

Assigned by the Ministry of Agriculture, Forestry and Fisheries

**Report on the Survey of Rural Population  
and Agricultural Development  
in Asian Countries  
– Nepal –**

**FEBRUARY 1989**

**The Asian Population and Development  
Association**



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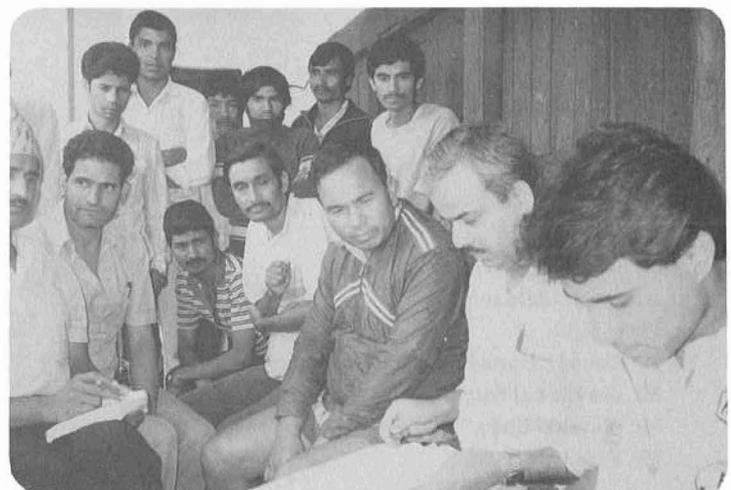
Courtesy Call to Embassy of Japan  
 From right:  
 Ambassador Kazuaki Arichi  
 Dr. Shigeto Kawano, Chief of survey team  
 Mr. Fumitaka Yuki  
 Mr. Masaaki Endo



Courtesy Call to Rashitria Panchayat  
 From right: Hon. Drona S. J. B.  
 Rana, Chairman of Rashitria  
 Panchayat Forum on Population and Development  
 Dr. Shigeto Kawano  
 Mr. Fumitaka Yuki



At Bhaktapur District Office  
 Briefing on outline of agriculture in the district



At Balakot, Bhaktapur District  
 Interviewing farmers.

## Foreword

The following report represents the results of a "Survey of the Rural Population and Agricultural Development in the Asian Countries," consigned by the Ministry of Agriculture, Forestry and Fisheries in 1988, and entrusted to be implemented by the Asian Population and Development Association (APDA) for the Kingdom of Nepal. The survey and compilation of the results were carried out mainly by members of APDA's survey committee (Chairperson: Dr. Shigeto Kawano, Professor Emeritus, the University of Tokyo).

The survey was conducted to pursue the following objective: In extending cooperation in terms of rural and agricultural development to Asian countries, it is necessary to give due considerations to enhance productivity, to develop rural community, and to improve the standards of rural life. In particular, special note must be taken to assist in sustenance of rural population carrying capacity. For this goal, a field survey will be conducted in a model district selected from among the Asian nations to determine the rural community and agricultural development programs to be implemented, with the objective of maintaining and enhancing the population carrying capacities. The results will establish a guideline for Japan's international cooperation in the area of agriculture, forestry and fisheries.

The field survey in the Kingdom of Nepal was conducted with the guidance and cooperation of Hon. Drona S. J. B. Rana, Chairman Rashitria Panchayat Forum on Population and Development, and the members of the Japanese Embassy in the Kingdom of Nepal, Mr. Kazuaki Arichi, Ambassador, Mr. Takashi Muromoto, Second Secretary. Also, the secretariat of Rashitria Panchayat of the Kingdom of Nepal extended their support in the implementation of the survey. In Japan, members of the International Cooperation Division, Economic Affairs Bureau, the Ministry of Agriculture, Forestry and Fisheries, and Aid Policy Divisions, Economic Cooperation Bureau, the Ministry of Foreign Affairs, cooperated in the guidance of the survey substance and arrangement of the field survey. I would like to extend my deepest gratitude to these people.

I sincerely hope that this report would hopefully contribute to the advancement of the rural community and agricultural development programs in the Kingdom of Nepal, as well as support the Japanese Government's cooperation there in an effective manner. Furthermore, I would like to note that this report was compiled by and is the sole responsibility of APDA, and does not reflect any views nor policies of the Ministry of Agriculture, Forestry and Fisheries or the Japanese Government.

