Chapter 20

IFAD's Approach to Poverty Reduction in Marginal Upland Areas of China

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Introduction

The International Fund for Agricultural Development (IFAD) has concentrated its efforts in the East Asian region on areas where natural resources are seriously depleted and where the risk of soil loss to physical degradation is persistently increasing, endangering the livelihoods of large numbers of inhabitants in the process. It was found that these situations prevail in large parts of the region's remote mountainous 'upland' areas where the old balances between productive potential and actual population are increasingly disturbed, endangering the livelihoods and, at times, also the social and cultural integrity of large numbers of inhabitants. Over the years IFAD has developed a strategy with its partners in development, notably including the beneficiaries and their communities, to enhance the economic and social capabilities of the populations living in these marginal zones.

The populations concerned had developed ways of life that were entirely adapted to prevailing conditions. They were also able to apply, unassisted, coping mechanisms that allowed handling even of the most exceptional situations, principally resulting from temporary climatic set-backs. Over the last century or so, these lasting equilibriums one by one fell under the impact of a rapid increase in population which required the sharing out of available resources, principally land, into less and less meaningful economic bases for the households' individual livelihoods. In addition, both dry land and upland areas were invaded for purposes that can only be described in terms of 'mining' of natural resources. This was seen by some as the price to pay for economic development, which was generally believed to equate to progress. It is now clear that this 'price' may have

been too high and that this kind of economic development has had severe 'side' effects, the scale and impact of which had not been understood and, in many cases, are still not always taken into account to the full extent today.

In upland areas the mining of resources habitually came under the guise of massive deforestation, taking with it animal and plant resources that used to contribute substantially to the local economies. Not only were these activities implemented in a way that often proved to be disrespectful and destructive of the natural resources and, hence, unsustainable, but, of themselves, they further eroded the per capita resources available to the local populations. The local resources can no longer cover the needs of the local populations, which invariably now count among the poorest in the countries concerned. These populations have resorted to large-scale out-migration, a traditional coping mechanism. However, as the recent Asian crisis has shown, excessive reliance on out-migration is, itself, risk prone.

Only with a major intervention can there now be a future for the peoples living in these conditions of seriously depleted natural resources. The nature, scope and methodology of this intervention, in particular in terms of targeting of actions and of benefits on to these quickly impoverishing populations, are the subject matter of the present paper. Naturally the paper focuses on IFAD's methodology, experience, and lessons learned.

The remainder of the paper is in two parts. The first part will provide an insight into the overall strategy that has evolved within the context of IFAD's interventions in marginal upland areas. The second part will focus on the specific application of this strategy to the situations as they occur in China, where it is known that the vast majority of the very poor, today, are residents in the remote upland areas that make up such a large proportion of the total land area of Western and South-Western China.

THE UPLANDS OF EAST ASIA

Characteristics of uplands

No two upland situations show identical bio-physical and cultural conditions and the combinations of socioeconomic circumstances facing individual communities will be unique to their local area. There is therefore considerable diversity in both the detailed characteristics of the various uplands and in the ways that they are managed. It is nevertheless possible to accurately identify key features that are broadly characteristic of conditions prevailing in the uplands of Asia.

Geographical context

The uplands of Asia are hills, dissected valleys, and mountain areas with slopes of 8% or higher and, as such, may cover as much as 60% of the land area of Asia. Land below 8% slope that is used for dry land farming may, in fact, also be subject to some of the key constraints that pertain to the steeper areas and cannot be excluded per se from policies for upland development. In Asia it is estimated that perhaps as much as 1 billion people live and earn their livelihoods in these uplands. This population counts among their ranks a highly disproportionate share of the very poor of the region and of the ethnic minorities.

It is necessary to state, from the outset, that these uplands are not isolated entities within the national or international geography of the region. They are usually an important source of water. Indeed, in winter, they gather water in their snow-caps which they slowly release during the following warm seasons. Uplands are also increasingly recognised as sources of hydroelectric power and biological diversity. They also provide valuable minerals as well as forest, livestock, and agricultural products. They are already host to recreational activities, something that can only increase rapidly with economic development in the region. However, inappropriate exploitation of these natural resources has led to accelerated soil erosion, landslides and flooding, and, overall, a rapid loss of habitat and genetic diversity.

Soils and hydrology

Soil conditions are very variable and depend on the parent material. Good agricultural soils are generally found only in the narrow valleys formed as alluvial and/or colluvial deposits. Upland areas tend to be characterised by high energy river systems with considerable ability to scour soil and transport coarse as well as fine sediment. Runoff occurs usually in high velocity channel flows and is seasonal as it is associated with monsoon rains and/or snow melting seasons. The main exceptions to this situation are the Karst areas of Southwestern China and Northern Indo-China where most precipitation seeps into the subsoil through the characteristic 'sink holes' that collect water in vast subterranean flows.

Climate

Upland areas, especially if mountainous, exhibit a very wide variety of micro-climates as both temperature and rainfall can vary significantly over very short distances depending on altitude and topography. Mean temperatures decrease markedly with altitude, and high mountain ranges may quickly progress from tropical conditions in the foothills to arctic

conditions at the peaks. Above a given altitude the occurrence of frosts, often exacerbated by strong winds, will limit cultivation. This situation occurs at considerably higher altitude on south-facing slopes. Rainfall usually increases with altitude but the slopes on the leeward side of the predominant (monsoon) wind systems may, in fact, be affected by rain shadows.

Fauna and flora

In upland areas with considerable variation in relief there is usually a well-established altitudinal succession of natural vegetation zones usually progressing from plains, woodland and forest through montane forest, bamboo thicket, montane grassland ending in scree, bare rock, snow and ice. Man has had a modifying and therefore an, in places, quite severe, impact on the original vegetation through practices such as logging, fire clearance for agriculture and grazing. Whereas biodiversity of individual upland areas may be limited in terms of the total number of plant and animal species per se, a high proportion of these will often be specific, even exclusive, to the particular hills or mountain range. Losses to biodiversity from the upland areas may therefore be irreversible.

