2. A Socioeconomic Profile of the Bhardeo Community

Ethnicity and Culture

Bhardeo, located in an ecological 'niche' comprised of one single and clearly-defined watershed, has an ethnically diverse population but lacks the sophistication of a lowland population. Table 1 gives the ethnic breakdown of the Bhardeo population in 1988.

Table 1: Ethnicity and Population of Bhardeo in April 1988

Ethnic Composition	Households #	Population	Family Size
*Tamang**	212 (79.7%)	1414 (81.7%)	6.6
Newar	33 (12.4%)	177 (10.2%)	5.4
Chhetri **	16 (6.0%)	102 (5.9%)	6.4
Sunwar/Sikari	2 (0.75%)	15 (0.9%)	7.5
Kami (smith)	2 (0.75%)	17 (1.0%)	8.5
Damai/Nagarchi (tailor)	1 (0.37%)	6 (0.3%)	6.0
Total	266 (100%)	1731 (100%) 1510***	6.5

* includes a few Ghale households (a *Tamang* speaking non-*Tamang* community).

** Karki, Khadka, Ghimire-Khatri, Silwal-Khatri, Sijapati, K.C.

*** Census 1971

The ethnic diversity is narrow. Representation of functional and trade castes such as shoemakers and *Brahmin* priests (required by *Newar* and *Chhetri* families which account for 18.4% of the population) is interestingly missing. In 1955, a *Brahmin* family from Dhungkharka village in Kabre district migrated to this village and settled near the school house. After three or four years the family departed (Personal Communication 1988).

The *Chhetri* and *Newar* castes are the traditional clientele of the *Brahmin* caste. The traditional priests of these families came from Behbar (Kabre district) or Jyalungtar near Chapagaon in Lalitpur district and were called whenever their services were required. The new priest, therefore, could not build up a clientele.

Bhardeo still has a *Tamang* population of over 79 per cent, and this group does not normally accept the *Brahmin* caste as their priests. Although the *Tamang* generally tend to adhere to the Buddhist religion, in Bhardeo their culture is more Hindu, and *Baisakh Purne*[1], the Birthday of Lord Buddha, is celebrated in honour of Gupteswor (Lord Shiva in a cave), a native deity of Bhardeo. There are many other festivities that have little to do with Buddhism, but the important life cycle ceremonies are conducted according to the Lamaistic traditions of Buddhism.

Age and Sex Distribution

The population of Bhardeo was 1,731 at the end of April 1988 and, thus, 8.5 per cent less than in 1987 (New Era 1987). Of this total, women accounted for 47.9 per cent only. Seven per cent of the adult male population (>16 years) were unmarried. For a mountain community like Bhardeo, with its marginal farming conditions, the population was relatively large. Population growth in Bhardeo in 1987/88 was 4.7 per cent. Only three deaths were recorded during the same period.

Females formed a minority. Especially noteworthy was the imbalance in the economically-active population for which even a deficit of 44 women could be considered a serious constraint in terms of Bhardeo's economy. Although there were 364 married couples, including 10 in polygamous relationships, many households lacked working women, and this caused a severe strain on economically active family-members and also on the aged. It was found that, in the age group above 60 years, there was a notable lack of women.

There were 34 widows, mostly elderly, and unable to form a new household within the community. About 22 per cent

1. The New Years' first full moon

of married women had not given birth to a child. About 3.4 per cent of the married women had given birth to their first child before the age of 15 years, 67 per cent of the women had given birth to their first child between the ages of 16 and 30 years, and one half of them (33.5% of the married women) had given birth between the ages of 16 and 20 years. One woman gave birth just after her 45th birthday. Fifty per cent of married women were under 30 years of age. Eleven per cent of married women were older than their husbands.

Population Density

The population density per hectare of cultivated land (maize and paddy land) was twelve persons, which averages roughly 820 square metres of cultivated land per person. Population density per hectare of total land (grassland, fallow plots, and cultivated land) utilised by the local population exceeded 10 persons, a figure much higher than the national average (Livestock Strategy Vol.I).

Permanent out-migration was recorded from four households only. Of these, two households had left the area within the decade. Seasonal migration in search of off-farm income was regular and widespread and, according to the local people, tended to be prolonged each year provided opportunities existed.

