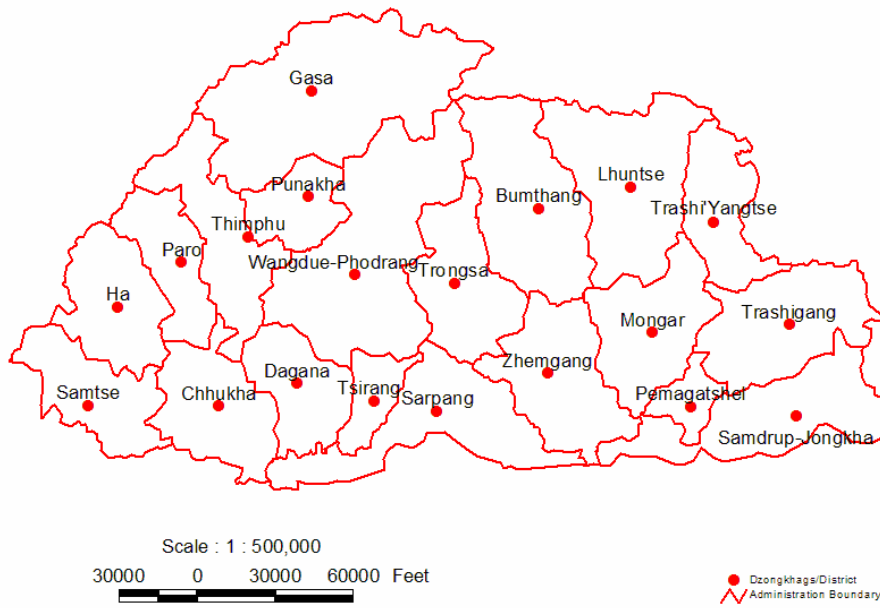


Figure 1: Map of Bhutan showing different administrative districts

II . Pressure on Natural Resources with Focus on Land

The increase in population, urbanization and industrialization is exerting pressure on the fragile environment. Unsustainable fuelwood extraction, vegetation loss and degradation, frequent forest fires and overgrazing lead to forest degradation. Land degradation is also caused by cultivation onto steep slopes, crop intensification and non-adoption of adequate soil conservation measures. Livestock rearing is an integral part of the Bhutanese farming system, with an estimated cattle population of 300,000. With the forestland mostly providing grazing for this large number of animals, there is bound to be degradation. Mining and quarrying, although not very extensive, nevertheless lead to land degradation through soil disturbance and subsequent erosion. Road construction and power transmission lines, no doubt important development activities, also result in resource degradation. Bhutan, being geologically young and fragile, there are a number of natural calamities such as landslides and flooding of rivers as well as glaciers.

2.1 Land use and changes

Land use in Bhutan is predominantly forests and agriculture. Land use under forest accounts for 72.5% and agriculture for 7.7% of the total land area (Table 4). The pasture and alpine meadows cover 3.9%. A significant proportion, 2.4% of the total area, is under landslips and erosion, which reflects the fragility of the mountain areas. Snow/glacier and rock outcrops combined constitute about 12.5%. Settlement accounts only for 0.1% but it is fast growing due to urbanization.

Table 4: National land use as percentage of total area

Land use type	Percent coverage
Forests	72.5
Pasture	3.9
Agriculture	7.7
Horticulture	0.1
Settlements	0.1
Others	15.7
Snow/glaciers	7.5
Rock outcrop	5.0
Water spread	0.8
Marshy area	0.1
Land slips/erosion	2.4

Source: Land Use Planning Project (LUPP), 1997.

Table 5 presents a picture of the changes in land use from 1958 to 2000. First, a comment is warranted on the unavailability of a single, uniform and authoritative time series data for drawing a conclusive picture. The assessment of change over time is difficult due to the lack of compatible and consistent data sets across source, time, space, scale and classification systems. Nevertheless, certain trends are discernable from the table. There is an increasing trend in the major land uses - forest, agriculture and pastures. While the natural forest has increased over the years, there has been a decrease of the scrub forest, which is reflective of the forest quality. Similarly, land use under agriculture and pasture has gone up over the years. Shifting cultivation, which is discouraged by the Government, has been on the decline. However, it still forms an important land use within the arable agriculture.

Table 5: Changes in land use, 1958- 2000 ('000 ha)

Land use category	1958	1978	1989	1997	2000	% change (base 1978)
Natural forest	2496	2463	2137	2574	2870	+16.5
Scrub forest*	-	364	551	326	287	-21.2
Agriculture	299	241	431	220	305	+26.5
Natural pastures	-	75	105	156	155	+108
Shifting cultivation	-	115	156	88	-	-
Settlements	-	-	-	12	30	-
Total	4040	4025	4073	4011	3961	-

Data source: 1958 : PIS; 1978: Negi, P.S.; 1989: Gupta, P.N.; 1997: LUPP/MoA; 2000: RNR Stats/MoA.

* includes degraded forest.

2.2 Agriculture and horticulture

Crops and cropping patterns vary across the country in accordance with the altitude and climatic conditions. In the Western parts of the country, high altitude rice is grown as the primary food whereas wheat, buckwheat and potato are major crops in the central region. Maize is the main staple in the Eastern parts, while the Southern region grows a mixture of rice, maize and millets. Among horticultural crops, apple and mandarin are major export crops. An assortment of temperate and subtropical fruits is also grown at the household level. Vegetables are important crops as well.

The major agricultural land use types and changes are indicated in Table 6. Wetland, dry land, *tseri* (shifting cultivation), orchards and vegetable gardens represent the major agricultural land uses. Wetlands are valued and protected for their capacity to grow rice and dry lands are largely used for cultivating maize and potato. A number of crops like upland rice, maize and minor cereals are grown on the *tseri* lands. Between 1984 and 2000, there has been a decline in the area of the different land uses ranging from 19-54%. The major reasons for this decline include abandonment of cultivation by farmers due to wild animal damage and shortage of farm labour. Agricultural lands are also lost steadily to urbanization, industrialization and other infrastructure development around the country.

Table 6: Agricultural land use (in ha)

Land use	1984	2000	% change
Wetland	26,718	21,757	-18.5
Dry land	64,454	47,746	-25.9
<i>Tseri</i>	40,128	30,105	-24.9
Orchard	13,400	8,555	-36.1
Kitchen garden	2,300	1,051	-54.3
<i>Sokshing</i>	-	7,414	-

Data source: 1984: Awasthi, J.D.; 2000: PPD/MoA; 2004: NSB.

Tseri is an age-old practice of the Bhutanese farmers and still forms a major land use (2.2% of the total area) in agriculture. It is practiced in all the districts except Bumthang, Punakha and Trashiyangtse (Table 7). Pemagatshel has the largest area under *tseri*. The system of *tseri* has evolved as a land use practice due largely to scarcity of land for permanent cultivation (Upadhyay, 1995). Adverse environmental impacts emerge from uncontrolled forest fires started by *tseri* farmers and expansion of *tseri* cultivation into natural forests. The Royal Government of Bhutan thus decided to phase out *tseri* in the early 1980s and took a number of steps including resettling *tseri* cultivators in the Southern parts of the country. The National Assembly (Bhutanese Parliament) has formally put a ban on *tseri* cultivation, however many farmers continue to practice it due to unavailability of alternatives and the economic viability of the *tseri* system.

Table 7: Shifting cultivation in Bhutan, 1997

District	Total area ('000 ha)	Tseri ('000 ha)	% Tseri to total area
Bumthang	271	0.02	0
Chhukha	180	1.82	1.01
Dagana	139	4.68	3.37
Gasa	441	0.13	0.03
Haa	171	0.79	0.46
Lhuntse	289	3.29	1.14
Monggar	195	5.90	3.03
Paro	129	0.04	0.03
Pemagatshel	52	20.0	38.51
Punakha	97	0.00	0
S/Jongkhar	231	19.24	8.33
Samtse	158	2.69	1.70
Sarpang	229	3.53	1.54
Thimphu	144	1.17	0.81
T/yangtse	193	0.00	0
Trashigang	228	9.41	4.12
Trongsa	181	3.67	2.03
Tsirang	64	1.87	2.92
Wangdue	404	0.08	0.02
Zhemgang	213	10.01	4.74
Total	4008	88.34	2.20

Source: LUPP, 1997

Threats on agriculture/horticulture

- No clear land use policy, leading to unsystematic and arbitrary land use and management
- Narrow land base for agriculture (less than 8%) thus not supporting the Government's cherished goal of food self-sufficiency
- Human-wildlife conflicts, resulting in widespread crop damage and farmers often deserting their land
- Loss of arable land to urbanization, industrialization, construction of roads, schools, hospitals, etc.
- Scarcity of farm labour, leaving behind an ageing population and overgrown farms.

2.2 Forests

Forests form the largest land use of Bhutan, covering over 72% of the total land mass. Several forest types are identified, for example, broadleaved, fir, conifers, pines, mixed and scrub forests. Altitudes, rainfall and aspects dictate such forest types. Fir forests are found on the higher ridges above 2700m, whereas the tropical hardwood forests are located in the lowlands below 700m. Conifer forests occupy the sub-alpine regions of the country. The forest scrub includes alpine and temperate scrub occurring naturally between the limits of barren rocks and tree line.

Data for trend analysis (Table 8) are available for 1958, 1978 and 1997. However, the data sources vary and may not represent an accurate picture of the changes over the years. Nonetheless, trends can be read from the data. The broadleaved dense forest registered an increase of about 30% in 1997 compared to 1978. However, the broadleaved less dense forest decreased substantially. A similar trend is seen in coniferous dense and less dense forests. The scrub and degraded forests also increased over the years. Irrespective of types, there was an overall increase of 2.5% forest from 1978 to 1997.

Table 8: Forest types and changes ('000 ha)

Forest type	1958	1978	1989	1997	% changes (base 1978)
Broadleaved dense	1485	1131	791	1465	+29.5
Broadleaved less dense	-	311	468	47	-84.8
Coniferous dense	1011	740	611	930	+25.6
Coniferous less dense	-	281	267	131	-53.3
Scrub	-	222	314	326	+46.8
Degraded	-	142	237	-	-
Total	2496	2827	2688	2899	+2.5

Data source: 1958: PIS; 1978: Negi, P.S.; 1989: Gupta, P.N.; 1997: LUPP/MoA

The national parks and protected areas of Bhutan are shown in Table 9. Presently, there are four national parks, four wildlife sanctuaries and one strict nature reserve. The total area covered is about 11,000 sq km and corresponds to over 28% of the country's geographical area. In addition, there are 12 biological corridors covering about 3,600 sq km and traversing 14 districts.

Table 9: Protected areas of Bhutan

Name of protected area	Size (sq km)	Year of establishment	% of total area
Royal Manas National Park	1023	1993	2.00
Black mountain National Park	1723	1993	4.49
Jigme Dorji National Park	4349	1993	11.33
Bomdiling Wildlife Sanctuary	1487	1993	3.88
Thrumshingla National Park	768	1993	2.00
Phibsoo Wildlife Sanctuary	278	1974	1.00
Sakten Wildlife Sanctuary	650	2002	1.00
Khaling Wildlife Sanctuary	278	1974	1.00
Toorsa Strict Nature Reserve	644	1993	1.68
TOTAL	11200		28.38

Source: Forestry Services Division, MoA.

Threats on forestry

- Increased use of forest resources as population increases, putting a strain on resources
- Forests provide grazing lands for livestock with potential short and long-term negative impacts
- Changing social values, traditional perceptions and local institutions in forest management due to economic development
- Lack of capacity to enforce regulations due to insufficient personnel, information and resources.

2.3 Pastures

Pastures are generally defined as any land used for livestock grazing and include natural and improved grasslands, forests and croplands. Pastures cover 3.9% of the total area (MoA, 1997). Registered grazing lands are called *tsamdrol* and there are over 400,000 ha in the country (Roder et al, 2001). District-wise details of pastures are provided in Table 10. Most *tsamdrol* are located above the tree line at elevations between 4000-5000m. Miller (1989) classifies the natural grasslands of Bhutan as Cymbopogon grassland (700-2100m), Schizachyrium grassland (2000-3100m), Danthonia grassland (3000-4000m) and Kobresia/Carex alpine meadow (3900-4800m).