Socioeconomic context

Population and culture

Upland communities often exhibit strong social and cultural cohesion and they have developed a corresponding organisational structure, which will take into account the particular constraints imposed by physical isolation. The uplands are commonly the home of ethnic minorities. Their residence in these areas has rarely come about by their own choice, but rather because they have been displaced or, as later arrivals, excluded from the lowlands by larger and more powerful ethnic groups. There is therefore considerable cultural diversity between upland communities which set them apart from the lowland communities but also from each other. A key element is the existence of a large number of often mutually unintelligible minority languages, and the lack of a shared language means that upland indigenous peoples may be severely disadvantaged in their dealings with the outside world. The resulting political, social, and economic deprivation contributes to their current levels of poverty over and beyond what is already the result of the comparatively unfavourable natural living conditions.

Upland economies

Uplands are usually among the poorest and least developed parts of a country and upland communities are predominantly rural and dependent on agriculture, although livestock and forestry make contributions in traditional societies and mining and tourism may also be locally important.

Upland regions usually have natural advantages only for a relatively limited number of production items and, as a result, the upland rural economies tend to be of a subsistence nature with limited opportunities for cash earning activities in situ. Forestry has predominantly been extractive in nature, logging only the most valuable timber species but gathering of some non-timber products such as rattan, vines, fruit, and medicinal plants also occurs.

Within the uplands, farming is usually undertaken by individual households and is largely geared to the production of subsistence crops. In spite of official restrictions and statutory limitations that increasingly apply, shifting cultivation is still widespread where population densities allow the practice. Sedentary farming occurs on small individual farms that tend to consist of widely dispersed little plots. Whilst the latter is inconvenient in terms of the physical effort required, the dispersal of plots enables farmers to exploit local differences in agro-ecological conditions. This dispersal, of course, also contains a strong element of equitability in access to resources among the populations of, say, a given watershed. In many upland communities livestock are important for transport and draught power but they may also be kept for the range of products animals provide: milk, meat, hides, wool, and even manure. Livestock also act as a temporary storage facility for wealth. Whereas cultivation predominantly occurs on privately-owned land, many upland communities practise communal pasture systems for livestock. It is worth noting that the foothills are typically characterised by production systems that are crop-oriented and that the upper mountain systems are more livestock oriented with the mixed systems occurring in the areas in between.

Trees, grown in association with crops and livestock, are an important component of most upland economic systems, producing timber, poles, fuel, fodder, and fruit, often providing the households with a cash-earning opportunity. As a result of the wide variations in agro-climatic conditions, there is considerable diversity in the tree species and the agro-forestry systems practised within the uplands.

In recent years improved communications and widening disparities in the urban-rural income earning capabilities have fuelled out-migration from the upland to the lowland areas, in particular to the urban centres where most wage-earning opportunities in industry and services occur. On the whole, this provides much needed relief for upland families and, in the medium term, it may actually improve the per capita resource base for those staying behind. However, when out-migration crosses a threshold, rapid deterioration of the upland production systems may occur as a

result of lack of maintenance of crucial systems, such as irrigation, through insufficient resident labour availability. In some cases, expanding upland populations through in-migration of settlers from the over-populated lowlands has increased pressure on scarce land resources and has subjected fragile eco-systems to the threat of degradation. Some of these migratory streams have been encouraged by the public authorities, at times on the basis of an incomplete comprehension of the nature and role of the apparently under-used common land resources in the uplands concerned.

Gender aspects

In the upland communities women may face additional constraints principally related to their dual duties and responsibilities to the family and to the family farm leading to very heavy burdens, including all of the child rearing, and the primary responsibility for wood and water gathering and for health. Studies have indicated that women in upland areas typically shoulder 70% of the workload of cultivation and accomplish almost all the processing. As a result of male out-migration in search of income-earning opportunities, there is a deep and growing proportion for female-headed households in the uplands, the aptly named 'feminisation of agriculture'. This evolution naturally leads to even greater labour burdens falling on women. However, cultural traditions often allow men to retain decision-making responsibilities for land use, crop planning, and livestock management, even when absent for most of the year.

Social and cultural restrictions in many traditional societies limit women's access to services, resources, and decision-making processes at all levels. The scholastic status of women is commonly well below that of the men, which is itself comparatively low. This means, as a consequence, that women have more limited access to suitable technology and tools for easing their work or for taking up income-earning activities themselves. Also, women are less aware of their civic rights in society and are hampered when faced with the necessity of applying administrative procedures. The overall result is that women have a lower civic status and less power in the rural community to access resources such as land and credit.

Institutional context

Nationally, political and socioeconomic power usually lies in the hands of the urban dwellers and commercial farmers in the lowlands. This relates to the historical reality that political change, revolutionary or otherwise, tends to originate in urban and intensively-farmed areas that provide the demographic critical mass required for political action. As a consequence, upland communities typically suffer from political marginality and

institutional neglect, which invariably translates into systems of social services that are underdeveloped compared to the other parts of the countries concerned. Governments are therefore insufficiently motivated to consider the particular interests of the upland people. Indeed, upland policies and institutions are often geared to satisfying the needs of outside interests, represented not only by logging and mining operations but also by in-migration of land-hungry households belonging to the politically dominant majority peoples.

The ethnic minorities living in upland areas usually suffer from serious prejudices on the part of the dominant lowland ethnic group(s), who may regard the minorities as culturally backward and inferior to themselves—a sentiment that is usually based on different language and religious patterns. This makes these indigenous people particularly vulnerable to exploitation by outsiders in economic relationships such as trade or migrant employment.

Services tend to be less strong and effective than they are in more accessible and politically and economically more important areas. In agriculture, extension, research, and conservation services for upland farming are commonly short of funds and manpower because most resources are concentrated on commercial farming for the lowlands (i.e., on food and cash crops that may be of no relevance at all to upland peoples' livelihood systems). Forestry departments commonly have a specific mandate to promote forest protection and large-scale contract reforestation, but are rarely adequately trained or geared towards upland protection and development, which must use more people- and community-centred extension and outreach methods and structures than are commonly practised.

Most importantly of all, the local tax bases in upland areas are small because the usual tax-generating economic activities, wage labour and commerce, are proportionately underdeveloped. Decentralisation of economic and political decision-making, a common strategy for upland situations where ethnic groups are important, can only achieve full meaning if it is accompanied by an unwavering resolve of the central authorities to continue to provide funding to the devolved authorities that, on a per capita basis, is much higher than that applying to the better-off sections of the rural populations elsewhere in the country.

