

Impact of Accessibility on Issues and Options of Marginal Farms in the Nepalese Mountains

K. Gautam

Department of Agriculture, Kathmandu, Nepal

Introduction

In 56 out of 75 districts of Nepal, local food production is not adequate to meet the demand. The food deficit districts include 16 in mountain areas, 26 in hill areas, and 5 in the Terai (MDD 2000). Food insecurity and poverty are the key concerns of the mountain and hill farmers of Nepal because of the limited choices and options available for production of foodgrains on marginal lands.

Aside from small landholdings and various aspects of marginality, the root causes of food insecurity and poverty in the hill and mountain areas include the accessibility of services, markets, and goods. This paper will assess how the accessibility factor has impacted the livelihoods of marginal land cultivators. The paper is based on the findings of a study of three different sites: Charkhu of Okhaldhunga, Marpha/Tukuche of Mustang, and Madanpokhara village of Palpa district.

Impact of Accessibility on the Identification of Issues of Major Farms

Food security characteristics

The food security characteristics were analysed on the basis of food production as well as trade available from the land cultivated. In Palpa district, the Small Farmer Development Programme (SFDP) was launched 20 years ago to improve the livelihood of farmers. Under this programme various activities were launched through different NGOs and INGOs. Therefore the situation in this district has been improved and is different to that in the other areas. The marginal farms of this area are considered as a model for the hill regions of Nepal.

In terms of food security, 48% farms in the Okhaldhunga district had food sufficient for less than 3 months, followed by 24% in the range of 3-6 months. Only 5% of farms produced a surplus. The main cause of such small food surpluses is the lack of accessibility to markets, goods, and services (Table 1).

In the case of Palpa, which has relatively better accessibility to markets, services, and goods, the food security situation of the marginal farms was better: 57% of farms had a food surplus, while only 5% of farms were secured for less than 3 months.

No farm in Mustang produced surplus food, but at the same time no farm produced food sufficient for less than three months. About 40% of farms were within the range of 6-9 months food security, and 25% of farms produced food sufficient for 12 months.

Table 1: Food security status

Food Sufficiency Period	Okhaldhunga (%)	Palpa (%)	Mustang (%)
Surplus	4.8	57.1	0
12 months	9.5	9.5	25.0
9-12 months	14.3	9.5	17.8
6-9 months	0	19.1	39.3
3-6 months	23.8	0	17.9
< 3 months	47.6	4.8	0

Source: Field Survey, 2000

Sources of Income

In Okhaldhunga cereal grains contributed 68% of income, followed by orchards and livestock. This is due to the inaccessibility of markets, services, and goods. In Palpa, where accessibility is better, off-season vegetables accounted for 55% of income, followed by poultry. In Mustang, cereal grains contributed 19%, followed by livestock at 13%. Livestock are used to transport goods from the Mustang and Beni markets. The share contributed by apple orchards was only 8%, due to the transportation problem (Table 2).

The other source of income is migration. Most Okhaldhunga people who migrated did so to join the Indian or British armies, while Palpali people aimed for government service within the country. In Mustang, at least one member from each sampled household had migrated to Japan or the U.S.A. The marginal farmers share in the income earned from migration.

Table 2: Sources of income

Income Source	Okhaldhunga (%)	Palpa (%)	Mustang (%)
Cereal grain	68.3	7.5	19.2
High value crops	0.2	55.1	1.4
Orchards	1.6	7.7	8.2
Poultry/livestock	7.2	14.4	12.7
Other	22.7	15.2	58.7

Source: Field Survey, 2000

Impact of Accessibility on Marginal Farms

Okhaldhunga

Only one innovative farmer was found in the Okhaldhunga district sample village. This success story is presented in Box 1 to indicate the options available to marginal farms.

Palpa

In Palpa district, there are many innovative farmers as a result of the accessibility of goods, markets, and services and the influence of the small farmer programme. Farmers in these villages were trained in terraced management of sloping land under the Tinau Watershed Management Project launched by Swiss Technical Assistance (SATA). Before this project was implemented, the main cropping pattern on marginal land was maize/millet, wheat, or oilseeds, all rainwater based. The gross income from maize/millet - wheat was only about Rs.3,000² per 'ropani' (0.05 ha) of land. But now farmers are earning more than Rs.15,000 from the same land with the help of irrigation through polythene pipes.