Table 10: Grassland resources for individual districts

Dzongkhag	<i>Tsamdro</i> ('000 ha)	Natural Grassland ('000 ha)	Ha./animal
Haa	67.4	12.1	5.63
Gasa	10.0	23.3	3.25
Thimphu	55.2	33.4	2.48
Paro	32.6	8.2	2.20
Trongsa	22.9	6.5	1.89
Bumthang	26.8	21.4	1.86
Punakha	18.4	1.9	1.78
Wangdue	38.8	14.2	1.56
Zhemgang	23.3	1.0	1.39
Trashigang	40.2	10.9	1.04
Samtse	15.4	0.1	0.95
Chhukha	26.2	3.0	0.94
Dagana	8.0	1.6	0.76
Lhuentse	7.5	9.5	0.46
S. Jongkhar	10.2	0.8	0.43
Monggar	7.8	1.4	0.27
Trashi Yangtse	1.7	4.7	0.12
Pema Gatshel	0.9	0.0	0.11
Sarpang	0.2	1.2	0.02
Tsirang	0.0	0.1	0.00
Total	413.6	155.3	1.36

Source: Roder et al., 2001

A large proportion of *tsamdro* and other grazing resources are used by migrating herds to take advantage of the variation in climate and vegetation. High altitude pastures are grazed during summer, while lower altitude ones are used for winter grazing. Much of the *tsamdro* is communally owned and often not utilized by some of the owners; hence, investments for improvement are minimal. In addition, many of the community-owned *tsamdro* are continuously grazed leading to deterioration of the resource. Households with no or insufficient *tsamdro* can lease against payment, mostly in kind. Over the last decades, many farmers have sown legume-grass mixtures as recommended by the Ministry of Agriculture. The improved pasture seeds are sown in dry lands, *tseri* or *tsamdro*.

The legal framework on the use and access to pastures is provided by the Land Act of 1979, the Forest and Nature Conservation Act of 1995 and the Forest and Nature Conservation Rules of 2000 (Wangchuk, 2001). The Land Act recognizes the right to hold grazing rights by individuals, households, communities and the monastic bodies. The Forest and Nature Conservation Act also provides for grazing, including grazing under parks and protected areas where special permits are issued by the Ministry of Agriculture. Cattle grazing in the government forests is largely allowed, with certain restrictions (no grazing in fenced areas and new plantations). Notwithstanding such legal status, environmentalists and foresters view cattle grazing as a serious threat to the environment and a constraint to good forest management (Roder et al, 2001). Livestock specialists and producers disagree, but arguments on both sides are without scientific rigour and quantitative proof.

Threats on pastures

- Quality deterioration and low productivity, particularly of community pastures
- Lack of scientific studies on the impact of forest grazing and differences of opinions
- Scarce land and reluctant farmers to invest in pasture development
- Community ownership and management of pastures; no clear rules.

2.4 Settlements and urbanisation

The first urban settlements began with the establishment of *dzongkhag* (district) centres in the country. Initially, these centres served as administrative and religious entities, rather than as commercial and industrial hubs (ADB, 2004). Urbanization in Bhutan actually began in 1961 with the introduction of the country's first five-year development plan (NEC, 1998). Today, almost all the *dzongkhag* centres are fast becoming urban centres. The main urban centres are Thimphu and Phuntsholing. Thimphu is the largest town and the capital of the country with an estimated population of 60,000. Its growth rate is estimated at 10% per annum. It has a large number of administrative and public institutions, although industrial activities are limited due to its distance from the border with India. The urban population of the country is estimated at 21% of the total population (ADB, 2004).

Phuntsholing is the second largest town after Thimphu. It is sometimes termed as the "commercial capital" of the country by virtue of its location on the Indo-Bhutan border. From a small settlement, it has rapidly developed into a commercial hub, but further growth is constrained by lack of space. Phuntsholing is home to major industries and job seekers often end up here after Thimphu. With increasing commercialization traffic and pollution, problems are likely to worsen.

The Ministry of Works and Human Settlement, a recently formed ministry of the Government, is responsible for urban development and human settlement. The Ninth Five Year Plan (2002-2007) of the RGoB accords high priority to urban development. The main focus is on preparation of land use and management plans for urban areas. Another important priority is to prepare plans for regional growth centres around the country and implement them. Formulation of urban development and housing policies and regulations is another priority area. Rural electrification, road network expansion and infrastructure improvements in regional centres are some of the initiatives currently underway for an equitable and balanced development.

Problems facing settlements and urbanization

- Low capacity for urban planning and management at different levels
- Poor physical and socioeconomic infrastructures in major urban centres
- Inadequate financial resources and investments.

2.5 Tourism and rural development

Bhutan opened its doors to international tourists in 1974, beginning with 287 visitors. Initially, the Department of Tourism under the Ministry of Finance managed tourism, until the Bhutan Tourism Corporation was formed in 1983 as an autonomous organization. The tourism industry was privatized in 1991, with the Tourism Authority of Bhutan (TAB) as the regulatory body. TAB oversees tourism activities, ensuring compliance of Government policies on tourism.

The Bhutanese tourism policy has been cautious and regulative, rather than trying to maximize tourist arrivals and revenues. The RGoB recognizes that tourism can be an important source of revenue for financial sustainability. However, it is equally aware of the negative impacts of uncontrolled tourism on the environment, culture and identity of the country and its people. Thus, the Bhutanese tourism industry is based on the principles that it must be environmentally friendly, socially acceptable and economically viable.

The level of infrastructure for tourism in Bhutan is still low and this naturally puts a limit on the number of tourist arrivals. In addition, the Government regulates the arrivals through a policy of tourist tariffs and administrative requirements. The pricing policy requires that tourists arrive Bhutan on a package tour, organized by one of the 40-odd government licensed tour operators in the country. The tour itinerary is organized by the operator and tourists pay a minimum of USD 200 per day per person while they are in the kingdom. The government takes 35% of the tariff as royalty. Another means of managing tourism is through visa regulation. Visas are not available upon arrival; they must be processed in advance and clearance given by the Ministry of Foreign Affairs to enter the country. Tour operators process the visas through the TAB. Trekking in

Bhutan requires a permit from the TAB, on designated routes and campsites. The cultural tourists form the largest group, essentially from the US, Japan and Europe. The number of tourists visiting Bhutan in recent years averages around 10,000 per year.

III. Land Use and Policy Adjustments

A formal land use policy and legislation does not exist. Nonetheless, there are a number of legal frameworks related to land use planning which would guide land use change decisions. Important ones are:

- Land Act, 1979
- Forest and Nature Conservation Act, 1995
- Environment Assessment Act, 2000
- The Bhutan Municipal Act, 1999
- The Constitution of Bhutan, 2005 (Draft)
- The Road Act of Bhutan
- The Livestock Act of Bhutan, 2001
- The Tenancy Act of Kingdom of Bhutan, 2004
- Mining and Mineral Management Act, 1995
- The Forest Policy of 1974 and 1991
- The Pasture Policy, 1996 (draft)
- Bhutan Water Policy, 2003
- Guidelines for Land Acquisition and *Satshab* Allotment, 2005
- Land Compensation Rate, 1996
- Social Forestry Rules, 2000

This section attempts to consolidate related policies and programmes within which the sustainable land use management practices are pursued in Bhutan.

3.1 Institutional arrangements for land use change decisions

In the absence of a formal land use policy, the following arrangements and institutions provide the needed decisions on land use change issues:

- The Committee of Council of Ministers (CCM) decides on issues regarding land use changes, such as land for urban development, industrial area identification and/or commercial zones. The requests for land use change come from the respective ministries. For instance, the land for urban use emerges from the Ministry of Works and Human Settlement while for industrial area identification it is submitted by the Ministry of Trade and Industries. The CCM debates on the proposal and provides the decision. However, it is not clear as to what criteria are used by the CCM to guide their decision-making.
- Once the decision of the CCM is given, the acquisition of private lands and providing substitute lands are guided by the “Guidelines for Land Acquisition and *Satshab* (substitute land) Allocation, 2005” and the “Land Compensation Rate 1996”, if it is for cash compensation. The guidelines provide procedures for land acquisition and substitute allotment rather than the criteria for land evaluation or the justification for change in land use. The procedure, however, requires clearances from the concerned agencies/departments.
- A Multi-Sectoral National Committee for Land Substitution oversees the conduct of land acquisition and substitution in accordance with the prevailing guidelines. The members are the Secretary of Ministry of Works and Human Settlement, the Secretary of Ministry of Home and Cultural Affairs, the Director of the Office of Legal Affairs and the Surveyor General. The Minister of Agriculture is the Chairperson of the Committee.
- According to the guidelines, a clearance from the Department of Forest is mandatory if the land in question is forestland. Similarly, for agricultural land use change, clearance from the Department of Agriculture is necessary in addition to obtaining an environmental clearance from the National Environment Commission.

3.2 Agriculture policy and land use

The arable land constitutes only 7.8% of the total land area of 38,398 km². Table 11 shows the different land use types within arable agricultural land.

Table 11: Agricultural land use types (ha)

Type of land use	Total area	Percentage
<i>Chhuzhing</i> (Paddy land)	28,733	14.5
<i>Kamzhing</i> (Dry land)	95,830	48.4
<i>Tseri</i> (Shifting cultivation)	59,433	30.0
<i>Pangzhing</i> (High altitude dry land)	12,301	6.2
Kitchen garden (homestead garden)	1,672	0.8
Total	197,969	100

Source: RNR Statistics 2003.

The dominant agricultural land uses are *kamzhing* (dryland), *tseri* (slash and burn cultivation) and *chhuzhing* (irrigated/wetland). Some of the major crops grown under these three land uses include rice, maize, wheat, barley, millet, potato, mustard, chilli, ginger, and vegetables. Horticulture crops such as apples, mandarin and potatoes are grown as cash crops.

Food self-sufficiency and security policy

The agriculture sector remains a priority sector since the start of a planned development in 1961, as it is the source of livelihood, income and employment for majority of Bhutanese population. Prior to the commencement of planned development, Bhutan was self-sufficient in food grains and some surplus grains were exchanged for essential commodities such as salt and others with Tibet (Fourth FYP). During all the FYPs, achieving food self-sufficiency and security has been one of the priority policies of the agriculture sub-sector. The self-sufficiency policy was pursued through distribution of improved seeds, training farmers on improved methods of farming, increasing cropping intensities, construction of irrigation infrastructures, etc.

The Land Act, 1979, provides the legal framework for the use of agricultural land to achieve the self-sufficiency policy. The Land Act has the following provisions:

- *Chuzhing* will not be allowed for conversion to other uses. However, the Ministry of Agriculture and the *dzongkhag* administration can investigate and identify those areas that cannot be used as *chhuzhing* and allow for it to be converted. Conversion can also be allowed if there is an approval from the Government;
- A household can own up to 25 acres of agriculture land;
- The Act keeps dry land for cash crops outside of the maximum land ceiling of 25 acres per household, and promotes cash crop development by not allowing conversion of such land to other uses;
- *Tseri* reverts back as the Government Reserved Forest if left fallow for more than 12 years;
- A household or family having five acres of land or less cannot sell his/her land;
- The Act has provisions for use of irrigation water, infrastructure development and water sharing with rights and responsibilities;
- It has elaborate stipulations covering land tenancy and compensation for crop damage by domestic animals.

The Land Act of 1979 is under revision and the draft-revised act has the following features:

- *Chhuzhing* continues to remain protected by restricting its conversion to other uses;
- Swapping of marginal agricultural land and land destroyed by natural calamities with Government Reserved Forests and Government land shall be permitted. Land swapping shall apply only to resident farmers;
- A landowner having five acres or less may sell his/her land. However, he/she shall not be eligible for *Kidu* (free government allotment) land or allotment of land by Government;
- The acquisition of prime agricultural land covered by the rules and regulations under provision 12.2 shall not be permitted;
- The Ministry of Agriculture shall frame rules and regulations for agricultural land management in pursuance of the national policies;
- The Ministry of Agriculture shall frame and implement rules and regulations to protect crops from wildlife and domestic animals.

The agriculture policy on food self-sufficiency and security emphasizes both the internal and external marketing of produce. It is recognized that without vigorous marketing strategies it would be suicidal to promote production programmes. Further, to facilitate movement of farm produces and inputs, the policy prioritizes construction of farm road to remote villages.