The problem setting of the uplands of east asia

Reports from the region point to severe degradation of substantial areas. Effects such as complete removal of topsoil, deep gullying, and increased salinity may be entirely irreversible. There is almost no part of the uplands

that is not suffering from moderate degradation, including declining soil fertility in croplands, loss of palatable species in the rangelands, and loss of timber species from over-logged forests. Although quantitative estimates of degradation of natural resources and its consequences on the well-being and future development of the populations that rely on these resources differ, the weight of evidence is clear that land degradation is widespread and that it has severe consequences for the populations.

The overall outcome of this degradation is declining soil productivity, leading to poorer plant growth. Farming systems will have to adjust to the lower soil fertility by adopting crops that are better adapted to low soil fertility, often in combination with diminished availability of water. The importance of agriculture to the household economy would therefore decline, and non-crop activities, of necessity, will become more prevalent.

Degradation of the natural resource base is one of the main causes of persistent poverty in the uplands. It is possible to identify the **immediate causes** for this process:

- improper management of agricultural resources, including inappropriate rotations, absence or disrepair of erosion control measures, annual cropping on excessive slopes, use of poor quality irrigation water;
- improper management of natural forest, tree plantations, and woodlots, such as destructive timber harvesting, erosion-enhancing construction of access roads, mono-cultural plantations replacing natural multi-species' forests;
- conversion of forest land into cropland on slopes and hence loss of permanent vegetative cover;
- overgrazing of grasslands and concomitant compaction of soil and vegetation; and
- industrial development, such as large-scale farming, mining, hydropower generation, and related urbanisation, often brings pollution in its wake as well as causing immediate physical degradation.

These immediate causes reflect effects of the **underlying causes** that are at the heart of the problems of the uplands and that need to be tackled vigorously. They usually relate to the socioeconomic circumstances of the land users and the social, cultural, economic, and policy environment in which they must operate. The following are of particular relevance:

- population growth, through natural accretion of the local population and through inward migration ultimately leading to strong pressures on resources that are finite and often ecologically fragile;

- land tenure in the uplands has often become sub-optimal in the sense that the users feel insecure regarding their long-term rights to use a particular resource and are therefore keen to 'mine' their land but reluctant to invest time and effort in sustaining its long-term productivity;
- lack of alternative income opportunities make upland rural populations inordinately dependent on their natural resources, and poor households rarely have the opportunity to forego a short-term gain, even when clearly unsustainable, for the sake of long-term conservation benefits;
- geographic isolation restricts development and access to markets and hence limits the opportunities for cash income which are restricted to a relative handful of commodities that have high value and transport well;
- lack of appropriate conservation technologies that take into account the specific needs and capabilities of the upland populations (many proposed conservation techniques appear to be based on the supposition that the time and labour to be given by upland populations are both inexhaustible and cheap);
- limited institutional development leads to weakness in economic but also in social support services—the services that are provided may not be totally appropriate for technical or cultural reasons;and
- overlapping, at times conflicting, institutional mandates appear to be widespread when it comes to implementing integrated management systems—a situation aggravated by inconsistent statutory and policy frameworks for upland development.

A number of false assumptions about the problems, causes, and solutions for upland degradation persists, but the problems and solutions are often much more complex than the commonly-touted simplistic assumptions would suggest. First and foremost we must understand that the central problems are not so much conditioned by what is being done but by how it is done (i.e., the natural resource management practices actually followed). Uplands must contribute to the economic development of the resident populations through productive usage, but this must occur with a clear view to sustainability. Equally important is to ensure the fullest measure of participation, understanding, and collaboration by the resident populations in introducing modifications to their management systems.

A STRATEGY OUTLINE FOR POVERTY REDUCTION IN UPLAND AREAS OF EAST ASIA

The following key elements of a strategy for poverty reduction in upland areas represent a synthesis of the lessons learned from a range of projects and programmes, within Asia and elsewhere. These projects have sought

to address the problems of growing crops, raising livestock, and managing forest resources in upland areas under conditions that enable the population to derive increased benefits while simultaneously maintaining and improving ecological balances and promoting sustainable natural resource management systems. It is actually possible to draw a paradigm shift in upland development strategies, policies, activities, and techniques. A provisional description of this paradigm shift is presented as Annex I.

Policies

Effective implementation for sustainable poverty reduction in upland areas will call for a number of policy and statutory changes at the national level, such as:

- formulating a national policy framework for sustainable upland development;
- increasing public sector investment in upland areas (the external funding base for uplands may be enhanced through the implementation of 'transfer payment'* systems that tax use of upland resources by or for non-residents for the specific benefits of the upland communities that own the affected resources);
- retaining strong but refocused government extension, research, and training institutions for essential production systems;
- encouraging the development of local byelaws (rather than relying on national legislation that is less well suited to capture) that reflect the specific needs of individual communities within the uplands;
- granting legal land user rights and responsibilities to direct stakeholders in specific upland areas;and
- reconsidering the use of direct support, including cash and food for work, so as to diminish the perception of upland beneficiaries that conserving soil and natural resources is an interest of others that uplanders execute but in which they do not hold an important stake.

* Transfer payments can be operated at various levels. For instance, local authorities could be empowered to levy taxes, to collect royalties, or to operate systems of advance licenses on some extractive activities in their area of authority. For instance, in China, county governments are allowed to levy a small charge on power generated and on mining activities. To date, these resources are used for general budget purposes, but an effort could be made to specifically focus on maintaining resource balances in remote areas to the benefit of the people who actually live there. Internationally, mechanisms such as carbon sequestration could also be called upon to provide incremental resources for upland areas.

Institutions

Implementing a strategy for sustainable poverty reduction in upland areas will require a number of changes and interventions to strengthen the institutional support for resource management within the uplands at both the national and local levels. Key elements of such a strategy are:

- to broaden the institutional base by adopting multi-sectoral and inter-agency approaches and by developing partnerships between (local) government and strong private groups to encourage direct participation of groups of resource users;
- to create integrated upland agriculture-livestock-forestry support services and to renew focus on research that is relevant to upland conditions and that fully appreciates the prevalent, traditional, natural resource management mechanisms;
- to decentralise government institutions to bring decision-making and technical and managerial capabilities closer to beneficiary communities (this decentralisation should not be driven by a desire to reduce budget constraints at the higher levels of government);
- to give decentralised government institutions sufficient financial autonomy, in particular the opportunity to tax (possibly within the framework of 'transfer payments', discussed previously);and
- to emphasise human resource development, principally through the provision of training in as large a range of skills as possible, recognising that a more skilled population is likely to be more receptive to the principles and requirements of any sustainable natural resource management and to be better capable of implementing the corresponding strategies.