Income Opportunities and Economy

The people of neighbouring villages hesitated to let their girls marry Bhardeo boys because of the lack of economic security. The Bhardeo people themselves attribute this to poverty caused by over-dependance on fragile natural resources such as farmlands, livestock, and forests. Poverty challenges normal human relationships. Most meetings with outsiders and the finding of spouses take place during the most important events in the area, or during the two to three days of the *Baisakh Purne* festival. Many men approaching old age still look for a wife in order to carry on a normal farming life.

At the time of the study 86 per cent of the households in Bhardeo were experiencing some sort of food deficit, while over 50 per cent suffered food deficit for at least six months each year. There were several reasons for this: for example, low farm productivity, mainly due to the loss of soil fertility; catastrophic floods (especially in September 1981); and the fact that *de facto* landholdings were too small and that production of adequate amounts of food had become nearly impossible.

Celebration of many cultural festivals was becoming a major factor contributing to poverty. There were five annual cultural festivals, i.e., *Baisakh Purne, Saune Sankranti, Dasain, Tihar*, and *Maghe Sankranti*. Each one of them was celebrated as lavishly as possible. In addition, the *Bratabandha* (initiation ceremony for boys) and marriage of a young son and funeral and mourning ceremonies cost a fortune for a small farmer. Getting married had become an impossible proposition for many a young man. Traditionally, the first marriage, particularly of a young woman, was accompanied with all the due ceremonies, and these were very expensive for both brides and grooms.

The low volume of income accrued from off-farm sources could partly be due to the vulnerability stemming from the poverty of the community which left them open to exploitation by employers.

The farming system of Bhardeo, including off-farm activities within the area, generated only 85 per cent of the total income of the people. The rest had to come from external earnings. Yet, the total income available was roughly 60 per cent of what would be necessary for a subsistence household in Bhardeo. An average Bhardeo household with 6.5 family members required an income equivalent of over Rs 12,000 (US$ 300) for its basic necessities. Even the best of households could hardly meet the requisites of five to seven religious occasions, medicine, school, clothes, house repairs, and maintenance or travel with this income.

Given the prevailing situation, even if farm productivity increased by 100 per cent, it would still fail to provide the basic food requirements. Farmers had been compelled to migrate to urban areas during the winter dry period to supplement their incomes. There was already a noticeable trend of permanent out-migration. The lack of cooperative spirit made the situation worse. For example, after the implementation of the Lele-Chandanpur Road Project, which, according to the farmers, facilitated migration, it had become difficult to operate any usual, cooperative socioeconomic activity. Without cash, simple activities undertaken voluntarily or on a *parma* (labour sharing) basis, for private or community works, were hardly possible.

In Bhardeo, the economic situation had also affected the cultural life of the people. The people had reduced the frequency and changed the *modus operandi* of some cultural

and spiritual ceremonies. Certain ceremonies, e.g., *Satya-narayan Puja*, were held less frequently. These were held during the daytime, as against evening ceremonies, so that neighbours would attend in smaller numbers making the occasion less expensive.

On-farm Incomes

Incomes from on-farm activities came from cultivating food grains, oil seeds, horticultural commodities, maize, wheat, millet, barley, potato, and mustard. A breakdown of total incomes from farmland is given in Table 2.

Table 2: Cash Equivalent Incomes from Farm Produce in the Year 1987/88

Commodity	Quantity(MT)	Value (Rs)
Foodgrains		
Maize	134.832	707868
Wheat	9.769	39076
Barley/millet	0.710	2675
Paddy	0.168	810
Soya/peas/beans	0.732	6600
Oilseed/mustard/	2.175	21750
Potatoes	3.248	16240
Milk and meat	28.8	273000
	180.434	1068019

* May 1988

In the case of mountain farming systems, it would be unrealistic to judge the income from farmlands on the basis of grain harvests only. Crop by-products, such as fodder, fuel materials, (maize cobs), and thatching materials (wheat straw), were regarded by the farming community as most valuable and without these by-products the farming community could not function properly. Considering the amount of maize stalks, husks, and cobs (over 400MT) harvested, the net income could be regarded as positive, particularly when calculating the cost and benefit of maize cultivation.