The programmes pursued by the Ministry of Agriculture also gave due recognition to the fragile mountain system by having activities on land management practices such slope terracing, contour bunding, gully plugging, drainage and improving soil health through green manure, application of mineral fertilisers and composting as early as in the second FYP (1967-1972). With the flood incidence in 2003 in Eastern Bhutan, the Government has placed a renewed emphasis on the land management programme. This programme provides an option for farmers to resettle in better-endowed areas even at the cost of clearing forests.

The policy on soil management encourages use of farmyard manure combined with mineral fertilizers. Over the years, the trend of using mineral fertilizer has increased substantially, but its use is relatively low by international standards. Mineral fertilizers are mainly used in export crops like potato, apple and vegetable crops. Its use in cereals is minimal. The most recent policy articulates organic agriculture as alternative to conventional farming. Organic agriculture is promoted with two-pronged objectives: a) to sustain and safeguard the relatively safe and traditionally healthy food production practices for Bhutanese population, and b) to capture premium price for greater farm income. A National Framework for Organic Agriculture, 2005 envisions Bhutan to become the first organic country in the world before 2020.

Subsidies policy

Subsidy provisions were kept since the start of planned development in the 1960s. Subsidies were provided for many activities and on basic inputs such as plant protection (PP) chemicals, fertilizers, tools and implements, and seeds and planting materials. The present subsidy policy covers subsidy on transportation and 10% commission on inputs. The present status of subsidy is presented in Tables 12 and 13.

Table 12: Agriculture subsidy in Bhutan - Present status

Items	Amount (million Nu.)	Remarks
Seeds and plants	2.00	Transport & commission 10%
Herbicides and PP chemicals	1.50	Transport & commission 10%
Fertilizers	5.50	Transport & commission 10%
Farming equipment	2.50	AMC
Transportation, tests & security		
PP Chemicals	0.24	Transport & commission 10%
Total (Nu.)	11.74	

*Costs involved in procurement and delivery of power tillers are not included.

Table 13: Valuation of services as subsidy in Bhutan

Measure type	Description of the measures	Monetary values (Nu. '000)
Research	Research under horticulture; field crop; Forestry; NSSC; NMC	42,842
Pest & disease control	National plant protection programme and animal health services	40,000
Training services	Farmers' training related to diary farm	7,885 (2002)
Extension & advisory services	Support to agriculture production	23,595
Inspection Services	Plant and animal health and quarantine measures	7,233
Marketing & promotion services	Activities related to market development	790 (2004)
Infrastructure services	Irrigation and access road	6,736
Total (Nu.)		129,081 (US \$ 2934)

The subsidy policy has not changed much for the last 3 decades. It is spread too thinly over almost all farm operations and is not aimed at attaining a particular objective. The monetary values in Table 13 are estimates for the services provided and not actual or direct subsidies. Hence withdrawal of subsidy might not adversely affect farm productions or conversely the expected impact that subsidy is supposed to create is unlikely to be realized. Therefore, there is no clear subsidy policy. Despite availability of subsidies, the trend of using chemical inputs remained relatively low (Table 14). By the Seventh FYP, there was expression of greater concern on the adverse impact on environment, which resulted to complete withdrawal of subsidies on plant protection chemicals.

Subsequently, the following laws and policies have been enacted to support agriculture development:

- The Plant Quarantine Act, 1993
- The Pesticides Act of Bhutan, 2000
- The Seeds Act of Bhutan, 2000
- The Cooperatives Act of Bhutan, 2001
- The Biodiversity Act of Bhutan, 2003
- The Bhutan Water Policy, 2003 (Draft)

The Pesticides Act of Bhutan, 2000, emphasizes the concept of integrated pest management (IPM) which is more environment-friendly. The Bhutan Water Policy, 2003, prioritizes water for food production as second only to using water for drinking. The Cooperatives Act of Bhutan, 2001, lays broad provisions enabling the formation of cooperatives and associations for improving the efficiency of economic activities including agriculture. The Seeds Act of Bhutan, 2000, aims to improve the quality of seeds and planting materials for higher farm productivity and

rural incomes. The Biodiversity Act of Bhutan, 2003, focuses on the promotion, conservation and sustainable use of crop genetic resources/local crop varieties for agriculture and prevents unauthorized use by outsiders. The Plant Quarantine Act of Bhutan, 1993, prevents the introduction of pests into the country and controls those pests already present by restricting their spread and by endeavouring to eradicate them.

Table 14: Quantity of pesticides used from 2000 to 2004 in kilogram/litres

Item	2000/01	2001/02	2002/03	2003/04
Insecticide	2,775.4	3,714.0	5,543.8	13,074.3
Fungicide	1,713.2	1,858.9	1,933.6	2,888.3
Herbicide	1,829.0	807.0	689.0	874.0
Acaricide	5.3	2.0	17.0	9.0
Rodenticide	13.0	70.5	56.4	64.7
Others*	8,044.0	9,073.0	9,342.7	10,052.4
Total	14,397.9	15,525.4	17,582.5	26,962.7

* include tree spray oils, protein hydrolysate, linseed oil and Sandovit.

Source: Statistical Year Book, 2004.

3.2 Forest polices and adjustments

The Bhutan Forest Act of 1969 was the first legislation for regulating use and management of natural resources. The Act changed natural resource property rights and provided power to forest officials to protect, manage and control access to the forests. It defined “forest” as “any land under forests in which no person has acquired a permanent, hereditary and transferable right of use and occupancy”. Many village and community forests also became government property. For the first time, the Act also provided for strong penalties, such as imprisonment, for forest offences. In 1995, the National Assembly repealed this Act and enacted the present Forest and Nature Conservation Act.

The first National Forest Policy of Bhutan was formulated only in 1974. The salient features of this policy were to:

- Maintain minimum of 60% of total land area under forest
- Generate maximum revenue by sale of timber and other forest products
- Meet requirements of timber, fuelwood, etc. for local use
- Create and maintain wildlife sanctuaries and parks
- Conserve forest through watershed management, regulation of grazing rights and abolition of shifting cultivation with appropriate compensation.

Under this policy, there was a rapid socio-economic development in the country coinciding the implementation of the Third FYP (1972-1977) and the Fourth FYP (1977-1982) where the emphasis of development was placed on the agriculture, forestry and industry sectors. Forest timbers were harvested and marketed to provide the needed revenue to the Government. As a result, there was reduction in forest cover and degradation, which resulted in consequences like landslides. Around this time, some of the countries in the region were seen badly affected due to deforestation. Such consequences necessitated a revision of the forest policy and the National Forest Policy of 1991 replaced it.

The major objectives of the 1991 National Forest Policy were:

- To protect the land, its forests, soil and water resources, and biodiversity against degradation, and the improvement of degraded forest lands areas;
- To contribute to food, water, energy and other resources by coordinating the interaction between forestry and farming systems;
- To meet long-term needs for wood and other forest products through sustainable forest management; and

- To contribute to the growth of national and local economies through the development of export opportunities for forest products, fully developed, efficient and integrated forest-based industries, and employment and job-training opportunities.

The main thrust of the policy was to bring the reserved forests under effective and scientifically prepared management plans. Thus, the approved management plan became a precondition for commercial harvesting of forest. Some of the criteria that guided the development of forest management plans were:

- Managed forests will attempt to satisfy local requirements for timber, fuelwood, fodder, compost litter and other traditional products as a first priority;
- Forests will be managed on a long-term sustainable yield basis, with allowable annual cuts based on detailed forest inventories and scientific growth and yield studies;
- Forest harvesting system will ensure environmental protection by minimizing soil erosion and land degradation, protecting natural drainage systems and avoiding permanent changes in the composition of vegetation;
- Forest management will be holistic and consider not only the production of forest products but also watershed protection, wildlife conservation, maintenance of biodiversity and social uses;
- Silvicultural systems will ensure regeneration of the principal species by natural means and artificial regeneration techniques will be adopted only if natural regeneration fails.

The Forest and Nature Conservation Act (FNCA) was enacted in 1995. This Act superseded the Bhutan Forest Act of 1969. The FNC Act:

- Mandates forest management planning on formally-designated government reserved forests;
- Prescribes prohibited and permitted domestic forest uses;
- Regulates the use of all forest produces, other than domestic use, through a system of permits or leases;
- Establishes conditions for permits or leases and prescribes penalties for non-compliance;
- Provides for the production of forest crops on private land by establishing conditions of ownership and use;
- Provides for the establishment of community forests in which management responsibilities may be devolved to local people;
- Establishes a system of protected areas, and regulations for wildlife, soil and water conservation; and
- Authorizes Forest Officers to enforce the Act and its rules and regulations, and to levy prescribed penalties for violation and non-compliances.

As provisioned by the Act, the social forestry rules and regulations have been formulated. The social forestry programme makes a clear distinction between private forestry and community forestry.

The National Forest Policy was reviewed again in October 1999 with the technical assistance from The World Bank and the Swiss Development Cooperation (SDC). The review was undertaken due to the following deficiencies in the policy:

- The threat to environmental and conservation goals from the export of timber in its primary form;
- The high level of subsidies provided on timber prices undervalued the forest resources;
- The complex system of regulations, controls and permits caused unnecessary delays in wood flow;
- The national wood-based industries lacked access to a constant and affordable supply of raw materials due to log export to India; and
- The diversion of highly subsidized rural timber for urban consumption.

The policy review assessed mainly the implementation of the timber marketing and pricing policy introduced in January 1999 and the supply of subsidized timber for rural house construction introduced in July 1999. Some of the features of these policies were:

- Banning of export of logs, sawn timber and fuelwood;
- Roundwood to be sold in open auction to which only Bhutanese citizens participate, except when there is an oversupply on the domestic market, whereby special auctions are held in which both local and international buyers can participate;
- Buyers are free to decide on the end use of the timber within the country;
- Link to the international market to be maintained through export of processed products and through special auctions;
- Two prices were instituted for roundwood, 1) a rural price for subsidized timber for rural people for *bona fide* uses; and 2) a price for urban timber determined by the market.

The review recommended narrowing of the price difference between commercial timber and subsidized rural timber, and decreasing the number of households that are eligible to receive subsidized timber.

The forest policy was to ensure a systematic forest management programme that would not repeat the mistakes made by the neighbouring countries whose forest resources are on the decline. The primary focus of this policy was to ensure conservation of the environment and thereafter aim at derivation of economic benefits from the forest as a rationally managed resource.

The policy also recognizes that effective management will require allocation of the land base to several management tenures, such as conservation areas, watershed protection forests, production forests, and community forests. It also recognizes the importance of effective public participation to ensure that multi-purpose forest management becomes a reality.

Based on the above policy direction, in 2005 there are 9 protected areas covering 28.3% of the total area of 38,394 km² (RNR Statistics, 2003). These protected areas conserve the biodiversity hot spot areas of Bhutan. In support of conservation, the Environmental Assessment Act was formulated in 2000 after instituting the National Environment Commission (1992) to oversee the conservation of environment. The draft Constitution of Bhutan (2005) promulgates maintenance of minimum of 60% of total land area under forest for all times to come. Nevertheless, such a conservation policy is not without conflicts. The wildlife depredation to crops and domestic animals is a big problem today in Bhutan.

3.3 Grazing and pasture policy

The natural grassland pasture accounts for 3.9% of the total land area. Most Bhutanese farmers own *tsamdrol* (grazing land) which are registered against their individual names. These *tsamdrol* lands overlap with the forestlands often generating conflicts between foresters and animal husbandry staff. The farmers have the legal right over the use of forest undergrowth and the provisions in the Land Act, 1979, support this. Apart from *tsamdrol* areas, the Land Act also provides provision for rural communities to maintain Government land within the radius of 1 mile of their villages as *Neykhor tsamdrol* (community grazing land). Apparently, this overlapping function has been an area of disagreement between the Department of Forest and the Department of Livestock.

In 1996, a draft Pasture Policy for Livestock Priority Areas was formulated. Under this policy, redistribution of rights and intensification of pasture management was emphasized. This policy has had teething problems in its implementation. In 2001, this policy was revisited at a National Grazing Policy Workshop, which pointed out the following implementation problems with the policy:

- The amount of suitable land was less than originally expected
- Much of the land was too far away from communities to be feasible for pasture development
- Dual and multiple tenure complicated the purchase of land
- Absent landholders, particularly those without animals, complicated the process
- The proposed pasture development system was fundamentally different from the traditional animal husbandry practices

- The project estimates of areas available for pasture development (400 acres) and the biomass productivity (4 tons dry matter per acre) were over-exaggerated
- The legal framework was not clear.