Technologies

Successful management of upland production systems in a sustainable way will unavoidably require the application of technologies and the management of technological change. Some of the appropriate technologies may be old, some may be radically new, most technologies will be adaptations of time-honoured methods to the changed situations. A technology strategy would need to include the following elements:

- adoption of suitable land-use and management practices to ensure that the requirements of individual agricultural enterprises match the land potential (a key component, where possible, would be the rational integration of crop, livestock, and tree-based production activities);
- verification that proposed natural resource management technologies are acceptable to local communities (R&D should therefore concentrate initially on identifying simple, low-cost, productive, and sustainable

techniques and on ensuring that the target communities are involved at all stages to avoid clashes with traditional practices and cultures to the greatest possible extent. If such conflicts are unavoidable, research should show the way towards limiting their impact.);

- maintaining agro- and biodiversity within the upland systems (proposals that would focus on high degrees of specialisation in activities based on natural resources should be verified carefully before their widespread adoption in recognition of the resilience to climatic hazards that is often built into traditional production systems); and
- systematically monitoring the process of adoption (or, indeed, rejection) of technology in upland communities to be able to draw reliable lessons from experience, analysing the reasons or specific conditions that have played key roles in successes or failures. These lessons should then be clearly documented and disseminated. Monitoring of strategy, policy, and action for results appears to be an important weakness in current practice.

Processes and methods

Implementation of a strategy for sustainable poverty reduction in upland areas also has a number of implications for processes and methods.

- The process of innovation itself needs to be sustainable—i.e., capable of generating new ideas and technologies on a continuous basis.
- Sustainable poverty reduction requires a 'bottom-up' approach, in which beneficiary communities actively participate in all stages of the process of innovation. The attitude of passive recipient, which has inadvertently been fostered in the past, needs to change into an attitude of active stakeholder. Improvements in upland management systems need to be demand-driven—i.e., responsive to the commitment to better management of upland areas by the local communities.
- Land husbandry support mechanisms need to focus on an integrated, 'holistic' approach to the production systems based on natural resources from the perspective of their social and cultural context. This will require not only a better understanding of the role and potential of each component of the production systems, but also a bundling of efforts by all support institutions.
- Alongside public support systems, private investment should also be encouraged, in particular at the farming household level. This will require strengthening of rural financial service mechanisms to increase savings' mobilisation and to improve access to external funding through production-oriented credit.

- Service charges and user fees need to be introduced to finance the necessary common maintenance and operations' costs of various development initiatives. For instance, rational use of irrigation systems and domestic water networks has been much improved by the introduction of water prices. Royalties could be imposed on local extractive activities, such as mining and timber operations, and on hydropower generation, for the benefit of local communities. This could form the financial basis for a system of transfer payments. It is essential, however, that the local communities participate in determining the levels of this taxation and the final uses of the taxes gathered.

Projects and programmes

Specific strategy elements related to the formulation and implementation of poverty reduction programmes and projects include the following:

- project support should be of sufficient duration to ensure continuity of funding of processes that are necessarily of a medium- to long-term nature;
- project design should allow for flexibility in implementation to learn from experience and to take account of changed circumstances, and also to give a better response to the expressed needs of the communities involved;
- projects should avoid setting up their own special management units but to the greatest possible extent should use the capabilities that reside within existing institutions within and outside of government—project management should then focus on co-ordination and monitoring activities;
- project design and implementation should consider from the outset the issue of replicability (this requires careful documentation of the logic and specific conditions that have contributed to project successes and failures; and also making this documentation easily available to outsiders.); and
- project design and implementation should also consider the issue of sustainability, especially if, in the absence of continued external funding, the post-project situation needs to be supported from the community's resources.

Support for environmental services

Starting from the premise that environmental transfer payments to upland communities could provide a major new source of development funds to improve their welfare, while promoting better management of natural resources, IFAD has proposed the establishment of an Environmental Services Facility (ESF). Its mission would be to improve understanding of

how to conserve environmental functions and services in Asia, while enhancing the local livelihood systems of poor and marginalised rural populations, including women. The ESF would co-ordinate research, knowledge-sharing, and capacity-building activities that will evoke practical methods by which upland communities can be included in environmental transfer payment mechanisms. New methodologies will be developed that induce innovative ways of transferring payments to upland communities to be implemented.

The ESF would build working models of successful environmental transfer payment mechanisms adapted to the Asian context. It would conduct focused field experimentation to define methodologies for best practice in transfer mechanisms. It would provide simple, practical solutions of how innovative institutional arrangements and financial mechanisms may be applied to foster local development for the poor and women, while simultaneously preserving and restoring environmental functions. The emphasis would be on conceptually coherent, analytically sound, and financially and institutionally sustainable approaches, with particular emphasis on developing and strengthening institutions associated with transfer payments. Networking at global, regional, national, and local levels would be a key function.

IFAD is increasing its assistance to poor rural communities to use their natural resources for their own betterment, while enhancing their ecosystems. Its past experience forcefully indicates that this is achieved most effectively if funds are channelled directly to the poor through their own strengthened institutions. The proposed facility would provide implementation support to IFAD-funded projects and programmes in the region.

The uplands of China

With the exception of the very sparsely populated dry plains in the north-west, the geography of China is characterised by a succession of highlands separated from each other by the large and fertile plains of the main rivers which provide a livelihood to the majority of China's people. The highlands themselves are diverse in topographical aspects, ranging from the high peaks and high altitude semi-plains in the Tibetan highlands to the less high, but not necessarily less steep, mountain ranges of central, south, and south-west China. Overall, about 150 million inhabitants still predominantly rely on these uplands for their livelihoods, among them a high proportion of China's 80 to 100 million officially recognised minorities.