At prevailing market prices, total on-farmland income amounted to Rs 4,000 per household or 48 per cent of the total income. This was insufficient for even the basic food requirements of the community. The collection of firewood for household energy needs was worth over Rs 200,000 in monetary terms and was thus reflected in total incomes (Table 3). Since farming activities did not suffice to meet household requirements, farmers were compelled to look for off-farm opportunities for additional income.

Table 3: Total Estimated Incomes of the Bhardeo Community

Incomes	Amount (Rs)	Ref.
Remittance sources	303196	(Table 5)
Off-farm internal sources	503984	(Table 4)
Farmland foodgrains	757029	(Table 2)
potatoes/oilseeds	37990	"
fuel cobs	13950	"
Forest fuelwood	225000	"
Milk and meat	182742	"
Total	2023891	

Off-farm Incomes

Incomes within the Bhardeo Area

The search for off-farm activities (livestock excluded) begins right after the main crop harvest, which is around October, and continues until just before the sowing season in April/ May, particularly during the dry season, when farm activities are minimal. The main objective of off-farm employment is to generate cash income for essential and diverse commodities, including food products. This, if possible, is given priority over wage labour in the Bhardeo area.

Most of the poor households in the mountains find the period from May to October an important time when they most need support. Food reserves from previous harvests finish in May, and the harvesting of new crops is three to five months away. The basic food requirements are unavailable, especially during the monsoon period, when opportunities for alternative employment are rare. It is also the beginning of the monsoon when all food-for-work programmes peter out.

Approximately 841 man months of employment (or 28,547 mandays) were available within the Bhardeo area. The incomes derived were needed for the wet season. Both male and female members of the household, above the age of 10 years, worked as labourers in the construction of local houses, drinking water projects, weaving, carpentry, and as farm and forest labourers.

Agriculture-Forestry Labour

Generally, agricultural labour was not treated as an off-farm activity. However, if the work involved fell outside one's own farmland, and if payment was involved, then this too was thought of as an off-farm activity. As far as the mode of payment was concerned, it was on the basis of cash and/ or kind and not on the basis of the labour exchange ratio.

The wages for adult women were about 20 per cent less than those for adult men. The cash wage rates of Rs 15 for adult men and Rs 12 for adult women were common. Youngsters between the age of six to ten years were normally paid in kind at the rate of 3.25kg of maize grain per day. Three households had found work in Bhardeo, more or less on a long-term basis, in the forest nursery. The wage rate for farmland-forestry labour in the Bhardeo area was low compared to wages earned by unskilled adult labourers for similar jobs in the Kathmandu Valley.

Construction Labour

Skilled or semi-skilled workers received Rs 50 to 60 as a normal daily wage. Labourers who collected stones for construction work received Rs 12 as daily wages or Rs 40 per cubic metre of stones delivered. The net savings in the area for the same period of time engaged in similar labour activities were higher than outside the area, because extra costs were involved in commuting to and from work.

Trade and Commerce

At least seven households were engaged in small retail businesses, and the volume of transactions involved was considered by them to be satisfactory. Commodities dealt in were cigarettes, salt, oil, soap, and kerosene. The incomes generated by the three occupational households (1 tailor and 2 blacksmith) were not considered as it was difficult to solicit information from them directly as written records were not maintained.

The collection of mushrooms, medicinal plants, and fern (*niuro*) provided opportunities for cash income, but these were insignificant considering the effort invested and the volume of monetary transactions involved. Compared to other forms of off-farm employment, this activity was readily available during the summer period. Even the much despised charcoal production and sale provided a respite for farmers. Cash income from this source was the highest.

The charcoal-making season starts in October and lasts throughout the whole dry season. For farmers who cannot find employment in Kathmandu Valley during this season, charcoal-making seems to be an alternative particularly for those with the required skills. Over 700 loads of charcoal, amounting to 35MT, are annually exported to the markets in urban areas of the Kathmandu Valley, primarily to Patan. About 35 per cent of the charcoal is exported just before October to help meet expenses for the *Dasain* celebrations and festivities. Another 30 per cent is exported before the celebration of *Baisakh Purne* in April.

