



We are all
mountain people

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Hunger and food insecurity

MANY OF THE WORLD'S APPROXIMATELY 800 MILLION CHRONICALLY UNDERNOURISHED PEOPLE LIVE IN MOUNTAINS. ALTHOUGH MOUNTAIN PEOPLE REPRESENT ABOUT 12 PERCENT OF THE WORLD'S POPULATION, A MULTI-DISCIPLINARY STUDY COMPLETED AT THE UNITED NATIONS' FOOD AND AGRICULTURE ORGANIZATION (FAO) SHOWS THAT AS MUCH AS HALF OF THE MOUNTAIN POPULATION IN DEVELOPING AND IN TRANSITION COUNTRIES – FROM 250 TO 370 MILLION PEOPLE – ARE VULNERABLE TO FOOD INSECURITY.

THERE ARE MANY REASONS WHY MOUNTAIN COMMUNITIES ARE PLAGUED BY PERIODS OF HUNGER. MANY NATURAL FACTORS, SUCH AS CLIMATIC CONDITIONS, SLOPING TERRAIN AND SHALLOW SOIL, MAKE IT DIFFICULT FOR MOUNTAIN PEOPLE TO GROW SUFFICIENT QUANTITIES AND VARIETIES OF FOOD. MORE RECENTLY, HOWEVER, UNSUSTAINABLE POPULATION GROWTH, ENVIRONMENTAL DEGRADATION AND ARMED CONFLICTS PLAYED OUT ON MOUNTAIN TERRAIN HAVE MADE THE SITUATION WORSE. ONE WAY TO REDUCE THE NUMBER OF HUNGRY PEOPLE LIVING IN MOUNTAIN AREAS IS TO EMPOWER THEM TO PROTECT MOUNTAIN ECOSYSTEMS AND TO PROMOTE PEACE AND STABILITY IN MOUNTAIN REGIONS.

ONCE OR TWICE A WEEK SHE EATS AN EGG

Sadly, there are many stories of poor and hungry mountain people. Tahira Khan is a newly married 15-year-old in an isolated Pakistani hill community. Most of her time is spent cooking meagre meals for her extended family, in addition to gardening and other household duties. For breakfast she eats a chapatti, a thin wheat pancake. Lunch and dinner are similar - a chapatti with a little potato, eggplant,

tomato, onion and red pepper. Once or twice a week she also eats an egg.

What Tahira consumes meets less than 60 percent of her dietary needs, yet it is all that she is allowed in her impoverished household. She is especially at risk because she is still growing and faces the imminent prospect of pregnancy. In Pakistan, poor nutritional status contributes to a high level of maternal and infant deaths.

NUTRIENT DEFICIENCY IS HIGH IN MOUNTAINS

For some mountain people, malnutrition isn't only a consequence of eating less food. Sometimes it is a direct result of eating foods with insufficient nutritional value. Heavy rainfall in mountains, melting snow and glaciation, for example, can leach mountain soils of their iodine content. When soil is iodine-deficient, so too are the crops grown in it. Without a supplement, such as iodized salt, people who eat these crops may be at risk of increased childhood mortality, brain damage and enlarged thyroid, a condition also called goitre.

Children are the hardest hit by nutri-

ent-deficiency disorders. An estimated 250 million children in developing countries, many who live in mountain environments, are vitamin A deficient. This puts them at risk of night blindness and worsens their susceptibility to infectious diseases. Because health care services are often based far from mountain communities, many nutrient-deficiency disorders go untreated, contributing to an even greater spiral of sickness and disability. Vitamin and micronutrient deficiencies rob people of their health and capacity to learn and work, diminishing the potential of these communities.

Key facts

▲ Despite massive out-migration from mountain areas, mountain populations are growing by an estimated one percent per year, outstripping many regions' carrying capacities.

▲ Twenty percent of South Asia consists of highland and mountain zones suffering moderate to severe levels of poverty and having low potential for agricultural growth and poverty reduction.

▲ Twenty-six percent of East Asia and the Pacific region is categorized as uplands and highlands with extensive poverty ranging in severity from moderate to extreme.

▲ Latin America's hillside agricultural ecosystems cover about one million square kilometres and sustain an estimated 10 million small farmers, most of whom live in marginalized communities. About half of these ecosystems shows signs of serious environmental degradation resulting from deforestation, over-grazing and harmful agricultural practices.

THE RISK OF EATING WILD FOOD

Some mountain people eat wild foods as a means of coping during periods of hunger and food shortages. However, in some cases these foods worsen their health. In Ethiopia, one such plant eaten during periods of famine is *nejiro*, which causes vision problems and headaches. Another is grass pea. When consumed in large quantities over a period of months, its toxins can cause a debilitating disease known as lathyrism.