The uplands of China show general characteristics that are compatible with the descriptions and definitions given above. Apart from the prevalence of ethnic minorities, climatic conditions set off the Chinese upland situations from those in other east Asian countries. The climate in the Chinese highlands is generally of a more pronounced continental type with relatively short but hot summers and equally short and cold winters. Rainfall occurs almost exclusively during the summer months and, in many areas, cropping is limited by humidity early in spring and late in autumn. Rainfall tends to be concentrated in heavy storms, which can not only cause serious damage to the fragile soils but can also accumulate into very serious floods in the lowlands. The Chinese highlands are a distinctly ungenerous environment for human development.

As a result of overall economic growth and the commitment to improving standards of social services, such as education, health, and nutrition, for the entire population, China's record in reducing absolute poverty has been impressive over the last four decades. The number of absolute rural poor has declined by about 210 million since the late 1970s. In 1998 the Government estimated that 50 million people were still living in absolute poverty, but using the poverty line of USD 1 per day advocated by the World Bank, slightly more than 100 million people would still be living in very dire circumstances. Poverty is increasingly concentrated in the resource-poor, densely populated mountain and loess plateau areas of the centre, north-west, and south-southwest, where potential for agricultural production is lowest. In recent years the central government has listed poverty counties for the purpose of implementing its poverty alleviation and food allocation programmes. The Vulnerability Analysis and Mapping (VAM) methodology developed jointly by the World Food Programme (WFP) and IFAD for China also results in a classification of counties according to poverty and vulnerability to recurrent and severe food shortages. While the two resulting lists of poor counties are not at all equal in detail, they share one important characteristic: poverty counties are situated mainly in upland mountainous areas. Both the central and regional governments accord high priority to poverty relief. The public strategy for these marginal areas emphasises development that is economically sound and ecologically sustainable, promoting fruit and tree production, livestock, and off-farm income opportunities to raise household cash income, since these activities are familiar to farmers.

The Leading Group for Poverty Reduction presented the 'Poverty Reduction Strategies in the Early 21st Century' programme with the assistance of the donor community during an international conference in May 2000. The updated strategy emphasises several action orientations that have been

promoted in joint IFAD/WFP projects since 1996. The new strategy rests on two major thrusts: (a) improved efficiency of interventions directed towards the poor through better targeting mechanisms at township level combined with a village and household-based approach; a set of multi-sectoral and complementary interventions, including support to human capital (education, health, and nutrition), rural infrastructure at farm and community level, appropriate technologies, and access to micro-credit and off-farm employment; strengthening institutional and co-ordination arrangements; making maximum use of local technical agencies for implementation; increasing the involvement of the poor in planning and monitoring; and (b) a long-term strategy and related funding for remote mountainous regions with high concentrations of the absolute poor, including emphasis on development of karst areas; improved technology, extension, and training for farmers; market development; environmental protection; minimum standards for education and health services; and introduction of the use of Village Development Plans.

IFAD's operations in China

IFAD was the first international financial institution to assist China in 1981. Since China became a member of IFAD in 1980, the country has benefited from 15 project loans for an overall financial commitment in the order of USD 400 million. Over time the Government of China and IFAD have focused their joint operations more and more on upland areas and on resource-poor and poverty-stricken minorities. All of IFAD's ongoing projects in China today are, in fact, situated in remote mountainous areas. This is true in particular for the projects that have been developed on the basis of the Country Strategic Opportunities' Paper prepared by IFAD in February 1999. The Qinling Mountains Area Poverty Alleviation Project in the mountain range bordering Shaanxi and Hubei provinces and the West Guangxi Poverty Alleviation Project in Southern China are two major examples.

For a number of years WFP and IFAD have pooled their development resources in projects in China. This has several advantages. Experience has shown that project design has been more efficient when jointly undertaken, and the rural poor have benefited as a result. Strong synergies have appeared between food-driven actions supported by WFP and IFAD's resource allocation with its strong emphasis on sustainable credit delivery favouring the poorer strata of the population. Co-financing with WFP makes it possible for IFAD to reach the poorest, who would not normally have access to credit because they often suffer food shortages. WFP food aid helps the subsistence farmer to become almost self-sufficient in food. The farmer can then use credit to undertake cash-generating activities and build up his/her assets for further development, thus allowing him/

her to meet essential needs, including the purchase of food once WFP food rations are no longer available. The joint operation thus provides a more sustainable development approach to the poorest beneficiaries.

Lessons from IFAD's experience in China

The long experience of IFAD in China covers a wide range of agro-ecological and cultural situations. It is possible to draw a substantial number of lessons for future programme identification and implications for project design and implementation. The key lessons learned are highlighted below.

Management and coordination

The Project Management Office (PMO) has proved to be an effective and efficient structure for co-ordinating project implementation under the overall guidance of Project Leading Groups (PLG) which bring together senior policy-oriented officials. PMOs generally consist of senior staff members detached from their technical units for the duration of the project. There may be a need to reduce the direct technical influence of the PMOs on project implementation and to focus their activities more on overall implementation, co-ordination, and on monitoring.

Participation

The use of PLGs, PMOs, and Village Implementation Groups (VIGs) is an approach that evolved over time. It now ensures effective participation by and co-ordination between agencies and improves the timeliness of implementation. The approach has also permitted the introduction of beneficiary participation in planning and selecting project activities. The Village Development Plans (VDPs) are the main tool to achieve this, together with the provision of a variety of investment packages from which the beneficiaries can select. Effective target group participation is being achieved through awareness building with participatory rural appraisal (PRA) methods at county level, followed by intensive training workshops at township level. The level of participation of villagers in project planning and implementation was already well established through the use of village committees. The participatory qualities of the VIG/VDP system of management are further strengthened by the presence of villages' Women Federation representatives in the VIG.

Vulnerability analysis and mapping (VAM)

To provide a more analytical approach to food security as a basis for project area selection and for project planning, WFP and IFAD have jointly developed a Vulnerability Analysis and Mapping (VAM) methodology for China. Vulnerability is defined as a combination of exposure to risks plus the inability to cope with those risks.

Targeting

With the help of VAM, together with the government, the definition of the project area is based on the identification of project townships with the highest vulnerability to food insecurity and the lowest scores on other human development indicators. Selecting townships in this way is effective in reaching poorer households at the village level.