February, 1989

Tatsuo Tanaka  
Chairman  
The Asian Population and  
Development Association

## C O N T E N T S

Foreword .....	3
Chapter 1 Overview .....	7
1. Nepal, A Late- and Under-Developed Country .....	9
2. Economic and Social Development Plans Supported by Foreign Assistance .....	10
Chapter 2 General Situations of Agriculture .....	15
1. Basic Characteristics of Agriculture .....	17
2. Agricultural Production .....	18
3. Forestry .....	19
4. Livestock .....	19
5. Development Plans and International Cooperation Tasks in Agriculture .....	20
Chapter 3 Present Situation of Surveyed Districts .....	25
1. Bhaktapur District .....	27
(1) Outline of Bhaktapur District .....	27
(2) Agriculture and Stock Farming Conditions in Bhaktapur .....	28
2. Kavrepalanchok District .....	29
(1) Outline of Kavrepalanchok District .....	29
(2) Agricultural and Stock Farming Conditions in Kavrepalanchok District .....	30
Chapter 4 Studied Villages .....	35
1. Balakot Village (Bhaktapur District) .....	37
(1) Outline of Balakot Village .....	37
(2) Social and Economic Conditions in Balakot Village .....	38
(3) Agricultural Conditions in Balakot Village .....	41

**CHAPTER 1**

**OVERVIEW**

## 1. Nepal, A Late- and Under-Developed Country

The United Nations in 1971 designated Nepal, together with Bangladesh and Burma, as one of the "poorest countries" in the world, and said that such extreme poverty is attributable to fundamental social and economic conditions.

"The GDP per capita is about \$80, and its growth rate is 2.8%, while the population increase rate has reached 2.5%." (D. Seddon, Introduction to A State of Poverty, 1987: Vikas Publishing House, New Delhi) Thus, the growth rate of GDP per capita is almost nil. Ninety percent of the population is engaged in agriculture, and the caloric intake per person per day is below 2,000 calories, the lowest level in Asia.

These are some of the indices which directly indicate the low economic level of Nepal. There seem to be underlying factors for this. First, Nepal is a new country which has come to the international market only recently. Nepal abandoned its policy of national isolation and opened its door to other countries after the Imperial Restoration in 1951. It is self-evident that a country will be left behind in the international economic development, if it places limitations on international exchange and distribution of its resources, technologies, products, and capital, because the world economy is based on a wide range of exchanges of these elements.

In addition, its temporary Constitution, which is more like a constitution granted by the King, declares the "construction of a welfare nation" as its basic principle. This fact reflects the situation in which Nepal finds itself far behind other nations in the field of human welfare. Therefore, it is all the more important for Nepal to aim at the "liberalization of human ability," because Nepal is so far behind other countries in this area. Thus, the Constitution declares "the equality of the sexes concerning acquisition of living materials," "distribution of possessive right and control of social resources so as to benefit the overall people", and "prevention of unequal distribution of wealth and production resources." It also determines to "champion the weak of the society", guarantees "equality before the law, abolition of the discrimination by region, race, caste, and sex, as well as equal employment opportunity in government-related works". It also declares "the rule of law, the freedom of body and property," and prohibits "compulsory labor and human traffic" (Kenichiro Nishizawa: Social Structure, Politics and Economy in Nepal, 1987, p.157). This suggests that these basic human conditions have not been met in Nepal. In fact, many argue that this is the very reason for its lower national economic level.

in a country where economic development is well under way, along with a continuous and stable increase in its income level, it is natural that the demand on the food supply will show an elastic increase.

In a town near Kathmandu, where we conducted a field survey, we witnessed that the prices of pork and chicken were one-fourth of the Japanese prices, and that the price of cigarettes was also one-fourth, while eggs were two thirds of the price of Japanese eggs (exchange rate: 1 rupee = ¥5.5). On the other hand, the retail price of rice was one-tenth that of the Japanese price for rice.