To add fuel to the fire, the Forest and Nature Conservation Act, 1995, recognises *tsamdro* as a Government Reserved Forest and empowers the Ministry of Agriculture/Department of Forest to regulate grazing. Although, DoF has not implemented strictly as per the provision of the Act, there is rising apprehension among livestock specialists on the implications of this provision to livestock farmers. Their apprehension is not totally unfounded going by the DoF regulating the movement of cattle within the Forest Management Units.

In 2004, a Workshop on Grazing and Pasture Development was conducted and the workshop resolutions were made in two parts:

Formulation of Grazing and Pasture Policy (main resolutions only):

- The Draft Pasture Policy is not broad enough, and it dealt mainly with the acquisition and redistribution of *tsamdro*
- A broader grazing and pasture policy through a multi-stakeholder consultation should be developed
- There is an opportunity for a win-win situation for livestock production and environment conservation
- Pasture development to be taken up in leased lands only
- Secondary legislation to support the grazing and pasture policy are required. Land Act and the FNC Act have to be reviewed. Amend these two Acts to make them broad to allow for pasture development
- A task force should be formed to develop a grazing and pasture policy.

On leasing forestland for pasture development (main resolutions only):

- Grazing and leasing of land for pasture development were different issues and need to be taken separately
- Enabling legislation should be in place for leasing of land for pasture development
- The revised FCN rules should facilitate grazing in the forest and lease of land for pasture development under management conditions
- Management practices should be allowed such as slashing, burning and movement in the registered grazing areas.

The formation of a Task Force to draft the Grazing and Pasture Policy, as recommended by the workshop, has not taken root. However, the Land Act 1979 is under review and hopefully some of the legal constraints will be resolved.

The Livestock Act of Bhutan, 2001, superseded the Livestock Act of 1981. This Act focuses on animal breed, diseases, import, and export of livestock. The key objectives of this Act are:

- To ensure that only quality and appropriate breeds of livestock, poultry and fish are introduced;
- To ensure the units used for semen and embryo production and storage are free from diseases;
- To ensure that the introduction and spread of diseases, particularly the notifiable and zoonotic diseases are prevented;
- To ensure that the prescribed procedures and standards for export and import of animals, animal products, feed, drugs, animal welfare, disposal of dead carcasses are met;
- To ensure that the safety standards are followed throughout the process of processing meat, fish, eggs and dairy products for consumption;
- To enable privatization of production, import and export, process, and sale of animals, animal products, feeds, drugs, and other inputs necessary for enhancing livestock products.

IV. Process for Design and Implementation of Policy

4.1 Institutional development in Bhutan

Ever since 1907, far-reaching initiatives were undertaken by successive monarchs to strengthen political and legal institutions (Ninth FYP Document) in the country. Institutional development in Bhutan is in synchrony to the enhancement of the national objectives of *economic self-reliance, cultural promotion, regionally balanced development, environmental preservation, good governance, and decentralization*.

Political transformation

Institutional transformation in Bhutan has been motivated by a strong cultural heritage, which serves as a powerful, unifying and integrating factor of social harmony and cohesiveness. The process of transformation clearly illustrates the advancement of a sense of individual responsibility of citizen and their collective commitment for progression. In addition, the institutional changes have over time fostered Bhutanese society to gain more control over their own destiny and enrich their lives by widening the horizons of livelihood. Some of noteworthy the initiatives in institutional development are presented in Table 15.

Table 25. Crucial political initiatives in Bhutan

Year	Institutions	Remarks
Pre 1907	<i>Chhoesi</i> – provided basic system of governance	
1907	Sir Ugyen Wangchuck enthroned as first hereditary king of Bhutan	Unification of Bhutan as a nation
1953	<i>Tshogdu</i> – National Assembly was established by the third King	Highest legislative body
1965	<i>Lodey Tshogday</i> – Royal Advisory Council was established	Advices the King on matter of national importance, acts as bridge between Government and people, ensures implementation of laws and decisions of NA
1968	High Court was established	
1968	Cabinet (<i>Lhengye Zhungtshog</i>) was established	Highest executive body
1981	20 <i>Dzongkhag Yargey Tshogchung</i> (DYT) (or District Development Committee) with 572 elected members was established	To promote people's participation in the decision-making process
1991	201 <i>Gewog Yargey Tshogchung</i> (GYT) (or Block Development Committee) with 2614 elected members was established	To promote local socio-economic development strategies and initiatives by empowering the people to make decisions on their plans and programmes, and enabling them to adopt approaches and practices adapted to local needs
1998	Council of Elected Ministers	Devolution of Full Executive power
2002	Enacted " <i>Dzongkhag Yargey Yshogdu Chathrim, 2002</i> "	To strengthen decentralization and devolution
2002	Enacted " <i>Gewog Yargey Yshogchung Chathrim, 2002</i> "	To strengthen decentralization and devolution
2005	Drafted "The Constitution of the Kingdom of Bhutan"	To strengthen the sovereignty of Bhutan, to secure the blessing of liberty, to ensure justice and tranquillity and to enhance the unity, happiness and well-being of the people for all time.

The launching of the *Dzongkhag Yargey Tshogchung* (DYT) in 1981 set the process of political transition to democracy and building dynamic governance. Ever since, the decentralization process has advanced immensely by empowering people and enabling their sustained

development (Bhutan 2020). Decentralization aims at pursuing dual objectives of democratization and development and, ultimately, to achieve self-reliance by realizing the potentials of individuals. Both of these goals further entail taking the decision-making process closer to any given community and the individuals in it.

Macro level institutions

In the current setup, the King is the head of the State while the Prime Minister heads the Government. To ensure good governance, the Government structure is grouped into three branches namely executive, legislative and judiciary. In parallel, there are constitutional and autonomous bodies, which support the three arms of the Government (Figure 2).

The executive power is vested in the *Lhengye Zhungtshog*, a Council constituted by elected Ministers and headed by the Prime Minister. Among several key responsibilities, the *Lhengye Zhungtshog* is the highest authority to plan and coordinate Government policies and ensure their implementation. *Lhengye Zhungtshog* functions through ten Ministries³ and four autonomous bodies.

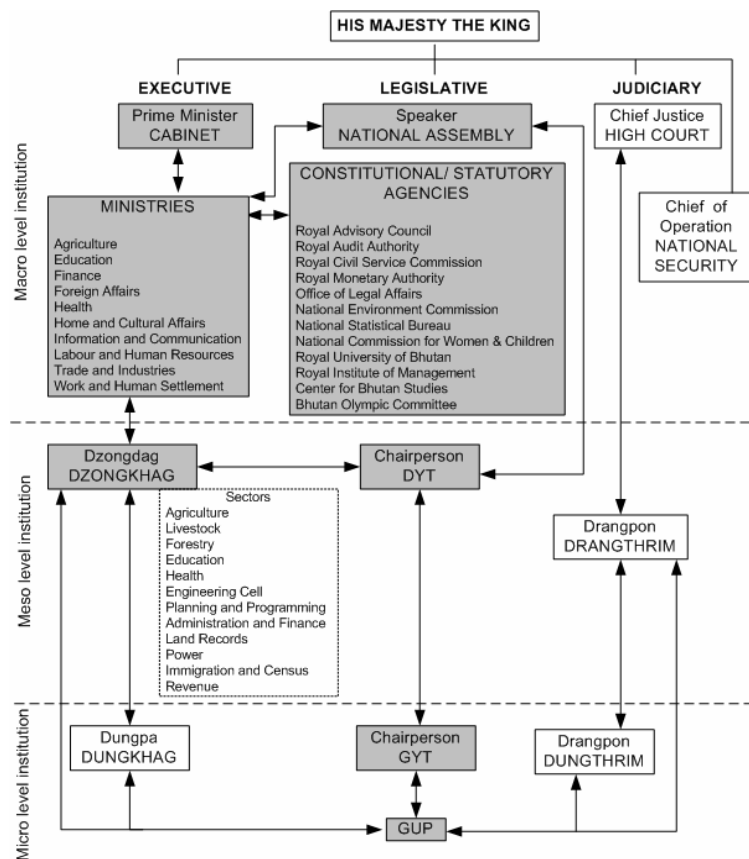


Figure 2: Organogram of the Government, Bhutan (adapted from NSB 2004)

³ Agriculture, Education, Finance, Foreign Affairs, Health, Home and Cultural Affairs, Information and Communications, Labour and Human Resources, Trade and Industries, and Works and Human Settlement.

Meso level institutions

The country is divided into 20 administrative jurisdictions and designated as *dzongkhags* (districts), headed by *Dzongdag* (district administrator) who is the executive head of the district. Each *dzongkhag* has a set of staff representing different Ministries at the central level. The District Planning and Programming Sector is managed by the Planning Officer and Assistant Planning Officers who support *dzongkhag* in programme planning and monitoring and evaluation. They also coordinate planning of different sectors in the *dzongkhag*.

The DYT is an elected body comprising of the *gup* (village head), *maangmi* of GYTs, National Assembly members and a member from each municipality. This level of representation may seem excessive, but it is necessary to create the depth of direct democracy in which individuals can truly contribute to consensual and participatory decisions.

Within the provision of the GYT and DYT Act 2002, the DYT has been empowered with considerable powers and authority that are delineated into administrative, regulatory, financial and general categories. The power to adopt and enforce individual GYT regulations on a variety of domains is designed to promote need-based variations in rules and standards across the *gewogs* (blocks). This autonomy is necessary where diversity in local circumstances can best be addressed through local regulations. Where regulations have to be consistent on a *dzongkhag*-wide basis, the authority to frame them is reserved for the DYT. Lastly, there are national laws that provide the wider context to the nation as a whole, but which have to acknowledge the specific regulatory powers of GYTs and DYT in their respective territories. Where they do not conflict with national laws, in either allowing or prohibiting certain courses of action, GYTs can adopt and enforce their regulations.

The powers of the DYT and functions are also categorized into regulatory, administrative, financial and general. The main difference is that a regulatory decision made by a DYT will apply to the whole *dzongkhag*. The DYT is broadly responsible for inter-*gewog* co-ordination and for ensuring the consistency between *gewog* and national plans. The *dzongkhag* administration, headed by the *dzongda*, implements the decisions made by its DYT. The DYT has the authority to give regulatory direction and approval on various social, economic, cultural and environment related matters in the *dzongkhag*. The DYT can give administrative approvals on *dzongkhag* plans, prioritization of development activities, urban (municipal) plans and appoint the *dzongkhag* tender committee among others.

There are also regional setups of various ministries and autonomous agencies, which facilitate development process at district level.

Micro institutions

The basic administrative units are called *gewogs* which are subsets of a *dzongkhag*. There are 201 *gewogs* where GYT is the legislative body. The GYT serves as a political and administrative structure, and the two functions are fused within the GYT at the *gewog* level. A cluster of villages elects a representative (*tshogpa*) to the GYT for a one-year term. The chairperson (*gup*, literally the elder) and deputy chairperson (*maangmi*, literally people's person) are elected in a *gewog*-wide general election for a three-year term.

Evolution of policy institution

Ever since the Planning Commission was constituted in 1971, it has always been at the helm of policy formulation in Bhutan. In 1971, as an independent body, the commission had the overall role to formulate development strategies and coordinate sectoral activities, policies and programmes. It had to ensure timely implementation of the Plans according to specified objectives and priorities. Whilst the King chaired the commission until 1991, to ensure greater decentralization in the decision-making process, the commission was upgraded to Ministry of Planning in 1991 with Planning Minister designated as the chairperson. In the same year, to establish a professional network to enhance efficiency of planning process, the Policy and Planning Divisions (PPDs) were established in all the ministries. A Technical Committee to assist

and advise the Planning Commission on issues of technical and professional expertise was also established in 1991. It had 21 members comprising of heads of divisions and other technical personnel from various ministries and departments. The Committee was chaired by the members on a rotational basis and met as and when necessary. In 1993, the Planning Ministry was downgraded to the Planning Commission and was entrusted to coordinate *dzongkhag* development programme, which was previously managed by the Ministry of Home Affairs.

Following the disbanding of *Lhengyel Zhungtshog* in 1998, the Planning Commission was reconstituted with 17 members under the chair of the Finance Minister. The following year, the Technical Committee constituted in 1991 was also dissolved.