Monitoring

Current methods are too output oriented, with insufficient attention being given to qualitative aspects. PMOs have a continued tendency to consider monitoring activities as a donor-driven condition of project funding rather than as a key instrument in day-to-day programme implementation management. Annual workshops have tried to streamline the systems for greater practical results. WFP is introducing a result oriented monitoring method, and a joint M&E workshop was organised in October 2000. Participatory annual workshops are organised to include participatory monitoring by the beneficiaries. This is strengthened by the PRA exercises. The possibility of incorporating VAM system methodologies into M&E is being explored also.

Financial services

A thematic review of credit under IFAD funding was carried out during 2000. The main preliminary findings are: (a) the choice of RCCs (Rural Credit Co-operatives) for credit intermediation is appropriate in light of the great need to build strong and reliable rural financial institutions; (b) the old PMO credit channel has the merit of being rapid in terms of immediate credit delivery; (c) there is a need for non-revolving fund support to RCCs to reach the township level as a grant so as to provide appropriate incentives to the RCCs to restructure in line with the activities that must be expected from them; (d) there must be enhanced flexibility on the part of RCCs in terms of adapting their products to the actual needs of their clients. A special sector programme loan has been prepared for approval next year and will provide technical support and policy guidance for the restructuring of RCCs.

Rural infrastructure works

Designs of irrigation schemes have to meet national standards, and they are often translated into provincial handbooks. The technical capacity of the Water Conservancy Bureau (WCB) has been assessed as very satisfactory by several international consultants who assisted during previous cycles of project formulation, appraisal, and implementation. Contributions by international consultants during project design have been of limited added value because they only confirmed the validity of the civil works designs. Work norms have been continuously reviewed and revised

according to the different situations. The actual experience is that supervision of construction itself may require more attention by the relevant higher echelon institutions.

Operations and maintenance of infrastructure

Beneficiaries are organised in user groups and, with guidance and support from the Village Committees and/or Village Implementation Groups (VIGs), are responsible for the routine upkeep of irrigation and drinking water supply systems. The Water Conservancy Stations at the township levels are specifically charged with providing support to these committees and with carrying out technical maintenance operations which are beyond the capabilities of the users. User committees receive relevant training as part of the system implementation. This has generally worked well and most systems are fully operational, except some dating from the 1960s where the initial design was faulty or work had been executed to standards that would not be acceptable today, causing considerable water losses and difficult maintenance. Terraces and other dry land structures are entirely maintained by the beneficiaries, and this aspect presents no concern. The upkeep of general infrastructure, such as roads, is the responsibility of the relevant public administration. Upkeep and functioning of village schools are the responsibility of the Village Committees who are authorised to charge levies to users to achieve this. Village clinics are usually maintained as a matter of course by the relevant health staff (i.e., the village doctor and midwife, who also charge patients for services rendered).

Water and soil management

Most of the remote and mountainous project areas are prone to erosion, drought, and flooding. Experience with agricultural infrastructure to improve water and soil management has been very successful and instrumental in better water harvesting, flood control, irrigation support, and land development with terracing and fertilisation. All these activities have been very effective in reducing erosion and natural hazards. Water balance studies are now introduced as a regular feature and a conditioner required before important irrigation works can be implemented. These studies reduce unwanted impacts on the environment and downstream users. While emphasis on tree crop development as an alternative to annual crops on marginal and steep land has always been present, it is necessary to strengthen the integrated approach for annual crops, tree crops, and natural forestry.

Marketing

Marketing reforms that were introduced alongside the household responsibility system in agriculture include the freeing of pricing and haulage systems. As a result, there are no longer fixed prices for

commodities, except for a few staple cereals that are variously called 'basic' or 'strategic'. Farmers are therefore confronted with uncertainty, as are traders; occasional shortages and gluts appear in the systems, in particular of perishable crops such as fruit. There may be a need to organise farmers into commodity-based farmers' associations, to counterbalance undue influence exerted by traders, to stimulate specific focused research, and to open parallel lines of communication for specialised technical support and advice.

Women

Projects specifically identify women as main beneficiaries, and since 1996 attention has been paid to earmarking credit specifically for women, with substantial proportions (up to 50%) of all credit reserved for women. On the basis of not increasing women's workloads, women are given priority to participate in suitable food-for-work activities, and the majority of the food-for-training workdays are also targeted at women. As women undertake a major part of agricultural activities, in addition to the household and childcare work, their needs are taken into account explicitly. Special attention will need to be paid to the health status of women and their education level, which are both necessary conditions for full involvement in cash generation activities and the better nutrition of their households. It is now mandatory for PMOs at all levels to include at least one senior staff of the local Women's Federation (WF).

National capacities

A major element of the IFAD and WFP strategies is to rely for project design and supervision on national expertise and consultants. Formulation of project components has been undertaken entirely by national technical consultants. IFAD and WFP provide limited external consultant support, both to ensure IFAD and WFP policies and criteria are taken into account, and to provide training to national consultants. A competent team of consultants has been established in this manner, and it grows with each project. This approach has been made possible largely through a UNDP umbrella project, providing the funds for mobilisation and building of national expertise. The technical papers prepared by the national consultants have always been of high quality and provide an excellent basis for consolidating the final proposals. The use of national consultants, in combination with VAM and PRA methodology for project formulation, has resulted in a reliable description of the socioeconomic and production systems prevailing in the project area. Many of these consultants work for different agencies, resulting in cross-fertilisation of experiences and knowledge. These experts find that in their day-to-day activities they adopt approaches and ideas generated during project development and that

they perform very useful advocacy work with their departments on behalf of project activities and issues.

IFAD's strategy for upland development in China

The basic strategies underpinning IFAD/WFP supported projects in China truly reflect the overall strategy that full respect for and enhancement of their natural resource bases are needed to achieve sustainable development of upland communities. The projects combine geographic targeting of poverty-stricken areas with a multi-sectoral programme of interrelated and complementary activities. They include: (a) strengthening infrastructure and service systems for agricultural production in order to expand productivity and therefore potentially increase food security, create cash-generating activities in livestock and other cash crops, and promote off-farm income-generating activities; (b) providing technical support and training to build productive capacity and to improve the credit-worthiness of beneficiaries; (c) enabling better access to credit for viable productive activities; and (d) improving access to health and education facilities in order to increase labour productivity and heighten the learning capacity of the population. Four major thrusts guide implementation: combination of WFP Food-Aid, IFAD loans, and government counterpart funds to enable integrated rural development in remote and marginal mountainous areas; targeting the poorest townships using VAM; beneficiary participation in planning and implementation at all levels using VDPs; and development of sustainable as well as poverty and gender-sensitive micro-finance institutions using Rural Credit Co-operatives (RCCs).