BOX 1: An Enterprising Farmer

During the survey, we found one entrepreneurial farmer who maximised the income from marginal land and the available water resources: He was Raj Bahadur Magar. Mr. Raj Bahadur Magar owned only 0.25 ha of land and rented 1.17 ha of 'khet' (irrigated land). His own land is 0.10 ha upland and 0.15 ha khet. From this 0.25 ha land he formerly produced only five quintal¹ of paddy, maize, and millet, which was not sufficient for 3 months for his four-member family. But he went to the District Cottage Industry Office and received training for making furniture from bamboo. Even though promotional activity is poor, he now earns about Rs. 3000 a year from making bamboo furniture. In the same way he visited the Agriculture Service Center (ASC) at Rumjatar and obtained a minikit of vegetables for a kitchen garden. He produced some green vegetables and sold them to the nearby Rumjatar market and earned Rs. 1000 with little effort. He again visited the ASC and asked staff to visit his area and make suggestions for his bari use. In his bari he formerly produced only maize and millet, but now he produces green garlic, onion, and fresh vegetables like cabbage, rapeseed, and cauliflower for the Rumjatar market, and earns Rs. 10,000 per year from vegetable production. Now his food sufficiency has increased to 6 months. His success in income earning from crop changes on bari inspired his brother Mr. Pushpa Bahadur Magar to also start garlic production. Other farmers of marginal land are also thinking of changing their cropping patterns where irrigation is available to allow vegetable production.

Mustang

The case study presented in Box 2 shows clearly how inaccessibility is a major constraint for land utilisation and crop diversification.

Thus, if different services, goods, and markets are accessible, the marginal farmers will try to use them by diversifying their crops, changing land management, and investing in livestock and poultry rearing. Depending on various factors, in conditions of good

BOX 2: Apples in Mustang

Mustang district has a high potential for apple cultivation. Each and every household has some apple trees. However, farmers are unable to divert their land to apple orchards because they cannot transport the fruit to the markets in Pokhara and beyond. Mr. Karna Bahadur Thakali, an innovative farmer in Marpha, says that the 75 trees he owns could produce 8250 kg of apple. Last year he transported four tonnes (50%) using his own four horses, and earned Rs.50,000. If proper accessibility were developed, he and his friends would be able to sell 75% of their production and earn more money. Road accessibility is needed because the production pockets are located in up-Pakho, only a few farmers have converted low land into apple orchards. If accessibility were improved, farmers would use the lowland area for apple orchards and import the needed cereal grain. The average net output per hectare from cereal grain is 2700 kg, with a value of about Rs. 16,900, while from apple the 30,500 kg produced would fetch Rs. 100,000 in local markets and nearly Rs.200,000 in outside markets.

¹ quintal = 100 lbs or 100 kg, ed

² In 2000, NRs 72 = US \$ 1 approx.

accessibility a moderate farm size would be 0.5 ha in Palpa and 1.5 ha in Okhaldhunga. For horticulture based farming, a moderate farm size would be 0.75 ha.

Conclusions and Recommendations

Marginal farmers are productive in terms of cropping intensity, but not necessarily in terms of yields. This is due to the lack of access to inputs that would raise productivity, to technology, and to markets.

To improve the food security of marginal farmers, the output of crops grown on marginal lands under marginalised conditions should be increased. New technologies are mostly only available for irrigated land. As yet there has not been a major research breakthrough specific to coarse grain like naked barley, buckwheat, barley, and finger millet; and improved seeds are not available.

If the accessibility of goods, services, and markets is increased, then marginal farmers who have marginal land diversify their cropping patterns (as seen in Mahan Pokhara) and start to cultivate high-value crops (as in Okhaldhunga).

Eco-friendly road or ropeway programmes should be identified and made available to farmers who cannot access markets for their high-value crops.

Furthermore, in mountain areas features such as fragility, marginality, lack of accessibility, and internal resource heterogeneity should be taken into account before devising plans for reducing poverty through production opportunities.

References

MDD (2000) *Special Issue Market Information Bulletin*. Kathmandu: Market Development Division, Department of Agriculture