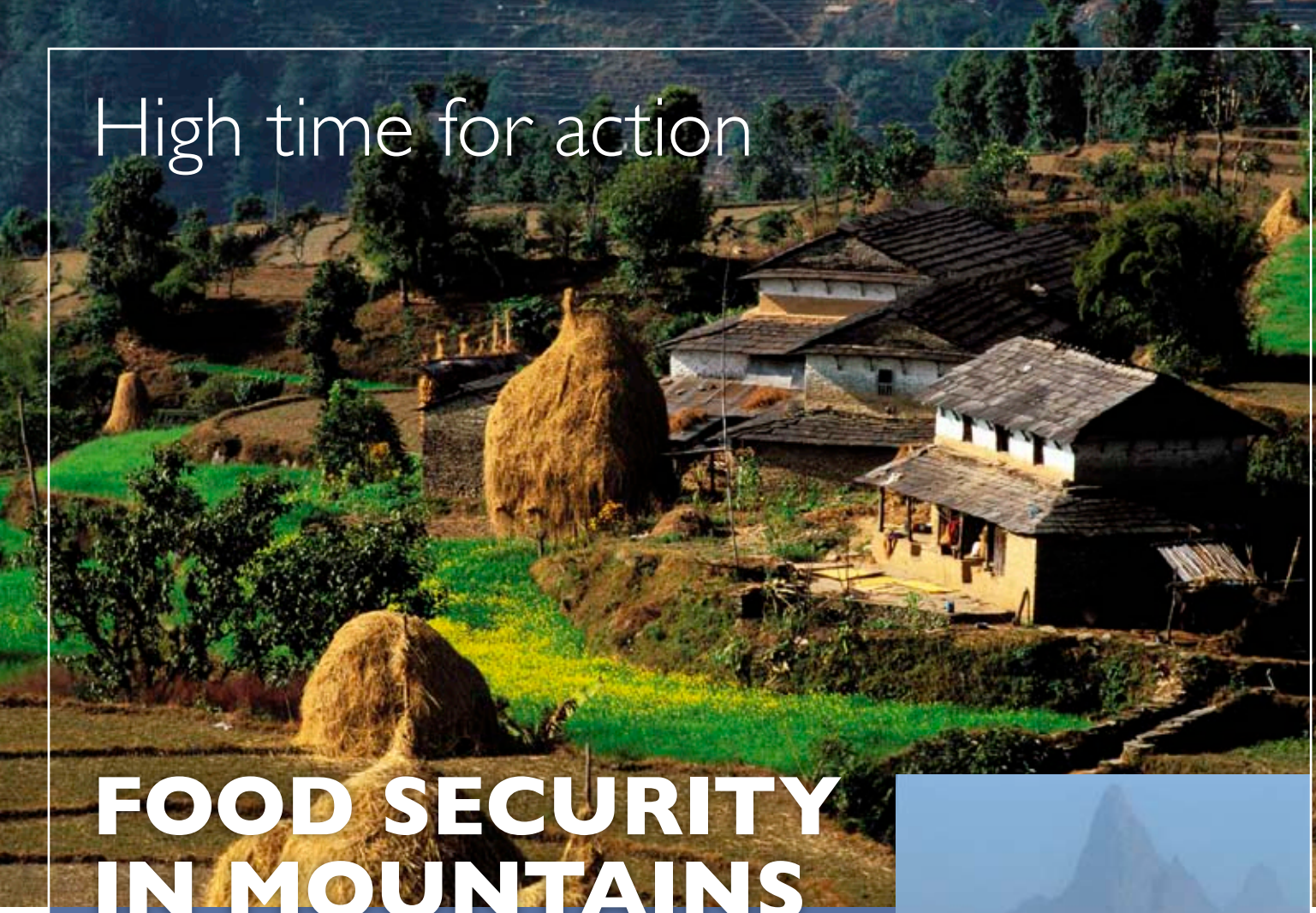
High time for action



FOOD SECURITY IN MOUNTAINS

High food prices have caused the number of hungry people in the world to increase by 75 million. The gravity of the situation has forced the world to refocus its attention on world hunger. Mountain communities have been hard hit by the crisis. This year's International Mountain Day provides an apt occasion to highlight the opportunities for addressing the issue of food insecurity in mountain regions.