From October/November onwards until May, the price of charcoal increases. This is also a period in which farmers are less motivated to accumulate cash, and they are thus less inclined to make charcoal, although the demand for charcoal is high. The price of charcoal generally goes down to one-third of the *Dasain* price (Oct/Nov)during the *Baisakh Purne* festivals when the season is warm. The farmer is hard pressed to sell charcoal for ready cash to finance the *Baisakh Purne* festival. This creates a small charcoal glut in the markets in nearby Chapagaon and Patan.

According to the local people, at 1988 prices, a load of 40 to 50kg of charcoal netted a profit of over Rs 300 and involved a total of four to five days' work. Up to 15 loads could be produced by one man per year, fetching Rs 150 to 700 per load, depending upon the species of tree. *Q. semecarpifolia, Rhododendron* sp., and *Lyonia* sp. are required by different smiths and artisans.

The marketing function was thus determined by the demand for charcoal (and this was determined mainly by artisans in the traditional markets of Lalitpur district) and also by the pressure to earn money to meet the cost of important cultural occasions. Such price determinants were favourable to buyers only and had a negative impact in the context of both the environment and the economy. The exploitation of common property for individual enrichment was also a negating factor.

Operating Grinding Mills. Income generated through water mills was normally in the form of commodities (4% of the milled commodity) i.e., in grain, valued at Rs 2,300 per annum per mill. The investment needed for a traditional grinding mill was over Rs 10,000, and this is quite high.

Livestock Products. Cash income from livestock and livestock products were considered to be off-farm income. Gross income, in terms of cash and kind from the sale of

animals and their products, was estimated to be Rs 1,365 per household in 1987/88. The total cash income for the community from sales to outside markets, such as Lele, Godavari, and Chapagaon, was over Rs 90,000, equivalent to 11 per cent of off-farm incomes. Ward three, with its 20 households, had no milk and only Rs 600 was earned by selling animals.

However, Bhardeo started selling milk to a collection centre in Lele. Between mid-July and mid-October a total of 3,390 litres was marketed. This was all from old buffalo stock.

The interesting fact is that in the month of *Srawan* (July/Aug) almost 79 per cent of the total milk produced by 19 households (95% of the milk-producing households) was marketed. In the next two months (Aug/Sept and Sept/Oct) the percentage of marketed milk decreased to 41.3 per cent (produced by 50% of the milk-producing households) and 32.3 per cent (produced by 35% of the milk-producing households) of the total milk produced.

The central Dairy Development Corporation failed to attract more farmers to participate in marketing milk. The main reason was the discrepancy between the actual income and the expected income (based on prices offered at the nearest private market), the former being lower by 40 per cent. The price paid per fat unit remained uniform throughout, whereas the checking of fat contents was not carried out properly at the milk collection point and people felt cheated. According to the farmers, the expected price normally correlated with the minimum estimated cost of production in the area and the prevailing prices in the local markets. The collection point was part of the central dairy area and hence lay outside the local pricing system. Table 4 indicates the scale of incomes involved in local off-farm activities.

Table 4: Gross Off-farm Incomes - Bhardeo

Activities	% Households	Mandays	Income (Rs)
Agricultural labour	3.4	1125	13050
Forest labour	1.5	562	624
Mushrooms, *Niuro, Kafal*	65.0	17885	62600
Charcoal-making	18.8	3500	297500 *
Livestock products	29.7	NA	90088
Water mills	5.6	5475	34500
Total		28547	503984

* Data are mostly based on informal talks and discussions with selected persons who volunteered the information. It was possible to solicit information directly from three households only.

Only one household each engaged in agricultural labour and forest labour and 6.4 per cent of the households engaged in livestock products produced sufficient food. The number of households making charcoal was declining, and this was mainly due to heavy penalties of up to Rs 3,500 and one year's imprisonment for the offence.

The three households of trade castes, such as tailors and blacksmiths, together had more than 150 man months of engagements. Two of them were landless. They earned their off-farm incomes at home. One blacksmith household in Ward No. One, for example, gave up two hectares of farmland in order to devote all its time to the traditional family profession. This household served two other villages apart from Bhardeo.