The West Guangxi Poverty Alleviation Project

The West Guangxi Poverty Alleviation Project is the most recent IFAD/WFP project in China, and represents the implementation of the relevant strategies, policies, and actions to their fullest.

Project area and targeting

The project area consists of 74 townships in 10 upland counties in the western part of the Guangxi Zhuang Autonomous Region. The area is situated in the eastern parts of China's Karst zone, which is characterised by the famous topography of discontinuous ridges of dense but uneven patterns of sharp peaks. The skirt-like mountain feet are rocky and have little soil. Annual rainfall is 1,300 to 1,500 mm, which would be adequate but for the fact that it is concentrated in the months of May through August. Surface flows are limited because most water disappears down numerous sink holes to form vast sub-surface river systems. These sink holes generally represent the bulk of available agricultural land, and many of the slopes that surround the actual sink holes have been terraced in a traditional

way. Flat land also occurs in the handful of river valleys. Other land is mostly on slopes and is officially considered as forest land, but various forms of cultivation, including shifting cultivation, take place and are tolerated because they reflect sheer necessity.

The population of the 74 counties is about 1.3 million in 260,000 households, residing in 700 administrative and 11,000 natural villages. The vast majority of villages belong to the Zhuang ethnic group, with substantial elements of other minorities such as Yao, Maonan, Miao, Yi, and Dong. Han Chinese groups are also present in the area but tend to live concentrated in the townships and larger villages.

Natural resource management systems evolved around the overriding need to provide food for household consumption, with generation of cash revenues based on local resources a secondary concern. The average remittance income in the area is not low by the standards of other mountain areas in China. Food production is mainly a function of water availability, with paddy rice and maize the dominant cereal crops. Sugarcane is an important cash crop outside the actual karst area and occurs mainly on the slopes of hilly parts. Soybean, peanuts, and sweet potatoes are mostly grown as intercrops, and vegetables are common in the winter season if sufficient water can be applied. Large parts of paddy fields are fallow in the winter because of no irrigation and low temperature. Overall, the cropping intensity index is below 2. Two maize crops are usually taken everywhere from dry land on slopes. In the high altitude region mainly middle-year paddy plus vegetables or rapeseed and maize intercropped with soybeans or sweet potatoes are grown. Low fertilisation rates, intrinsically poor soil, and lack of water result in low overall yields. Most households have livestock. Cattle and buffaloes are principally kept for cultivation and meat production. Pigs are fattened for sale, and some fowl may be kept for special occasions or for sale. There are strong interrelationships between crops and livestock, with the latter recycling agricultural waste and by-products into manure. There is almost no natural grazing for livestock. Vegetative cover is very uneven in the project area. Natural forest, which occurred on the 'earth mountains', has all but disappeared subsequent to deforestation drives in the late 1950s and late 1970s. To the extent that they have not been invaded for cultivation, these areas have recovered somewhat and can now be classified as shrub land. The karst formations themselves are still surprisingly well provided with trees, possibly because those species were less valuable and logging proved much more difficult in that terrain. The last decade has seen a serious drive towards the promotion of tree planting, mainly using 'economic' species.

The target group had an average 1998 per capita income of USD 182, and annual grain availability from on-farm sources was about 309 kg—in sharp contrast to the national average of 400 kg. The relatively good cash income position of the households is seriously eroded by the lack of food production. The main farm cash income is from raising livestock with minor contributions from economic crops. Off-farm employment provides the primary source of cash income, making out-migration of mainly male household members a common and indispensable practice, but this has given rise to the increasing feminisation of agricultural production. Due to the remoteness of many villages in the project area, the provision of social services is deficient for most households. Farmers usually classify themselves into four categories: the better off, the poor, the very poor, and the poorest. The project activities primarily target the latter three groupings. About 240,000 households in the project area are eligible to participate in the project. Households in more remote villages which are poorer than those with better access to facilities would receive top priority. The poorest category, usually households with sick or handicapped family members, is likely to face difficulty in participating in productive activities, but more support and guidance would be given to them to ensure that they would be able to participate in social activities, especially the health and education programmes.

Beneficiary participation

A Village Implementation Group (VIG) will be established in each village, composed of the village leader, village accountant, a representative of the Women's Federation, village agriculture and livestock technicians, and three elected beneficiaries, two of whom will be women. The VIG will organise preparation of the VDP through a participatory process involving the entire village. The process will include: (a) bringing together the village members to discuss investment options for the village; (b) formulating the village development plans; (c) disseminating information about the project activities to all households; (d) organising labour to participate in the food-for-work activities; (e) advising about credit applications; (f) assisting in loan disbursements, supervision, and collection; and (g) ensuring that activities are properly targeted and progress monitored by the beneficiaries themselves. Participation will be enhanced through the election of the village leader and the introduction of PRA techniques.

Rural finance targeting

RCCs will be responsible for providing financial services, including the supply of credit financed from the proceeds of the IFAD loan. RCCs will be responsible for assessment and approval of credit applications for the disbursal of loans and for follow-up and recovery, risk management,

accounting and reporting, supervising and monitoring of the credit operations. Project beneficiaries will be supported with training and with technical and managerial advice that may be taken into account by the RCCs when assessing the relative merits and risks of proposals put to them by project beneficiaries. In parallel, the Women's Federation will be enabled to run a precursor micro-credit programme specifically targeted at women. It is hoped that many participants in this programme will graduate to become credit customers of the formal RCC-system.

Gender considerations

The feminisation of agriculture due to high levels of out-migration by men, the intensification of farming activities, and household chores require activities with a strong impact on women. A larger proportion of women than men are illiterate, while most government services are provided by men. Therefore each and every project activity will have a specific focus on: (a) time-saving technologies in agriculture; (b) more women-responsive extension and training services; (c) empowerment of women through literacy; (d) promotion of high-value crops that have low labour inputs, and income-generating activities near or within the homestead; (e) better access to credit; (f) easy access to drinking water; and (g) development of biogas as a source of energy for the household. Decreased prevalence of diseases will result from the availability of better health services and training, substantially improved domestic water supplies, and the promotion of sustainable and sanitary energy resources. Education support will be provided to adults, predominately for women to enrol in functional literacy training programmes and/or to acquire technical skills, and large numbers of children will be encouraged to continue their primary education and will be financially supported for doing so. The various training programmes, together with the institutional approach of participatory village-level activity planning, will lead to a much greater awareness and assertiveness in all matters relating to the social and economic situation of the individuals, the households, and the communities in which they live.