LINKS

FAO

www.fao.org

Fish and fisheries at higher altitudes: Asia

www.fao.org/DOCREP/003/X2614E/X2614E00.HTM

High Stakes: The future for mountain societies

www.panos.org.uk/environment/high_stakes_mountain_societies.htm

International Centre for Integrated Mountain Development (ICIMOD)

www.icimod.org

Mountain Voices

www.mountainvoices.org/index.htm

Panos Institute

www.panos.org.uk/

Poverty reduction and sustainable livelihoods

www.icimod.org.sg/ann_reports/2000Annual/poverty.htm

Same platform, different train: the politics of participation

www.fao.org/docrep/w8827E/w8827e06.htm#same%20platform,%20different%20train:%20the%20politics%20of%20participation

The State of Food Insecurity in the World

www.fao.org/sof/sofi/index_en.htm

Unasylva

www.fao.org/forestry/index.jsp

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TRADITIONAL AND MODERN AGRICULTURE: STRIKING A BALANCE

By virtue of their shape and height, mountains are unstable places. At higher altitudes, soils form more slowly and are poorly anchored, making it more difficult to grow food than in fertile lowlands. Mountain plots also tend to be smaller while weather conditions are often more extreme, shortening the growing season and reducing yields. For these reasons, mountain environments are often best suited to subsistence farming rather than cash crop farming.

Generations of mountain farmers have learned to exploit fragile mountain environments sustainably by cultivating many varieties of plant species, terracing mountain hillsides and grazing animals over a wide area. In recent years, however, some mountain farmers have abandoned these age-old practices for modern, high-yielding farming methods.

Initial yields can be good, but delicate mountain ecosystems cannot always tolerate the amounts of fertilizers and pesticides required. Over time, these practices threaten the stability and sustainability of agriculture. In

the Garhwal Himalaya in India for instance, studies conducted in the 1970s and again in the 1990s showed that, while yields of most traditional food crops remained stable, food shortages resulted when increasing numbers of farmers switched to high-yielding commercial crops.

MOUNTAIN CONFLICTS PRODUCE HUNGRY PEOPLE

The vast majority of armed conflicts take place in mountain regions, and it is impossible to ensure food security and to eliminate hunger when people live in areas of conflict and war. In 1999, for example, 85 percent of the world's major armed conflicts were fought in mountain regions. Conflict prevents mountain people from carrying out fundamental life-sustaining tasks, such as planting and harvesting crops. Often, the little food available is claimed or damaged by soldiers or those dominating the conflict. Roads, schools and homes may also be destroyed. In some cases, agricultural lands are seeded with landmines, making the recovery from war a prolonged and desperate fight for survival.

AT HIGHER ELEVATIONS PEOPLE NEED MORE CALORIES

As increasing numbers of outsiders exploit mountains for minerals, lumber, hydroelectricity and tourism, mountain people are often left with little choice but to move further uphill. At higher elevations, however, temperatures are colder, soils are less fertile and oxygen levels are lower. More caloric energy is needed just to survive, yet mountain people often have less to eat. Making matters worse, low air pressure greatly increases the amount of time and fuel required to cook many staple foods, such as whole grains and legumes. Homes, too, must be heated for much of the year in these higher, colder climates, where wood fuel is a scarce resource. Mountain people must often make difficult choices – either expend more time and energy finding wood, or live in a cold house and eat less food.

SELECTION OF NUTRITIOUS FOODS DECREASING

In some mountain communities, hunger is a consequence not only of food shortages but of inadequate food choices. When mountain farmers switch to high-yielding cash crops, dozens and sometimes hundreds of varieties of traditional foods can be replaced with one or two single varieties. In some instances, as in the case of flowers or coffee bound for international markets, the replacement crops aren't even edible. In other cases, the large amounts of chemical fertilizers and pesticides needed to grow high-yielding crops damages surrounding biodiversity and nutritious secondary food sources. For example, traditional terraced rice fields in India and Nepal provide not only rice but fish and frogs, important sources of protein. But chemical fertilizers and pesticides kill off these nutritious food sources, leaving communities with less varied diets.

RETHINKING THE RIGHTS OF MOUNTAIN PEOPLE

Mountains are rich storehouses of biodiversity, minerals, forests and water, yet mountain people are among the world's poorest and hungriest. One reason for this disparity is that the economic wealth that exists around them is viewed as a national or regional asset to be exploited and controlled by those at the centres of power, far from mountain communities. As a result, mountain resources are often extracted with little regard for the rights of local property owners or the impact on local populations. In the Appalachian mountains in the United States of America, for example, coal mining operations began displacing thousands of mountain farmers a century ago. Even today, mining profits in the

region continue to be diverted to lowland towns.

Ensuring that mountain people can influence issues that affect them is the first step toward alleviating poverty and hunger. Recognizing local land rights and decentralizing decision-making processes will not only empower mountain people but help support long-term conservation of mountain areas. At the same time, national governments should reconsider who profits from mountain resources. For example, water tariffs, forest and mining royalties, grazing leases, fees for access to national parks and licences for tourist operations are all potential sources of income for mountain communities.

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