Accordingly, the Planning Commission Secretariat is mandated to carry out the following under the guidance of the Planning Commission:

- To formulate development plans and programmes
- To monitor and evaluate development programmes and projects
- To carry out macro-economic analysis and establish a sound macroeconomic policy direction in the country
- To undertake sectoral policy analysis to bring about coherence and consistency in the policies, objectives and programmes
- To provide all support services to the Commission.

In 1999, the Head of Government was appointed as the Chairman of the Planning Commission. In 2000, the Cabinet Secretary and the Heads of Policy and Planning Divisions of different Ministries were included as the Commission members. In view of the major restructuring towards promoting good governance in 2003, the Planning Commission was dissolved and transformed into the Department of Planning under the Ministry of Finance, with its mandate and functions remaining the same as described above. However, it was reverted to its former status as the Planning Commission on the recommendations of the National Assembly.

The changes can be attributed to the cautious devolution of the planning process from the King to elected leaders and now to people. While development was centrally managed during initial years, the Planning Commission was considered as the most powerful agency as it had the authority to regulate plans of all agencies. Further, development became their mandate when it was transformed into a full-fledged Ministry. However, with the decentralization drive, the planning process was devolved at the sectoral level with units/divisions managing the respective plans, while it was nationally coordinated by a secretariat from Thimphu. With the promotion of good governance in 1999, the planning process was further devolved to the district where people formulated the long and medium-term plans for all the sectors. To fully support and uphold the people's aspirations it was probably proper to give the status of Commission to the Planning Agency at the national level so that it could have maximum vertical and horizontal reach. In the meantime the maintenance of smaller units/divisions with the respective ministries ensured the vital institutional linkage for the planning process.

Institutions associated with policies impacting land use

There are several policies, which directly or indirectly influence land use. Often several Ministries and agencies are associated with these policies, which makes it difficult to understand their impact either individually or in combination. Table 16 provides an indicative list of agencies mandated with policies related to land use.

Table 16. Institutions mandated with policies related to land use

Mandated institution	Policies and acts
Ministry of Home Affairs	<ul style="list-style-type: none"> • Land ceiling of 25 acre per household and abolition of serfdom • Resettlement • Taxation (in kind to monetary) • Land Act • Standardization of land ownership and tenancy • Abolition of Gungda Woola (labour contribution)
Department of Forest	<ul style="list-style-type: none"> • Forest and Nature Conservation Act • Forest and Nature Conservation Rules • Social forestry • Private forestry • National parks • Sanctuaries • Biological corridors
Department of Agriculture	<ul style="list-style-type: none"> • Crop development programmes • Horticulture development programmes • National Irrigation Policy • Land conversion
Department of Livestock	<ul style="list-style-type: none"> • Pasture and grazing land management • Breed Improvement programme
Department of Survey and Land Records	<ul style="list-style-type: none"> • Land transfers and records
Council for RNR Research of Bhutan	<ul style="list-style-type: none"> • Community-based natural resources management
National Biodiversity Centre	<ul style="list-style-type: none"> • Biodiversity Act
National Environment Commission	<ul style="list-style-type: none"> • Environmental management
Ministry of Works and Human Settlement	<ul style="list-style-type: none"> • Rural access • Urban development • Expansion of settlement areas
Ministry of Trade and Industries	<ul style="list-style-type: none"> • Industrial expansion • Mining

4.2 Processes for policy planning, formulation, implementation and its reach

Bhutan has always considered understanding the past as a means to better comprehend the future. The review of past development plans reveals Bhutan's cautious strategy in embarking on new developments avoiding the past mistakes. The development approach emphasizes individual development, sanctity of life, compassion for others, respect for nature, social harmony, and the importance of compromise (Bhutan 2020).

The development process in Bhutan is an 'inclusive' process, as every section of society is fully involved in the process. It emphasizes the importance of institutions that are able to guide and manage the process of development as well as to foster participation. Even the rural communities make full use of the knowledge and skills of all members of society, including the functionally illiterate and the elderly members (Bhutan 2020).

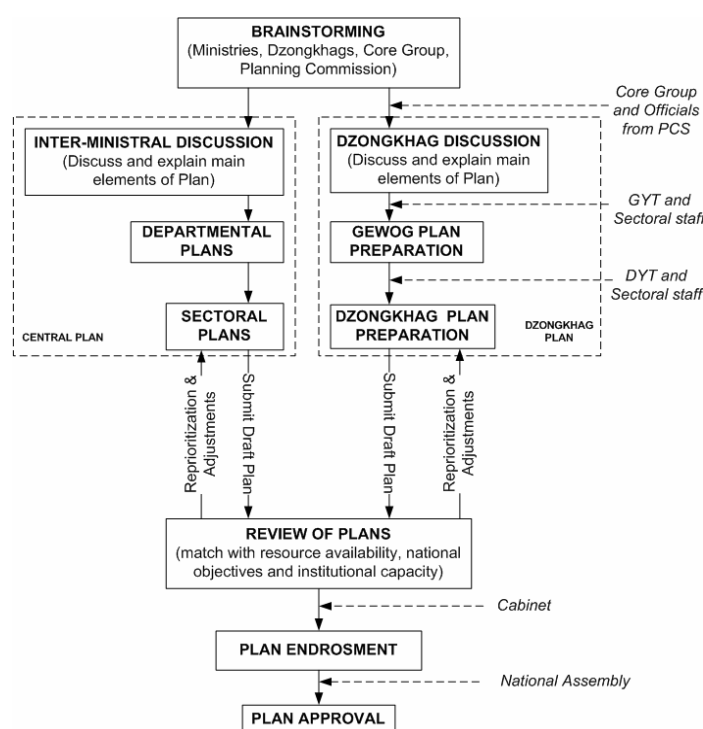
Overall, the policy implementation process promotes decentralized systems of decision-making that have served to empower local communities and give them a voice in the nation building.

Planning process

The planning process involves decision-making by *gewogs*, *dzongkhags*, ministries and agencies in formulating plans and programmes. Although the process emphasizes bottom-up planning, there are mechanisms to match them with nationally prioritized programmes, so that balance is maintained in programmes. Further, planning is based on a matrix structure with area-based planning undertaken by *dzongkhags* and *gewogs*, and sector-based planning by ministries (Ninth FYP Document).

Each national plan extends for five years and is termed as Five-Year Plan (FYP). Currently Bhutan is in the Ninth five year plan (2002-2007), the first being implemented during 1961-66. A systematic approach is followed in formulation of a five-year plan as depicted in Figure 3. It starts with brainstorming at the central level to formulate elements of the new plan, national objectives and aims. Once it is formalized, two parallel planning processes take place, central plan concerning ministries and agencies at the centre, and *dzongkhag* level plan involving *gewogs* and *dzongkhags*. The *gewog* and *dzongkhag* plans are based on people's aspirations and needs. The draft plans are reviewed by the Planning Commission to assess their consistency with the national priorities, resources and institutional capacities to execute the plans. In case of any inconsistencies, plans are revisited with respective *dzongkhags* and amended accordingly. The final plan is endorsed by the Cabinet and formally approved by the National Assembly.

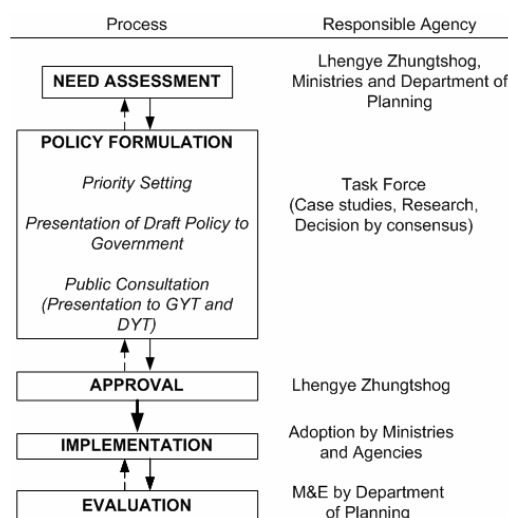
Figure 3: Planning process



Policy formulation process

Policy formulation follows five phases of needs assessment, formulation, approval, implementation and monitoring (Figure 4). The Cabinet, Ministries and Planning Commission through series of discussions and reviews assess the need for change and introduction of policies. A Task Force may be assigned to conduct research and case studies to formulate or reformulate policies. Formulation follows three steps of priority setting, presentation to the Government and public consultation within DYT and GYT. The policy agreed through consensus is submitted to the Cabinet for approval. Once approved respective ministries and agencies are mandated to implement the approved policies. The Planning Commission monitors the policy implementation and its performance.

Figure 4: Policy formulation process (Adapted RGOB 2005)



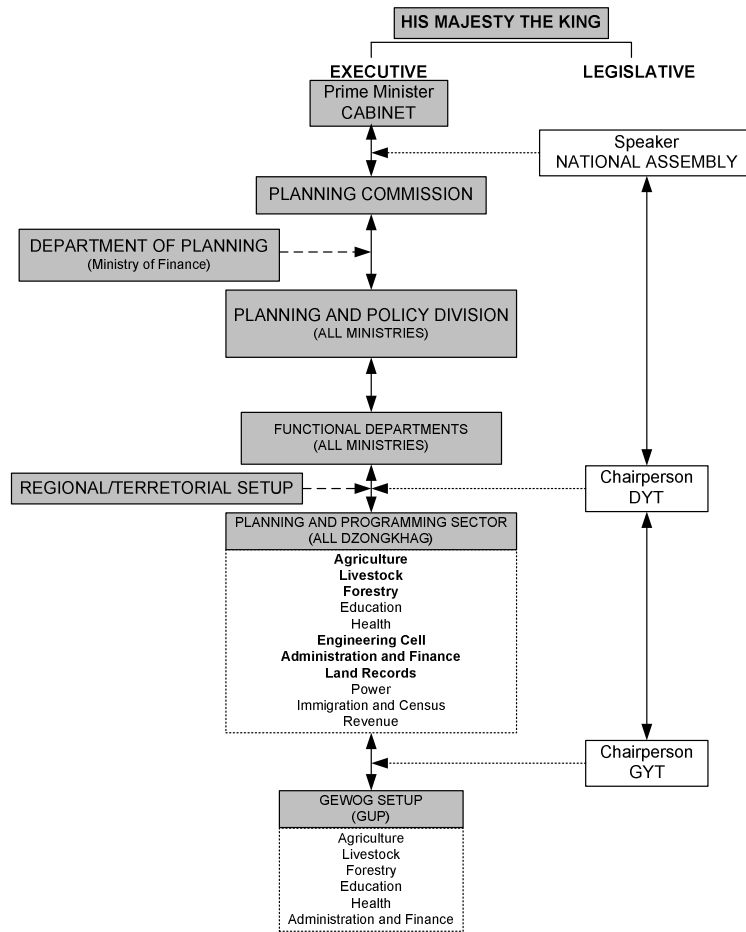
Policy implementation process

Different ministries and agencies implement policies once approved by the Cabinet through different instruments (Figure 5). Mandated ministries translate policies into strategies and activities. With the strengthening of GYT and DYT as the prominent institutions at the meso and micro levels, most of policies are implemented through them. However many policies, which are cross-cutting and of national concern, are directly implemented by central agencies in close association with local institutions. Most of the Acts passed by the National Assembly facilitate efficient implementation of policies. Thus, one ministry/agency could be mandated for a particular Act, while different agencies implement policies.

While the Acts are followed by the formulation of rules and regulations to operationalize their provisions, policies are backed by implementation strategies similar to bylaws of an Act. While many acts are supported by rules and regulations, there are still many without such specific rules and regulations.

In some cases, the absence of rules and regulations has impeded effective operationalization of the acts or policies. For instance, the Cooperatives Act and the Biodiversity Act, although enacted in 2000, are yet to be operationalized in the absence of rules and regulations. Similarly, due to the deficiency of suitable operational strategies, the land development policy and food self-sufficiency policies, both launched since the Fifth FYP, have yet to make any significant impact. Absence of clear rules and regulations have most often provided opportunities for interpreting Act and policies in the way best-suited to a given situation thus creating disparity in its application.

Figure 5: Policy implementation process



Role of civil society

In this hasty passage from an isolated to a highly predetermined country, one cannot ignore the role of civil society, which has been crucial all-along. Living in the difficult terrains separated by high mountains, settlements in valleys and remote areas for centuries have lived in harmony solely by the norms of social institutions. These institutions (*zomdu*, social net, kinship, local deities, natural resource management, social status, etc.), still prevalent and active, have contributed to the institutional development of today. The most prominent is the '*Zomdu*', which is a collective meeting (forum) commonly used for information sharing, planning, decision-making and legal proceedings. Another example of a local institution, the '*Ridam*', is used for the protection of particular natural resources, has given ideas for natural resource management strategies. However, these local institutions cannot be equated to NGOs, as they have no legal standing and are often not recognized as an institution.

