



**High altitude and steep slopes, among others, limit the mountain region's suitability for arable agriculture.**

# Introduction <sup>1</sup>

Agriculture is the mainstay of hill and mountain economies in the Hindu Kush-Himalayan (HKH) region. The majority of the region's population live in rural areas and depend primarily on agriculture for their sustenance and wellbeing. Agriculture not only provides livelihoods for the vast majority of people, it also supplies raw materials for industry and is therefore the main vehicle for rural development and poverty alleviation in the region.

Mountains are one of the most fragile natural ecosystems on earth. The ecosystem of the HKH, comprising several parallel mountain ranges stretching from Afghanistan in the north-west to Myanmar in the south-east, is particularly fragile. High altitude, steep slopes, and seasonal variability limit the mountain region's suitability for intensive agriculture, and only 5% of the land is suitable for intensive crop-based agriculture (Banskota 2000). Increasing population and decreasing productivity combined with changing consumption patterns have created an increased demand for agricultural products. This has triggered the intensification of agriculture without appropriate management on fragile lands, which has accelerated deforestation, desertification, soil erosion, and environmental degradation. The negative effects of intensified agriculture on the mountain environment of the HKH has, in turn, affected the lives of 150 million people living in the region and indirectly affected about 450 million more living downstream, and has raised serious concerns about the long-term sustainability of mountain agriculture that degrades the resource base.

Himalayan countries have a long history of agricultural policy and institutional development starting with the transformation of traditional extensive forms of agriculture to modern intensive agricultural systems. Since the late 1960s, the focus of this process was on dissemination of green revolution technologies (GRTs) which mainly included the propagation of seeds of high yielding varieties (HYVs), and the use of irrigation, inorganic fertilisers, pesticides, and mechanisation. Public services including research, extension services, and credit facilities were developed and put into place to disseminate these technologies. Large investments were made in infrastructure for irrigation, roads, marketing, and credit facilities in almost all the HKH countries. Policies and institutional arrangements were also put in place to support the process.

Although such programmes have succeeded in enhancing agricultural productivity in the lowlands, the HKH region has gained little from this development. Most of the technologies did not suit mountain conditions characterised by high poverty and low physical and socioeconomic infrastructure (Rhoades 1997, ICIMOD 1997, Ya 1998). As GRTs did not suit the needs of hill and mountain areas these areas were considered to have a low development potential, and very limited investment was made in mountain areas in terms of agricultural development (Partap 2003, Bakhtani 2003).



Because of these policies, the HKH region has lagged behind other regions of the world in agricultural development. Poverty and deprivation continue to be widespread in the region. A considerable proportion of South Asia's rural poor, many of them ethnic minorities, live in the HKH region and eke out livelihoods from a poor agricultural resource base. Survival needs have often forced them to use available resources without regard for future sustainability. This has accelerated the degradation of the agricultural resource base. It is estimated that more than 300 million hectares of land in the HKH region are degraded to a certain extent (Bhatta 1990, in Partap and Watson 1994).

A key challenge now facing policy makers is how to improve the quality of life of the region's people while conserving the increasingly fragile resource base. The experiences gained by the International Centre for Mountain Development (ICIMOD) and other organisations during the past decades show that even in mountain areas agriculture can be developed in a sustainable way, given appropriate policy reforms and institutional support (Partap 1994, Nangju 2003). Several technologies and institutional innovations such as multi-purpose agroforestry, modified sloping agricultural land technologies (SALT), alley cropping, the domestication of non-timber forest products (NTFPs), farm forestry, community forestry, and joint forest management are now available and offer ways to improve mountain livelihoods while conserving resources, thereby enhancing and broadening the resource base. The question is: why are these improved agricultural practices not being adopted on a large scale in the HKH region?

In order to design appropriate policies and institutions to promote sustainable agricultural development it is necessary to examine existing policies, rules, and regulations, and the general institutional environment that play significant roles in sustainable agricultural development. Despite great concern for the degradation of the agricultural resource base, little effort has been made to understand how policy and institutional factors interact to influence agricultural development in mountain areas. This *Talking Points* document attempts to fill in this gap by analysing the policy and institutional environment related to agriculture and natural resource management. It suggests a framework to achieve the twin goals of agricultural development and resource conservation – both urgent needs in the region. Given the considerable differences in levels of development, socioeconomic conditions, and policy and institutional arrangements within regional member countries, this publication does not attempt an in-depth, country-specific analysis, but rather focuses on common general issues to all mountain areas of the region.