

The general conclusion is that the RGoB is clear on what it is aiming for both at present and in the future. Land degradation problems are minimal as a result of the implementation of pro-environment policies and programmes.

First, policies are process-oriented. Implementation of policies generates field experiences and knowledge that are taken into account when refining new policy. Popular participation in policy-making is encouraged at all levels through local institutions. Furthermore, policies and programmes implemented are pro-environment, giving more emphasis to environmental safety than economic return.

Second, major land uses are related to agriculture, forest, and livestock. They are inter-related and their relationship is delicately balanced. There is, however, pressure distorting this relationship. Some of the main factors are as follow.

- Population growth rate of 3.1 per cent per year

- Increasing of livestock population, particularly unproductive numbers
- Conversion of *kamzhing* into orchards
- Loss of *kamzhing* to construction of buildings and other uses
- Limited land available for pasture development
- Pressure on *chhuzhing* for other uses
- Landholdings fragmented beyond economic sizes

Third, crops grown can be grouped into cereals and cash crops. Major cereals cultivated are maize, paddy, wheat, buckwheat, and barley; and major cash crops are apple, orange, potato, cardamom and assorted vegetables. The area under cash crops is expanding at the cost of cereal crops. This will continue as the Land Act protects only *chhuzhing*.

Fourth, there are some constraints in development, particularly in the environmental sector. Arable land is limited; only 7.8 per cent of the country's total area is available for cultivation. Cultivation of feed and fodder for animals and crops for human

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consumption compete on this limited land. Unfortunately, both animal and human populations are increasing at a rapid rate. The livestock population is beyond the carrying capacity of pastures. As a result, overgrazing and encroachment into protected areas are a direct threat to the safety of the environment. Furthermore, Bhutan is a part of a fragile mountain ecosystem; a slight error in planning and implementation of a programme could result in irreparable damage to the environment. A programme approach to development has been adopted to avoid implementation of uncoordinated and isolated programmes and projects.

Fifth, the implementation of policies and programmes had had some effect, and some policy issues have emerged.

- Environmental degradation is limited to a few pockets; damage is not irreparable in most cases. Constraining factors are being reviewed, and acts and guidelines prepared for the implementation of future programmes and projects.
- The government introduced exotic livestock breeds to increase livestock products. It was the intention that farmers would adopt more productive animals and simultaneously reduce unproductive numbers. On the contrary, the livestock population has increased without increasing livestock productivity.
- Exotic breeds have benefitted peri-urban and more accessible areas where there is a market for perishable products and access to manufactured feeds. Environmental problems in rural areas have not improved and have often become worse as a result of livestock programmes.
- Monocultural farming practices have been replaced with new and improved varieties of crops promoted by the government. Farming is to a great extent driven by market forces.
- The implementation of holistic programmes has helped to maintain forest cover at 72.5 per cent of the total area, but it is under pressure. The government plans to maintain forest cover at 60 per cent; more land has to be brought under cultivation to help meet new demands for food and income.
- The phasing out of *tseri* and relocation of affected farmers would help to maintain the safety of the environment. Further loss of biodiversity and habitats for wildlife would be minimal.
- Another increasing threat to environment is fuelwood consumption, particularly in institutions. The threat is recognised by the government and an immediate solution is necessary.
- Guidelines for construction of infrastructure such as roads, bridges, and telephone lines have been prepared recognising possible threats. Implementation of the guidelines will reduce danger to the environment.