In planning any activities in a community, there is a '*Tshogpa*' who is a representative to organize community (normally village) level meetings where points are discussed and finalized. The *Tshogpa* presents the final proposal from each village to the GYT (Block Development Committee) where plans are scrutinized. All Gups (Block Head) present the plan to the DYT (District Development Committee) where direct discussion with a sectoral representative in the presence of District Administer (Dzongdag) is held. All the District plans (five-year plans) are debated at National Assembly. In all, it is apparent that civil society is intricately involved in the process. Further, parallel to this process, many agencies have direct interactions with civil society through specific projects.

4.3 Synthesis

Planning in Bhutan can be classified as dynamic and dependable. It is dynamic from the viewpoint of institutional transformation that Bhutan has experienced during the past four decades. This transformation has always been a favourable one to take planning and implementation further closer to people. Thus, the process of policy design and implementation appears exceptionally people-friendly. It can also be considered dependable, as all plan periods (currently Ninth FYP) have been reported as successful during the National Assembly Sessions. The Planning Commission Secretariat has the mandate to monitor and evaluate the plans. Further, there has been no report of major plan failures leading to antagonistic effects.

Sectoral planning with units and divisions in all Ministries and Districts seems most effective in terms of institutional setup. All the units are centrally coordinated by the Commission headed by the Head of the Government, ensuring consistency of sectoral/local plans to the national goals (and resources as well).

The provision for brainstorming sessions at different levels is another positive aspect of the process. It represents a wider participation of stakeholders ensuring accountability and sustenance of development efforts.

The limitation of the process can be the centrally controlled financial resources. At the grassroots level, people are often not aware of the resources available during planning, thus leading to uncertainty in the plans. Further to this, the financial management empowered to the Block Development Office can be another loophole of the system if not properly monitored and managed. Thus, in the whole process, monitoring is the most neglected which can form a crucial means to regulate effective and efficient plan implementation.

V. Impacts of Policy Interventions on Land Use

The effective operationalization of policies at the grassroots level heavily depends on the implementation mechanisms that need to be in place. Depending on the implementing institutions and processes, all policies will have explicit and implicit impacts. Further, the emergence from interaction of various related policies will have another category of impacts. Parallel to the process, the level of understanding and interpretation of policies, which varies enormously, will considerably influence the impact.

Bhutan is committed to preserving the pristine environment and indigenous culture while improving the quality of living for its people, *thus a country full of old world prides and new world promises*. While the country moves ahead with vibrant development policies, the majority of the population are still residing in rural and remote areas. Towards improving the access, considerable resources have been invested in developing basic transportation network along with basic health and education services to improve the quality of life. However, the country's rugged and fragile terrain continues to be a challenge for development.

5.1 Impacts on land use

Despite the existing institutional arrangements for land use changes, the absence of an overarching land use policy and legislation has made it difficult to arrive at a decision on land use change based on its suitability and capability. The draft Bhutan National Food Security Strategy paper (2005) reported that between 1996 and 2001 about 630 acres of wetland were lost to non-agricultural land uses in addition to 11,000 acres of agricultural land being administratively converted to forest between 1960s and 1990s.

Food self-sufficiency/security

It is agreed that there is a need for a reliable and stratified data on food production. Nonetheless, the available data indicated that the implementation of food security policy has brought about noticeable changes in food production and availability at national, regional, community and household levels. Some localised information do show that an increase in food production has positively impacted the households. Households deficient in food have become self-sufficient and those households who were already secured have surplus for the market. Below are some cases where production increases have occurred most in agriculture and horticulture.

- The policy of achieving self-sufficiency in cereal grains has significantly increased the productions of rice, maize and wheat. The 2004 impact study on rice reported that rice production from 1989 to 1997 increased by 58% (Table 17). The increase in yield by 75% was the main driving force for the production increase. Under this policy, agricultural research received greater emphasis and it was the main driving force for the yield increase. The same study reported that about sixty-eight percent of the households surveyed were self-sufficient in rice (Shrestha, et.al. 2004). Similarly, in maize, while the analysis of recent maize research impact study is awaited, the national maize production is reported to have increased by 21% from 74,702 MT in 1995 to 90,566 MT in 2004 (Katwal, 2006). It is also reported that the purchase of surplus maize from farmers by the Food Corporation of Bhutan amounted to 239.26 MT in 2005 thereby indicating increased production. Again the production increase was associated to jump in yield from 1.20 t/ha in 1986 to 4.19 t/ha in 2004.

Table 17: Rice area, production and yield, 1989-97

Year	Area (ha)	Production (t)	Yield (t ha ⁻¹)
1989	26,010	39,790	1.53
1990	26,304	59,449	2.26
1996	23,777	65,576	2.76
1997	23,679	63,065	2.66
Average	24,943	56,970	2.30
Difference from 1989 to 1997	-9%	58.5%	74.1%

- Horticulture development was pursued as a strategy for attaining food security through improved incomes. Under this, there has been a revolution in the production and consumption of vegetables. From limited vegetable crops like pumpkin, radish, turnip, garlic, sag, etc., grown and consumed in the 1960s, today the market is flooded with diverse exotic vegetable crops, which are grown by local farmers earning substantial household income. The export of potato has increased from 8,271 MT in 1992 to 23,707 MT in 2005 (Table 18). In the same manner, the trend of export of apples and mandarins has also increased from 4,013 and 14,725 MT in 1992 to 4,743 MT and 23,284 MT in 2005, respectively. The above increases in production were largely due to the introduction and adoption of low-input technologies.

Table 18: Horticultural production, volume in tons and value in '000 Nu

Commodity	Apple		Orange		Potato	
	Volume	Value	Volume	Value	Volume	Value
1992	4,013.05	42,957.8	14,725	195,114	8,271	21,761
1993	2,473	3,538	20,874	157,148	10,829	36,582
1994	32,935	53,564	8,028	66,447	7,743	24,462
1995	3,685.78	54,580	11,384	112,238	13,603	61,730
1996	4,314	72,409	12,585	119,830	13,899	69,600
1997	4,103	81,668	18,646.53	178,928	13,016	43,110
1998	4,045	42,004	13,201	142,397	13,600	132,359
1999	3,440.37	65,646.64	12,698	128,608.76	15,592.08	83,865.82
2000	1,470.46	22,182.61	11,301.05	105,440.80	11,356.45	46,968.5
2001	3,354.50	41,136.7	18,202.16	152,268.46	20,538.7	115,274
2002	18,304.94	32,380	28,279.99	206,981.80	14,179.57	97,490.55
2003	4,841.84	53,352.31	14,524.30	142,933.18	17,911.29	71,948.06
2004	3,122.97	43,528.06	19,573.59	220,038.50	17,662.13	112,957.09
2005	4,743.464	77,490	23,283.683	-	23,707	182.5

- In pursuing the policy of food self-sufficiency, the concept of sustainable agriculture development also received strong priority. Land development programmes were emphasized, subsidies on pesticides were withdrawn, use of external inputs such as mineral fertilisers were cautioned, which led to a sustainable production system.
- As the production increased, it was a challenge to bring the surplus produce to the market. To improve accessibility the policy also emphasized construction of mule tracks, farm roads and lately the power tiller roads to provide accessibility to small farm equipment.
- The land Act of 1979 which is the legislation supporting the food production policy has, through its provision of disallowing conversion of wetlands (paddy lands) to other uses, largely helped in protecting the best agricultural lands in Bhutan.

Policy of maintaining 72% forest cover

- Bhutan's relatively good forest cover today is attributed largely to this policy in place besides many other factors. Bhutan is one of the ten hot spots in terms of plant and animal species diversity. It has dedicated about 29% of the total land area to protected areas and biological corridors.
- Human-wildlife conflicts: With a large forest cover and scattered agricultural lands often in the midst of forests, wild animals freely roam cultivated fields and substantially reduce crop harvests. The Bhutan National Food Security Strategy Paper (draft 2005) reported that wild animals damage 11% of maize, 8% of wheat, 7% of rice and 6% of potato every year. In monetary terms, crop loss from wild boars alone is estimated at USD 1.6 billion per year.
- The National Assembly banned *tseri* farming mainly to protect forests from uncontrolled fires that escape from *tseri* burning. This ban has helped in controlling the *tseri* cultivation taking place in government forests but has not put to an end to *tseri* farming. There is a need to review the *tseri* ban policy in the light of livelihood needs of the cultivators.
- The export of timber out of Bhutan was stopped in support of this policy. As a result, the local timber availability has improved and prices have stabilised. The rural communities are given timbers free of royalty.
- Under this policy, the local hunting was regulated to safeguard the wild animals. However, this has adversely affected the farming communities by not being able to keep away the wild animals from damaging their food crops. This is an issue that needs balancing between food production and conservation.
- The social forestry programmes like community forestry and private forestry became a reality to expand the forest management responsibilities to people.
- The policy also promoted improved animal breeds for higher productivity and to maintain low herd size to indirectly reduce the degradation brought about to the forest. The stall-feeding of animals is recommended with a view to minimise grazing pressure. This policy is found not so relevant to all the villages that are in close proximity to the forests.
- The forestry sector has many clear policies, several acts, rules and regulations to conserve and use forest resources. However, the sector lacks the capacity to fully enforce such regulations due insufficient personnel, information and resources, which affects the credibility and leads to resource degradation.

Pasture

- Low productivity of pastures and quality deterioration, particularly of community pastures which are grazed indiscriminately on a free-for-all basis. It is also common that the same pasture has multiple owners, putting pressure on the land. Quality of natural grasslands has also deteriorated due to the emergence of toxic plants.
- There are conflicts and basic differences of opinions among the foresters and livestock specialists on the issue of forest grazing and resultant degradation. There is a lack of scientific and quantitative studies to either prove or disprove the arguments.
- The concept of growing fodder for livestock is relatively new in the country and farmers are often reluctant to spare land for fodder development. This is further compounded by the fact that land is a scarce resource in the country.
- Community ownership of pastures makes it difficult for good management. Amendment to the rules and regulations regarding ownership, use and management of pastures is necessary as recommended by a National Grazing Policy Workshop in 2001. This will act as an incentive to livestock farmers to make investments for better productivity of their pasturelands.

Settlements

- Although settlements occupy less than 1% of the total area, it is growing at a fast rate. The Government's capacity and available resources to properly plan for urban centres, including land use planning at the national level, is relatively low. Improper planning based on short-term visions is likely to be costly in the long run. Capacity for urban planning and management needs to vastly improve.

5.2 Implications of decentralization policy

Shift in stakeholder roles

In view of the decentralization, the role of elected members and public servants has drastically changed. For instance, the roles of elected representatives in GYTs and DYT's have shifted from advisors and implementers to full decision-makers on development priorities and planning. This has promoted constant consultation with their peers in the villages, *gewogs* and *dzongkhags*, making the development interventions more need-based.

Concurrently, the roles of administrative personnel at these levels have changed from directing the course of development to facilitating development. This institutional change entails a major shift in the existing role of the Government to that of a proactive and engaging development facilitator, assisting and enabling communities to identify priorities, to allocate and utilize resources efficiently and effectively for development projects.

Capacity development

As GYTs shoulder more responsibilities, their members will need to upgrade their skills in programme implementation, facilitation, financial management, monitoring and evaluation. The capacity of *dzongkhag* administrative personnel is thus critical for successful implementation of devolution under the Ninth Plan. It is imperative that *dzongkhag* administrative personnel also develop their skills to undertake effective social mobilization and to evaluate policies, strategies and development plans.

Communication and coordination

Facilitation of the decentralization process, coordination and cooperation at all levels is crucial. Alongside, coordination - especially communication on new roles and responsibilities, progress updates, constraints faced and lessons learned - will become important for sharing experiences and minimizing duplication of development efforts. In order to address this issue, the use of appropriate information and communication technologies will be necessary.

5.3 Implications of tourism

So far, the Bhutanese experience with tourism has been positive. The government has carefully managed tourism policies in the country. Bhutan has been fortunate to learn from the experiences of its neighbouring countries in tourism management, picking only the positive elements. The tourism policy of the country is in line with its principle of GNH, focusing on environment and culture rather than on the accumulation of wealth from the industry.