Incomes Outside the Bhardeo Area

The incomes generated within Bhardeo, although much below subsistence needs, accounted for about 85 per cent of community incomes. The below subsistence level economy of Bhardeo depended upon outside sources for food security. The farmers of Bhardeo generated cash income outside the area to supplement meagre incomes earned locally.

Any attempt to estimate gross incomes from off-farm activities outside the Bhardeo area was difficult because of the cost of living involvements that fell outside the periphery of the household unit economy. Savings in cash or kind were brought home-normally for the celebration of *Baisakh Purne*. An estimate of net savings was made only to establish the degree of support available from off-farm incomes earned outside the system.

The major source of cash income came from labour opportunities, both from within the country and outside, involving seasonal or permanent employment opportunities for 846 man months (or 25,734 mandays). Seventy-one per cent of these labour opportunities were in regular jobs.

Seasonal Labour Opportunities

Brick-making, weaving, carpentry, quarrying, and construction job opportunities were other important activities that played a significant role in the Bhardeo household economy.

Brick-making. Brick industries in the Kathmandu Valley provided opportunities for farmers to work as labourers during the dry season. According to the farmers, an able-bodied person could make up to 650 bricks a day, with a

normal labour wage of Rs 20 to 25 per day. About four per cent of the households in Bhardeo relied on this activity for their incomes, and the average net income saved per household was Rs 3,075 per year.

Weaving. This included handloom and carpet weaving. At least 1.5 per cent of the households, mainly women, had benefitted from this activity. During the period from November to April, people found employment in Patan and Kathmandu. Work was on a contractual basis and fetched a rate of rupees two to six per metre of cotton cloth woven, depending upon the quality of the textile material, pattern, and colour combinations required. Provisions for design, raw materials, and weaving machines were made by the employer. On average, in the year 1987/88, a net income of Rs 3,000 to 4,000 was earned by the households involved.

Quarrying. This was a difficult and risky job. Men mostly took advantage of the labour opportunities in the form of quarrying at Godavari or Lele. This was an important income source for Bhardeo farmers as it was near their homes. About 5.6 per cent of the households were seasonally engaged in this activity. The average net savings made during the dry season amounted to Rs 2,000 to 2,500 per household per man month.

Construction. Carpentry, house construction, and road building were the main construction activities in the area, and wage rates varied from Rs 15 for a young person to Rs 30 for an adult per day (males) in work other than road building. About 1.5 per cent of the households, mainly men, were engaged more or less professionally in this activity. The wage rate for carpenters was Rs 50 to 60 per day. The seasonal net saving varied from Rs 500 to 3,000 per year. Able-bodied people were found working as wage labourers on the Lele-Chandanpur Road project which passed through the area. Payment was normally made in kind, generally in the form of food. This hardly qualified as an off-farm activity, at a time when even local labour sharing was being replaced by cash wages.

The amount of food that each labourer received for the work was found to be insufficient to feed his family. So, apart from households that had more than one person employed at the site, it was virtually impossible to earn enough to support a family. It thus seemed ironical that, despite the relief that this project was to bring to the local population, in reality, it became an untenable process, firstly because of the loss of farmland for road construction and, secondly, because the payment in "kind" was inadequate for basic survival. The monsoons (by bringing the construction work to a halt) further defeated the purpose of this food-for-work programme in a chronic food deficit area.

As the construction sites moved further away from Bhardeo, jobs became more difficult to find for the local people. Labour transport facilities were rare. On-site shelter was not available for overnight stays. The wages received for work in the form of food were far too inadequate to enable even a single labourer to take any home, so work on sites had become less attractive, even in a food deficit area like Bhardeo.

Regular Employment and Service Opportunities

Some local people worked in other parts of the country in salaried jobs, some even went to foreign countries in search of employment. These migrations provided more or less regular job opportunities and were an important source of income, higher in scale, and of longer duration. At least 52 men in 15 per cent of the households were engaged in services in the police and army and as gatekeepers. Ninety per cent of these households suffered food deficits. These jobs provided an average net saving of about Rs 3,500 per annum.

Table 5 illustrates the scale and degree of households depending upon remittance incomes.