Mountains and the global food crisis

FAO has identified 22 countries as being particularly affected by soaring food prices due to a combination of high levels of chronic hunger and a dependence on imports of grains and petroleum products. Many of these countries have significant mountain populations, including the Democratic People's Republic of Korea, Haiti and Tajikistan, and the eastern and southern African countries of Botswana, Burundi, Ethiopia, Kenya, Malawi, Rwanda, United Republic of Tanzania, Zambia and Zimbabwe.

In Andean countries, which are net food exporters (except for Venezuela), the crisis has increased hardship for the most disadvantaged communities. In Colombia, Ecuador and Peru, the percentage of the population living in extreme poverty has increased between three to six percent. In Bolivia, there has been more than a ten percent increase.

In Pakistan, price differences indicate the extent to which mountain communities are paying more at food markets. In the mountainous North West Frontier Province, compared to lowland prices, wheat was up to 20 percent more expensive, maize more than 30 percent more expensive and wheat flour twice as expensive.

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An old problem gets worse

For millions of mountain people, hunger and the threat of hunger are nothing new. Harsh climates and the difficult, often inaccessible, terrain combined with political and social marginality make mountain people vulnerable to food shortages. A 2002 FAO study indicates that 90 percent of the world's mountain people (nearly 325 million) live in developing countries or countries in transition, and as many as 245 million of these people (over 75 percent) are at risk of, or actually experiencing, hunger.

Nutrition studies also indicate that mountain populations suffer from high rates of micronutrient deficiencies. For example, inhabitants of the Andes, Himalayas and mountain ranges in China are considered at highest risk of iodine deficiencies, which are linked to a greater risk of childhood mortality, brain damage and enlarged thyroid (goitre). The problem is partly due to heavy rainfall and melting snow in mountains, which can leach the soil of its iodine content.

Data from the Himalayas and the Andes also indicate a high prevalence of vitamin A deficiency, which can lead to poor night vision, eye lesions and, in severe cases, blindness as well as increased illness and death from infections.

Hunger and micronutrient deficiencies are contributing factors to the significantly higher infant mortality rates in mountain regions. The level of maternal mortality is also high.

It is important to understand that hunger and micronutrient deficiencies are not merely a symptom of poverty in mountain communities – they perpetuate poverty.

Learning to eat well

Life in mountain environments has always been difficult. But over many generations, mountain communities built up a wealth of knowledge and expertise on how to cope with harsh conditions and live off the land.

However, many mountain communities have altered their agricultural practices to meet the demands of a wider market economy, often relying on a single cash crop for their livelihoods. As a result, indigenous knowledge about local foods and traditional agricultural practices has been eroded and agricultural diversity has declined. This has contributed to food insecurity and malnutrition in mountain areas. Many traditional mountain foods become stigmatized as "foods of the poor". Relatively cheap, high-fat, high-sugar products, such as sugary drinks, processed meats and white bread, are seen as more appealing, even if their nutritional value is very low.

Providing education and training on the nutritional value of locally grown and gathered food to mountain families and

the providers of health and education services in mountain communities is extremely important. It can help ensure that men and women, boys and girls in mountain areas are healthy and able to participate in the economic and social development of their communities.

Building markets for mountain products

Developing markets for niche products is seen as a key element in strategies for improving food security in mountain areas.

Making mountain livestock production more sustainable

Nearly 70 percent of mountain land is used for grazing. Over 300 million people live on mountain grazing lands and depend on livestock for their food security. However, as mountain populations have increased and markets for meat and dairy products have boomed, the expansion of pasturelands and over-grazing has contributed to deforestation, degradation of watersheds, increased greenhouse gas emissions and the erosion of biodiversity. Globally, the fastest rate of loss of any forest type is for tropical mountain forests.