However, there are negative aspects of tourism as well. One of these has been the imbalance of the benefits from tourism in terms of geographical regions and the urban versus rural areas. Most tourists' destinations are in the Western and Central regions, thus the Eastern and Southern areas, which have potential for tourism, are denied the opportunity. Tourism activities are concentrated in the urban centres and managed by people hired from such centres, with minimal involvement of local people or communities. Although not a serious problem, environmental damage through littering and other activities from tourism cannot be overlooked.

5.4 Implication of conservation policy

Bhutan is committed to protecting and preserving its natural environment, and has implemented a legal and institutional framework for sound environmental management. The National Environment Commission (NEC) has a growing capacity to manage and monitor, and the environmental assessment process has been approved and been in effect since February 1999.

The National Environmental Strategy launched in 1998 emphasizes that protection of the natural environment and development activities undertaken must be done in a sustainable and environmentally-sensitive manner. The Government places a high level of importance on protecting Bhutan's rich natural heritage for future generations.

The government's clear environmental protection policies, along with the Environmental Assessment, have helped assure that there is minimum damage to the environment through development interventions. The projects introduce, promote and mainstream environmentally friendly road design and construction methods, including bio-engineering techniques, to minimize the impacts of rural road construction in environmentally sensitive areas, such as on steep forested slopes. Technical assistance in the environmentally friendly construction methods has already been mobilized during project preparation to provide suitable advice and training to contractors and consultants involved in the project. The Environmental Code of Practice for the Road Sector, the first one to be developed in Bhutan, was adopted by RGoB. The mitigation measures and codes of practice are the basis for the environmentally friendly construction practices.

5.5 Strength and weakness of existing policies impacting land use

While there are several policies that impact on land use, only four were selected so that analysis could be focused. Land Act and Forest and Nature Conservation Act were selected as these two acts are fully based on land and natural resources. They also form the oldest acts, which people are familiar with. The next two, good governance and land management are of recent introduction and it is assumed that people have fresh memory of them. A SWOT (strengths, weaknesses, opportunities and threats) analysis of four Act/Policies related to land use was conducted. The rapid survey revealed definite strengths of some of the policies while there seemed to exist critical weaknesses of policies (Table 19).

Table 19: Strengths and weaknesses of policies impacting land use

---- Land Act

Strengths	<ul style="list-style-type: none"> • Promotes ownership of the land • Avoids conflict • Maintains the same amount of land • Controls land encroachment
Weaknesses	<ul style="list-style-type: none"> • Lengthy procedure for land conversion • Need to assess needs of landless people for land grants • Cannot sell if less than 5 acres • Construction in wetlands • Change of wetlands to dry lands • Government can take land whenever it needs
Opportunities	<ul style="list-style-type: none"> • Land exchange • Land grants and resettlement • Land conversion
Threats	<ul style="list-style-type: none"> • Land encroachment by influential and government agency • Due to town planning, the Government has taken all the land; excess land taken by the Government • Government taking land leaves people landless and they can never achieve food self-sufficiency

--- Forest and Nature Conservation Act

Strengths	<ul style="list-style-type: none">• Conservation and sustainable use of forest resources• Equitable resource sharing• Protection of forest from fires• Good forest coverage• Conserve forest cover
Weaknesses	<ul style="list-style-type: none">• No rights over trees grown on private land• Conservation increases wildlife which damages crops and livestock• NR rules affect community development due to lots of formalities and rules to follow• Frequent forest fires
Opportunities	<ul style="list-style-type: none">• Creation of private and community forestry• Involvement of communities to control exploitation of resources• Aforestation• Compensation to farmers for forest conservation• Home for endangered species• Use of trees growing on own land
Threats	<ul style="list-style-type: none">• Overexploitation of forestry resources• More barren land and more rural-urban migration• Increased wildlife and imbalance in the ecosystem• Due to wild animal increase in population, crop damage in rural areas resulting in more rural-urban migration, which hampers food self-sufficiency

--- Good Governance

Strengths	<ul style="list-style-type: none">• Empowering people• Balanced development• Transparent system• Decentralized planning and implementation• Farmers' right to decide and plan for community development• People's right
Weaknesses	<ul style="list-style-type: none">• Higher level institution may not respect lower institutions' (GYT) decisions• Financial management• Improper implement of <i>gewog</i> plan if head of <i>gewog</i> is not capable• Sometimes problems arise within the institutions themselves• Full decentralization is not in place and it is still overruled by centralized system• Low literacy causes farmers to plan wrong
Opportunities	<ul style="list-style-type: none">• Collective actions for development• Development of local organizations• Capacity development• Ability to decide at grassroots' level• Can change their plan if it does not work• Rural development
Threats	<ul style="list-style-type: none">• Loss of respect for seniors• Capacity of local institutions to implement decentralized activities• Bribery can lead to bad governance• Capacity of local institutions to implement decentralized activities• Loss of tradition and culture• Chances of bribery• May not be sustainable in long run

--- Land Management

Strengths	<ul style="list-style-type: none"> • Management of degraded land • Sustainable use of land resources • Maximization of land productivity • Increase in production per unit area
Weaknesses	<ul style="list-style-type: none"> • Terrain land features • Land taken by government agencies
Opportunities	<ul style="list-style-type: none"> • Proper management of degraded land • Control of erosion • Organization of the community • Fund development from outside • Efficient utilization of available land
Threats	<ul style="list-style-type: none"> • Will the programme be sustainable?

5.6 Policy interpretations

Discussion with 35 respondents revealed a wide variation in the interpretation of some important acts and policies related to land use. There was no uniform understanding on any policy, which would have resulted in differences in implementation (Table 20) thus depriving people from the genuine target of the policies.

Table 20: Interpretations of different acts and policies

	% response
Land Act	
Land ownership	41%
Land ceiling (5 to 25 acres)	18%
Protection from encroachment	24%
Land conversion	12%
<i>Tseri</i> ban	6%
National Forest Policy (1974 and 1991)	
Controlled access to forest products	61%
Protection and conservation of natural resources	28%
Equitable resource sharing	6%
Formulation of community forest and private forest	6%
Forest and Nature Conservation Rules 2000	
Conservation of natural resources	47%
Protection of wild life	35%
Afforestation	18%
Good Governance	
Decentralization	53%
Empowering people for decision making	29%
Equal rights	18%

Food self sufficiency policy

Not to depend on imported food	43%
Surplus production	29%
Improvement of farming	19%
Subsidy and protection	10%

Land development

Improvement of land productivity	40%
Use of modern technologies for improving land productivity	30%
Maintainance of sustainable land use	10%
Increase of soil fertility	10%
Focus on rice-based farming	10%

National irrigation policy

Improvement of water sharing and systems management	50%
Resolution of conflicts in water sharing and empowerment to manage it	38%
Water user associations	13%

5.7 Synthesis

In contrast to the people-oriented policies, there seems to be some kind of disparity in terms of reach and penetration of the well-intended policies. The discrepancy has been further aggravated due to differences in interpretation, where policies have been manipulated to favour a certain outcome. In the absence of efficient communication systems to suit the remoteness and literacy level of Bhutan, the awareness and understanding of various policies can be rated as low, thus nullifying the wisdom of policies. Generally, in each community there are few educated people who act as source of information to the general people. The local institutions like GYT and DYT can play a crucial role in ensuring consistency in policy interpretation and implementation.

Despite the effort of the Government to educate people on Acts and policies, there is a severe dearth of capacity with people to comprehend the interactive effects of different policies. In a situation where policies are sectoral (departmentalized) rural population (many times urban folks too) have lost the battle in protecting their prized possession of ancestral assets (e.g. upcoming township in arable lands). In the absence of mechanisms to coordinate coherence in policy formulation, contradictory policies often have severely impacted on people's livelihood (e.g. national parks, biological corridor, nature conservation vs. crop production).

In a country where 89% of the population lives in rural (remote) villages, policies framed from the global perspective (WTO, organic market, democratic process, etc.) can have very little meaning if basic livelihood issues of the people are neglected. It is apparent that the intensity of people-to-policy linkage should be greatly enhanced if policies are meant to make life of people more comfortable if not sustainable.

VI. Conclusions and Recommendations

Bhutan has managed the process of development remarkably well thus far, ensuring a harmonious balance between the natural environment, social and traditional values, and the forces of economic development. The country has made good progress in improving the living standards of its people, since it embarked on a modernization path in 1961. The national policies have focused on maintaining a balance between growth in productivity and incomes with the preservation of the country's religious, cultural and environmental heritage. Such a policy and developmental thinking has evolved into the popular concept of Gross National Happiness, which is unique to Bhutan. The main pillars of GNH are the conservation and sustainable use of the natural resources and environment, preservation and promotion of cultural heritage, effective and good governance, and balanced and equitable development.

The Bhutanese precept of GNH has a remarkable resemblance to the concept of SARD-M that promotes environmental, social, economic and institutional pillars for sustainable development (ICIMOD, 2005). The environmental pillar concerns conservation and enhancement of resource base and ecosystems. The economic and social components emphasize on uplifting the welfare of people, benefits and access to resources and equity issues. The conceptual overlap between GNH and SARD perhaps underline their utility and relevance for mountain people.

New challenges continue to arise and Bhutan is vulnerable to degradation of its natural resource base from increasing urbanization, infrastructure construction, industrial expansion, high population growth rate, shifting consumption patterns and compromising land use practices (NEC, 1998). Developmental activities are important and inevitable, but there needs to be a balance between the needs and the overall goal of sustainable development and environment conservation. An overarching policy and legislative framework to ensure such a balance, with particular reference to national land use and management is lacking in Bhutan. The numerous acts and rules emanating from different organizations do not converge and serve the purpose of a unified policy framework. One of the ill effects of this lacuna has been the arbitrary and indiscriminate use of arable land for infrastructure.

Forests and farming are two major land uses in Bhutan. In the immediate future, the proportion of land under these uses is not likely to change significantly. Inconsistent data does not allow the making out of a clear trend over the years. Area for settlement and infrastructure is expected to rise gradually as urbanization gathers momentum. *Tseri* still forms a significant land use within agriculture regardless of the official ban. Perhaps it deserves a fresh review in its entirety, from its merits, demerits and feasible options. Major issues in agriculture include human-wildlife conflicts, scarce farm labour and high costs of production.

In the SARD-M context, Bhutanese agriculture has been characterized by being subsistence in nature, with low and insignificant use of external and purchased inputs, and overall low productivity. This has been largely by default, given the imperatives of the rugged and difficult terrain, and isolation from the markets. Agriculture is seen as the engine for rural development, with a large population dependent on it for its livelihood. However, the subsistence nature of farming coupled with isolation makes it difficult to bring about rapid changes and improvements. In the past, research and development emphasis was mainly on production; now the focus is also on accessibility and marketing. Farm roads, although costly, are increasingly built and seen as the driver of rural development. To promote trading activities, market sheds and auction yards are established in many areas.

Urban settlement is a new phenomenon in Bhutan and its pace has quickened over the last decade or so. The rate of migration and settlement in the urban centres is increasing and most urban centres are experiencing growth pressures. The challenge for the RGoB is to draw into or retain people in the rural areas or within secondary centres instead of the major centres. This would require creation of job opportunities or gainful self-employment in the rural areas and secondary centres. Agriculture thus has to transcend the subsistence barrier and create avenues

of employment through marketing, processing, transport, value adding, etc. Linkages and synergies with vocational training relevant to rural areas need to be explored.

Tourism is seen to have a positive effect on rural employment through the involvement of local communities in maintaining footbridges, trekking trails, providing human and animal transport and supply of provisions for trekkers. In the urban areas, jobs in the tourism sector include guides, drivers, office staff, hotel and catering services. However, more could be done to bring about positive impacts of tourism specifically for rural development. For instance, agro-tourism and farm holidays could be introduced to directly benefit the rural households. Fresh farm produce could be marketed to the tourist hotels and caterers, boosting the local economy.

Over the years, there have been changes and adjustments in the policy environment. Several new acts and rules have been made and some old ones repealed and replaced in tune with changing times and needs. In agriculture, an important policy objective has been to achieve a higher level of food self-sufficiency and security from the present estimated level of 65%. Food sufficiency in the Bhutanese context connotes to production of rice, the most preferred staple food in the country. To ensure adequate domestic production of rice, the Land Act of 1979 legally protects wetlands. However, such legal provisions are not always honoured and there are cases of rice fields turning into urban jungles. The Land Act also lacks legal stipulation for compensation from crop damages by wild animals. The Act, which is currently under review, is an example of the expression of need to adjust policies with emerging needs.