Table 5: Net Remittance Incomes - Bhardeo

Activities	% Households	Mandays	Income (Rs)
Construction	10.5	3500	44.432
Brick-making	4.1	2114	28.374
Weaving	1.5	395	6.500
Stone quarrying	5.6	1475	25.490
Salaried jobs	15.0	18250	198.400
Total		25734	303.196

Importance of Off-farm Incomes for Bhardeo

Of the total labour, 13.8 per cent travelled outside Bhardeo for work. Total incomes from off-farm sources amounted to an average of about Rs 3,000 per household or 40 per cent of the total income. The income was used to purchase chemical fertiliser, clothes, salt, oil, kerosene, tobacco, and

food for a four to five month lean period, especially during the monsoon. Although only 56 per cent of the total labour available was used productively, a labour constraint was felt during the critical planting season (which starts in February when many menfolk are still out of the area working in off-farm jobs).

Figure 4 illustrates the contribution of different local and external sources to off-farm incomes in Bhardeo. Although milk was not marketed, apart from in a few instances, cash income from livestock and livestock products contributed 40 per cent of the off-farm sources within the local area. The incomes from permanent salaried jobs outside Bhardeo contributed the largest amount (65%) in cash.

Socioeconomic Conditions

On-farm and off-farm incomes were major determinants of the socioeconomic status of the community in Bhardeo. Table 3 illustrates the estimated total direct and indirect incomes of the Bhardeo community from their diverse mini-sources.

The income of the Bhardeo community was around Rs 2 million or less than US$ 30 per capita (1988 population: 1,731). From the study, it became clear that the combined incomes from the two sources hardly met the normal requirements of the local community. Even staple food requirements were hard to meet.

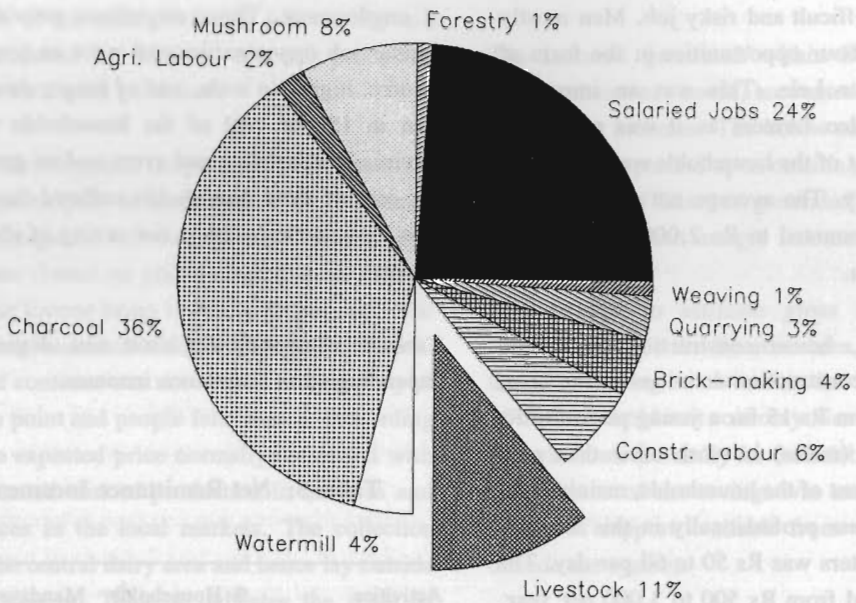

Figure 4: Cash Incomes from Off-farm Sources Including Livestock Keeping

Food Situation

When one single crop or a single commodity, such as maize, becomes the most important staple food, the production of and demand for the commodity determines the level of poverty or the level of affluence of individual households. The quantity of seed input and the yield of maize seem to have direct implications on the economic status of households. Maize, which is also the most important staple food of the Bhardeo people, was taken as a parameter for measuring household food security from farmlands in Bhardeo. Figure 5 classifies households on the basis of maize harvests.

Only 13.5 per cent of the households could claim to have sufficient income from cultivation. About four per cent of the households had to rely upon minor crops in order to be self-sufficient. Income from maize cultivation was not equally distributed throughout the community as households were of diverse character, differentiated by hierarchial levels of production that reflected household economies.