Project structure and activities

The project components seek to achieve increased agricultural outputs, notably of staple food items and highly marketable fruit, and much-improved access to social services. Credit and human capital are the principal instruments to stimulate on- and off-farm production and income. For credit to achieve its fullest potential, it is necessary to increase the intrinsic productivity of agricultural land through irrigation and dry land improvements, and to strengthen key support mechanisms—notably agricultural, livestock, and tree crop input supply and extension services. Also, specific enhancements to infrastructure, water, and road access, will facilitate full participation in economic and social development among

isolated communities. Human development requires better access to social services, especially for women. The facilities and operational capacity of health and education need to be improved. It is equally important to enhance the target group's receptivity to progress. Hence, the project will include a substantial training and awareness-building programme, addressing the requirements of adult women and children on a priority basis.

Agricultural development will increase the proportion of land with adequate irrigation. Dry cropping land, mainly on gentle slopes, would be improved through soil deepening, levelling, and terracing. Soil fertility and productivity will be enhanced through increased use of organic manures resulting from higher production of crop residues and expanded livestock production. Increased crop productivity will allow planting of economic trees on steeper land or low-fertility sites previously cultivated annually. These regenerative farming techniques, together with economic environmental forestry actions in degraded forests will increase the opportunities for non-timber forest products and further the establishment of a sustainable natural resource management system. The VIGs will organise the beneficiaries in water-user groups to ensure operation and maintenance. Technical training and on-farm demonstrations will mainly include poor farmers and especially women. Agriculture and animal husbandry extension stations will be upgraded and staff will undergo training, in particular to sharpen gender and poverty awareness.

Financial services, with a poverty and gender focus, are a major instrument and project component to help the target group build assets for sustainable development. Emphasis will be on credit and savings' mobilisation to ensure sustainability. The driving force behind the production activities would be credit, implemented by the township RCCs under the overall supervision of the county Rural Credit Co-operative Unions (RCCUs). Improved access to credit will directly benefit farmers, especially women, and target profitable activities such as cereal grain production, annual and perennial cash crops, livestock, economic trees, food processing, and a wide range of income-generating off-farm activities. The aim will be to develop the RCCs into an effective, efficient, and viable rural co-operative banking system with farmers as members holding shares and with savings collected for additional sustainability. Before starting the credit programme, a savings and credit awareness campaign will be executed at village level with close co-ordination between RCCs, PMO, WF, Village Committees, and other relevant bodies. Savings' mobilisation and shareholding of RCCs will be high on the agenda. Staff training will also be offered in management, loan assessment, processing, and inspection. Village leaders and agents will also receive training to ensure sufficient

practical knowledge and credit awareness at the level of the beneficiary communities.

Social development

Poor educational levels and ill health reinforce poverty. Therefore improved access of the poor to social services is the start for creating the human capital necessary to produce physical assets. Activities will include literacy training, particularly for women, and building awareness about health and nutrition. Reducing primary school dropout rates, particularly among girls, will be another major activity. Support to village health workers and the rehabilitation of primary schools at village level to improve access to literacy and skills' training will shore up the previous activities. There will also be a large element of skills' training in preparation for obtaining loans for income-generation activities. The Women's Federation (WF) will organise this training in recognition of this component's strong focus on women and will have a permanent staff position under each PMO. A special micro-initiatives' fund that the WF has initiated in some counties will be expanded. A large programme to build family biogas units would complement the efforts in the area of household fuel improvement. Technical training for productive activities and awareness building on food security will be major activities throughout the implementation period in all components. Training will be provided for trainers, women, and men in the villages, and for administrators in PMOs and RCCs.

Rural infrastructure

Improvements in the availability and quality of drinking water, better access roads, and electrification will ease the burden on women and facilitate the development of off-farm income-generating activities.

Project management will use PLGs and PMOs, the well-tried and proven methodology of previous IFAD/WFP projects. However, the role and structure of PMOs have been revised to become more supportive of the technical implementing agencies. Staffing has been reduced to the minimum required for effective facilitation of project implementation. They will use and co-ordinate the existing technical and social agencies and bureaux at province, prefecture, county, and township levels for undertaking project activities. Support will consist of provincial start-up workshops, training on monitoring and PRA methodologies, computer and accounting training, transport facilities, office equipment, and associated running costs. Study tours and inter-project PMO workshops will be organised to share experiences. Technical training for productive activities and building awareness on food security will be a major activity in all components. As the WF is the primary organisation with a mandate to assist women, each PMO will have a representative from the Federation as a full staff member.

Annex I: The Paradigm Shift in Upland Development

Top-down physical planning paradigm	Bottom-up participatory planning paradigm
Looking at land degradation within uplands in terms of what is happening (reacting to symptoms)	Looking at land degradation within uplands in terms of why it is happening (tackling underlying causes)
Focus on off-site and downstream costs and benefits of improved resource management	Priority focus on on-site benefits of improved upland resource management
Management for single purposes (e.g., protection of water, biodiversity preservation)	Management for multiple uses, combining individual purposes into compatible resource-use systems and activities
Catchment protection through increased regulation and restrictions on land use	Emphasis on lifting local constraints to enable upland communities to manage their resources
Insecure rights of access	Recognise rights and concomitant responsibilities and duties
Water and soil conservation by physical structures	Increased productivity by improved practices
Single-sector actions, applying a piecemeal approach with 'critical' individual management plans identified and implemented	Multi-sectoral and interdisciplinary effort in a demand-driven programme approach
Starting from technical knowledge and 'proven' technologies	Starting with knowledge of indigenous technologies and culture
Priority needs identified by professionals	Priorities and needs identified by the upland communities with assistance from outside expertise
Limited access to extension advice of improved resource management	Development of locally-based extension support services applying an integrated approach to advising
A top-down transfer of technology to passive recipients	A stakeholder-centred participatory learning and technology development process