The policy on subsidies for agriculture has been pursued since planned development started. However, it is felt that the subsidy is too little and spread too thinly for any noticeable impacts. The need for subsidies in a bid to uplift farming above the present subsistence level nonetheless is strongly recognized and the MoA is currently planning to devise appropriate subsidy mechanisms and submit them to the Government for approval.

In the forestry sector, sensitivity to emerging needs and policy adjustments has been particularly encouraging. The Forest Act of 1969 served as the main policy instrument until the first forest policy was formulated in 1974. The Act usurped the traditional access and use rights of the communities and nationalized all forests in the country. This led to a weakening of the traditional institutions, values and perceptions towards forest resources (RGoB, 2004) and resulted in overexploitation and poaching. The Forest and Nature Conservation Act finally replaced the Act in 1995, which is more people-friendly with basic tenets of participation and increased devolution of rights and responsibilities. In a similar fashion, the Forest Policy of 1974 focused much on generating and maximizing revenue from the sale of timber, which led to the unsystematic felling of trees and deforestation. This policy was amended in 1991, with emphasis on the requirement of scientific management plans for timber harvesting. The policy was further reviewed in 1999. The draft Pasture Policy has not had a smooth sailing and there are calls for its review and amendments. Hence, there exists a strong element of dynamism in the Bhutanese policy sector.

Bhutan shares all the mountain specificities of inaccessibility, fragility, marginality and diversity. The rugged terrain, high mountains and deep valleys traversed by fast flowing rivers limit accessibility to many parts of the kingdom. The country is covered by about 3300 km of motorable roads, which connect the districts. There are still a lot of inroads to make in connecting remote and far-flung villages. The Ministry of Agriculture (MoA), nonetheless, is cognizant of providing access to remote areas and has embarked on a Triple Gem approach of Production, Access and Marketing (PAM) to develop agriculture. The access component envisages farm roads and power tiller tracks to connect remote villages. The Ninth FYP has a target of over 500 km of farm roads and the achievement so far is about 60%. The policy of making power tiller tracks, which are smaller and less damaging to the environment, is in harmony with the mountain specificities and imperatives.

The recent MoA policy of land swapping, allowing fragile, steep and marginal farmlands to revert to forest and substituting good forestland for farming, is an example of flexibility and pragmatism in policy making in Bhutan. Most policies are tailor-made to the country's requirement and not simply borrowed from elsewhere and applied as such. Given the diversity of environments and ecological conditions, Bhutan has an amazing array of agricultural and horticultural crops.

Imposed by inaccessibility and marginality, these crops are grown in the natural way without any external inputs. Thus, there exist opportunities for natural products in niche markets. The recent thinking and policy of organic farming is a sagacious step to harness an opportunity provided by the specificity of mountains.

In a short span of four decades, Bhutan saw numerous institutional changes, which facilitated enhancement of security, stability and advancement of the country from an isolated nation in the 1960s to a proud sovereign nation in the 21st century. The process undoubtedly depicts dynamism, perseverance and maturity in the capacity of the nation to anticipate, plan and effect institutional changes consistent with needs and aspiration of the people.

Further, the commitment and consistency of the leadership is vibrant in the cautiously engineered process of devolution. The capacity development, institution development and empowerment have been sensibly employed to avoid abuse of power and institution. The institutional transformation has invariably been second step after capacity development, which has contributed to survival of such institutions. Another important feature in the institutional development has been the importance placed on strengthening traditional local institutions.

The wide variation of interpretation of policies and acts could be a possible reason for disparity in implementation and reach. The study also revealed a lack of policy advocacy, which can promote common understanding of the policies.

While the institutional arrangements are in place, coordination among the agencies to translate the policies uniformly is crucial to competently deliver and service the clients. Ensuring greater link between policy and people can enhance the applicability of policies.

Some of the main lessons learned are:

- **Strong leadership:** Bhutan has been blessed with an enlightened leadership throughout its modern history. There have been conscious and cautious political and policy initiatives by its leaders in tune with times, for instance the evolution of the National Assembly, the Royal Advisory Council, reforms in the judiciary, decentralization and devolution, to parliamentary democracy in the near future. Indeed, it is a long journey in a short span of time. It is certainly an example of visionary leadership.
- **Local capacity:** Leadership at the grassroots' level and local capacity for undertaking rural development are essential for decentralization and devolution of authority to succeed. In the Bhutanese context, it is felt that the pace of decentralization has overwhelmed the absorptive capacity of the locals, thus decelerating the development process. It is vital that there is a good match between the two.
- **Policy making for local contexts:** Policy formulation to suit local contexts and development needs is of paramount importance. This will ensure effective utilization of the policy and fulfil the very need of it. Bhutan has largely been successful in tuning its policy regimes to suit its specific needs and environment. Dynamism in policy-making is another prominent feature of the country.
- **Cross-ministerial coordination:** A policy related to SARD often cross-cuts several ministries and agencies in its relevance and applicability. Thus, concerted and coordinated efforts are required for effective implementation and enforcement of any policy. It helps if a forum or institution is identified to ensure coordination and plug any loopholes. Such an approach also reduces the risks of variation in policy interpretation at the field level.

Some of the important recommendations and follow-up actions are:

- Given the absence of an overall land use policy, an immediate follow-up action is to develop a national legislative framework, which would facilitate a systematic evaluation of the present land use and land users, as well as assess the capability of the natural environment to sustain the different land uses. Land use planning has to be at the national, regional and

local levels, encompassing watershed, villages and farms and involve all the stakeholders including farmers.

- There is no dearth of policies, acts, rules and regulations on any given subject. However, the level of awareness among the different layers of society and citizenry is particularly low, be it regarding the very existence of such legislations or their contents and provisions. The rapid questionnaire survey done as part of the present study confirmed this point. There is an urgent need to create appropriate platforms for public advocacy and conduct mass campaigns using available media and other resources to raise the level of policy awareness.
- Bhutan needs to strike a finer balance between the environment conservation and its aspiration for economic development, particularly in the rural hinterlands. The current human-wildlife conflicts and the resultant impacts on crops and rural livelihoods clearly show a tilt in favour of conservation. However, conservation at the cost of people's livelihood and rural development is debatable. In addition, some of the revenues generated either directly or indirectly from conservation, for instance ecotourism, hydropower generation and conservation trust funds, should finance activities of SARD, including provisions of services and public facilities in the remote areas. This will help in making rural areas more attractive for people and reverse the present trend of rural-urban migration.
- Generally, there are limited resources and capabilities for policy enforcement. This is discernable in the forestry sector where paucity of resources, personnel and information hinders enforcement of several well-intended policies. The Royal Government of Bhutan needs to commit more resources for efficient enforcement of its policies.

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Framework for a rapid assessment of policies for SARD in Mountain Regions

SARD-M Project and SARD-M policy assessments

The Project for Sustainable Agriculture and Rural Development in Mountain Regions (SARD-M) in line with its objective of ***"strengthening mountain populations' livelihoods with improved policies for sustainable agriculture and rural development"***, is developing and implementing a framework for a rapid assessment of policies for SARD in mountain regions.

The overall purpose is to provide an **understanding of the strengths and weaknesses of various policies related to SARD in mountain regions.**

In light of the specific qualities or specificities that characterize mountain areas, the assessments try to bring about a better understanding of how the SARD framework is applicable to mountain regions and examine the types of **policies and policy packages, institutions and processes** that are important to achieve SARD in mountain areas, with attention being paid to **how the comparative advantages of mountains can be harnessed** to promote development in a sustainable manner.

Expected output

The assessments aim to have common exit points that can facilitate **comparison across regions:**

- **identification of problematic areas** and **priority issues** that are facing a region;
- **evaluation of the overall strengths and weaknesses** of SARD-M policies, making sure that the policies examined provide a balanced coverage of social, economic and environmental pillars;
- **general recommendations** of things that need to be improved in the policies, the processes and the institutions involved in the formulation, implementation and evaluation of policies;
- **proposals for concrete action-oriented follow-up activities** that meets the demand existing in the assessed region.

Targets

Middle-level practitioners and trainers involved in SARD-M policy making, implementation, monitoring and evaluation, from:

- **governments**, at national and decentralised levels (i.e. ministries of agriculture, environment, rural development, finances...);
- **civil society organisations**, including local authorities.

Approach

The purpose of the framework is to offer some **basic guidelines and references** that can assist in the assessments of SARD-M policies.

Given that SARD requires an integration of policies across sectors, the aim of the assessments is not to conduct an in-depth analysis of policies in a specific sector, but to try to provide more of a **global overview** and **cross-sectoral understanding** of the strengths and weaknesses of policies for SARD.

The assessments are to be conducted within a **short period of time** and meant to be an exercise of reflection that provides **main elements** for a diagnostic of the current strengths and weaknesses of SARD-M policies.

As the success and failures of policies rely not only on the contents of the policies themselves, but also on the context of how they are developed and implemented, the SARD-M policy assessments place a **particular emphasis on examining the processes and institutions** that are involved in the formulation, implementation, and evaluation of policies.

Some tools for a participatory process:

As the assessments are to be more of a qualitative study, **literature reviews and interviews** of key informants, from both **government and civil society** in diverse sectors related to SARD, conducted in an **iterative** manner, are the main tools utilised for the assessments.

The holding of **multi-stakeholder workshops at decentralised and/or national levels** is an extremely useful tool to gather information and opinions on how well policies are working on the ground and to provide insights into the strengths and weaknesses of the processes involved in the formulation implementation and evaluation of policies for SARD-M and how well the various institutions involved in these activities interact with one another.

Main steps:

1. Background information of the country under study

Describes the issues facing agriculture and rural development in the country, notably **problematic or priority issues** and the **role and importance of mountains and their specificities** (i.e. potentials, constraints and diversity).

2. Selection of an entry point for SARD-M policy assessments

Entry points will preferably address **problematic or priority issues** facing a given region and be selected **in consultation with stakeholders**.

3. Situation of SARD-M policies within the country's policy framework

- Basic description of political history and system of governance
- Major ministries responsible for SARD-M policies, their roles and interactions at various levels of governance
- Types of policies and policy frameworks that exist for SARD in mountain regions.

4. Impacts of policies on SARD in the country's mountain areas

Examination of **policies related to entry point** as well as **other pertinent economic, social, environmental and institutional policies** that directly or indirectly affect the entry point under study.

- What are the objectives of the policies under study and do they address the issues facing the country at the national, regional and local levels taking into account the specificities of and linkages between lowlands and uplands?
- What kind of positive or negative impacts do the policies being studied have on SARD?
- Are there policy contradictions?
- Do the policies address mountain specificities during the formulation, implementation and evaluation processes?

5. Effects that existing institutions and policy formulation and implementation processes have on policies for SARD in mountain region:

- What are the strengths and weaknesses of the institutions at the national, regional, and local levels responsible for formulating and implementing SARD-M policies?
- How do political, participatory and financial mobilization processes and institutional arrangements/knowledge management procedures impact upon the effectiveness of policies?
- What impacts do mountain specificities have on these processes?

6. Summary of findings, recommendations and proposals for follow-up activities (e.g. SWOT analysis).

Some references

The development of this framework has drawn heavily from the work conducted by:

- **FAO** in policy issues related to SARD (i.e. Guidelines for the integration of sustainable agriculture and rural development into agricultural policies. FAO agricultural policy and economic development series 4. written by Hardaker, J. Brian, Rome: FAO. <http://www.fao.org/docrep/w7541E/w7541e00.htm>);
- **OECD** Development Assistance Committee (i.e. OECD DAC. – 2001 - The DAC Guidelines: Strategies for Sustainable Development. OECD: Paris. http://www.oecd.org/document/40/0,2340,en_2649_201185_2670312_1_1_1_1,00.html);
- **United Nations Department of Economic and Social Affairs (UNDESA)** in establishing guidelines for the development of national strategies for sustainable development (i.e. UNDESA – 2002 - Guidance in Preparing a National Sustainable Development Strategy: Managing Sustainable Development in the New Millennium. Background Paper No. 13 (DESA/DSD/PC2/BP13) <http://www.johannesburgsummit.org/html/documents/backgrounddocs/nsdsreport.pdf>.

For more information

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