One approach to addressing this problem has been to encourage producers to adopt sustainable livestock practices through payments for environmental services. The Regional Integrated Silvopastoral Ecosystem Management Project has developed and tested a methodology for the payment of environmental services in degraded pastureland in the mountains of Colombia, Costa Rica and Nicaragua.

The project paid farmers to adopt sustainable silvopastoral practices, such as planting trees, fodder shrubs and live fences in and around their pastures. From 2003 to 2006, participating farmers received between US$2 000 and US$2 400 per farm, representing 10 to 15 percent of net income. In Costa Rica, participating farmers have reduced the area of degraded pasture by more than 60 percent and the area of improved pasture has almost quintupled.

Since the beginning of the project, an estimated 25 000 tonnes of carbon have been removed from the atmosphere. More than 500 species of birds, one quarter of which are considered to be vulnerable or endangered, have been observed on farms using the new practices.

The following examples illustrate different approaches to building these markets.

Through the Rawain Women's Cooperative Federation, 2 800 women in India's Central Himalayan Region are employed by agricultural micro-enterprises. Knowledgeable in traditional agricultural practices, which use no chemical inputs, the women have been able to capitalize on the growing demand for organic produce. The federation is marketing 18 different types of traditional crops in Indian cities, including buckwheat, horse gram and foxtail millet. A Japanese company has recently begun purchasing foxtail millet in bulk for preparation of baby foods.

In the Anti-Atlas region of Morocco, saffron, also known as "red gold", is a unique high-value mountain product. It is a key source of income for approximately 3 000 smallholder farmers who harvest the saffron at the end of October, store it in safety boxes and sell it on the market during the course of the year as family cash needs arise. The Mountain Products Programme, which is implemented by FAO in the context of the Mountain Partnership, launched a project to support improved production, processing and marketing of saffron.

Improving mountain soils

Thin topsoil in mountains limits food production. But rising costs are putting commercial chemical fertilizers out of reach for an increasing number of mountain farmers. The need to find alternatives to chemical fertilizers is driven also by environmental factors. In many mountain areas, poor management of chemical fertilizers has damaged soil fertility. Chemical fertilizers are also a major source of greenhouse gases and of pollution of water tables.

Food security and sustainable agricultural production in mountains will depend on farming communities employing affordable, environmentally friendly methods for conserving and replenishing soil fertility. An example of international cooperation in this area is the Sustainable Soil Management Project in the mid-hills of Nepal. Using a farmer-to-farmer approach to agricultural extension, the project promotes sustainable soil management techniques, such as improved farmyard manure preparation and management and legume integration in the cropping cycle.

The project has introduced sustainable soil management techniques to over 25 000 hill farmers annually, with adoption rates for the techniques reaching 60 percent. Farmers interviewed have nearly all agreed that these practices result in higher yields, better quality produce, improved soil conditions, lower expenditures on chemical fertilizers and higher incomes.

The way ahead

In their final declaration at the recent High Level Conference on World Food Security, world leaders urged "the international community, including the private sector, to decisively step up investment in science and technology for food and agriculture". This was seen as essential to meeting the goals of the 1996 World Food Summit and the United Nations Millennium Development Goals.

With nearly three-quarters of mountain people food insecure and mountain agricultural ecosystems coming under increasing environmental pressure, these goals will not be reached unless some of these investments are directed to mountain areas. Priorities include:

- Agricultural research and development must expand their focus beyond globally traded staple cereals to include crops that have nourished mountain communities for generations.
- Indigenous (and often endangered) livestock breeds adapted to mountain production systems deserve greater attention in breeding programmes.
- Public and private support is required to build secure and sustainable supply chains linking mountain producers to local, regional and global markets.
- Rather than applying policies and laws created for lowland areas to mountain areas, government need to develop mountain-specific policies that take into account the fragility of mountain environments and the needs, interests and priorities of mountain people.
- If these policies, laws and investments are to improve the lives of mountain people, they must be undertaken with the full participation of mountain people.

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