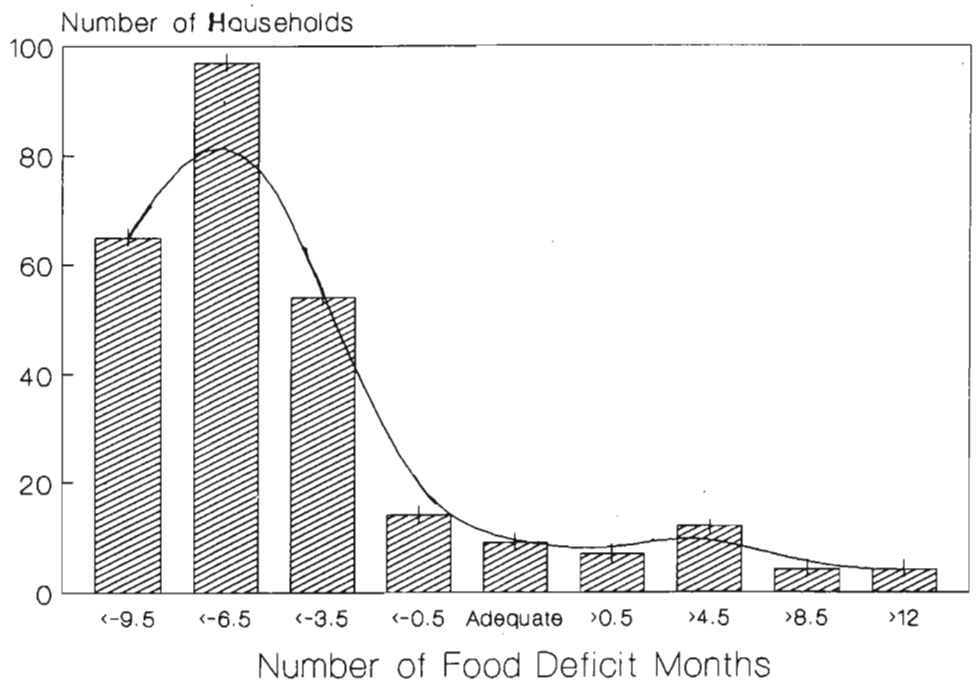

Figure 5: Household Food Situation Based on Farmland Produce in Bhardeo

Around ten per cent of the households cultivated less than 0.15 ha, while only 18.3 per cent cultivated more than one hectare of land. Considering the amount of seed inputs required to harvest a minimum amount of maize for a household of 6.5 family members, almost 90 per cent of the households did not have sufficient land to cultivate. Thus they were not able to produce a sufficient quantity of maize to feed the family. The daily requirement of three meals for an adult unit in Bhardeo was approximately 1.5 *mana* or 0.4kg of maize.

On an average, each household produced only about 507kg of maize, equivalent to about 210 grammes of maize per day per person. Consumption needs were estimated to be around 150kg of maize per person, or 975kg per family of 6.5, or 259MT of maize for the community per annum. Roughly 10 per cent of the maize harvested was used as livestock feed. The estimated food deficit might run over half a metric tonne of maize per household per year. The total deficit of staple food was around 130MT per year.

Only a few households managed to grow sufficient food on their land. Such farmers either had a large area of land to cultivate and/or had better lands and/or applied a comparatively higher amount of farmyard manure per unit of land. The surplus food generated by a few households did not seem to improve the food distribution to needy households within the community significantly, although any excess produced was used locally as labour wages and reflected in the off-farm incomes of recipient households from farmland labour, construction, etc within Bhardeo (see Tables 3 and 5).

The per capita maize available in 1988 was only about 78kg. In 1971, it could have been around 110kg. Given the farming conditions (with 140ha of maize land available prior to the devastating rains in September 1981), the 1971 productivity could have been 1.4MT/ha or ca 15 per cent higher than in 1988, an amount of 130kg per capita per year of maize. The deficit of staple food was still over 13 per cent. On average there was a food deficit for over five months a year throughout the community. The Bhardeo community must have been facing food shortages for many years, forcing them, in subsequent years, to use all the resources at their disposal.