Taking into consideration that Nepal's real national income per capita is less than the one-tenth of Japan's national income, the above price structure is already too high in comparison. However, in comparison with Japanese prices, the relative prices of livestock products, including eggs and chicken are especially high, with the price of eggs at an extremely high level, although the price of eggs is exceptionally cheap in Japan. Therefore, it is expected that the demand for livestock products will increase rapidly as income increases. We consider that the present price structure in Nepal is a critical problem.

Unfortunately, however, agricultural development in Nepal has not attained the expected results. It cannot be denied that a series of development projects could not be carried out as planned due to a shortage of funds and related problems. However, there seems to be other problems which have hindered sound agricultural development. What are these other problems, and how is it possible to solve them? This is the task of our research. First, we need to analyze the actual results of the agricultural development program.

Table 3 indicates changes in production in the last 25 years. Based on this data, Nepal's Statistical Pocket Book 1988 concluded that in the year 1985/86, total production of rice, corn, wheat, barley, and millet was 4,437,610 tons, which met the overall consumer demand. However, as described above, the consumption level is still very low in Nepal.

Our overall impression is that production is stagnated compared to the 2.6% growth in population. Rice-growing acreage has increased by 250,000 hectares in these 25 years, or about 10,000 hectares per year, registering a 1% yearly growth. Yet, the amount of yield has rarely grown, sometimes has remained level, or has even tended to decline. In case of corn, the growing acreage has increased slightly, but the yield per hectare also has declined slightly.

Wheat-growing acreage has expanded three times, yet the increase in yield has remained minimal. Sugarcane is the only exception, and here, both acreage and yield have doubled. However, seed oil shows an increase in acreage while its yield has remained almost static.

Table 1: Position of Government Development Expenditure

	(million rupee)			
	1984/85	1985/86	1986/87	1987/88
Total expenditure	8,395.0	9,797.1	11,872.7	15,187.7
Ordinary expenditure	2,906.2	3,584.0	4,313.7	4,961.7
Development expenditure	5,488.8	6,213.1	7,559.0	10,226.0
Total government revenue	4,840.1	4,644.5	5,815.0	7,355.8
National revenue	3,916.6			
Foreign gratuitous aids	923.5	1,172.9	1,489.2	2,492.2
Fiscal balance	-3,554.9	-3,979.7	-4,568.5	-5,339.8
Fiscal deficit compensation				
Loans from foreign countries	1,754.9	2,501.1	2,847.0	4,109.8
Domestic loans	1,800.0	1,403.4	1,721.5	1,230.0
Cash balance	-	75.2	-	-

Source: HMG, Budget Speech of the Fiscal Year, Asia Population and Development Association, Population, development, and environments in Nepal, 1987, P.57.

Table 2: Government Expenditure for the 6th and the 7th Development Plans

	(million rupee)			
	6th Plan		7th Plan	
	Expenditure	%	Expenditure	%
Agriculture, Irrigation, Forestry	6,600.0	30.4	9,840.0	30.6
(Agriculture)	(2,300.0)	(10.6)		
(Irrigation)	(3,060.0)	(14.1)		
Manufacturing, Mining, Electric power	5,600.0	25.8	8,360.0	26.0
(Manufacturing and mining)	(1,700.0)	(7.8)		
(Electric power)	(3,800.0)	(17.5)		
Transportation, Communication	4,230.0	19.4	5,690.0	17.7
Social services	1,660.0	7.6	8,260.0	25.7
Others	3,660.0	16.8		
Total	21,750.0	100.0	32,150.0	100.0

Source: Rising Nepal, Asia Population and Development Association "Population, Development, and Environment in Nepal," 1987, p.58

## **CHAPTER 2**

### **GENERAL SITUATIONS OF AGRICULTURE**

## 1. Basic Characteristics of Agriculture

Agriculture is the most important national industry in Nepal. In 1986, agriculture accounted for 62% of the Gross Domestic Product, and 93% of all employed people were engaged in agriculture (His Majesty's Government, 1986/87). The agriculture sector plays an important role in domestic production and provides the employment opportunities for the Nepalese people.

Nepal depends heavily on agriculture as the degree of industrialization is still very low. One factor hampering Nepal's industrialization is that the country's small population, with the lowest per capita income in Asia, provides only a small domestic market. Because of such smallness of domestic market, the scale of economy necessary for industrialization has not been realized. Secondly, because Nepal is a land-locked country and has open borders with India, it is almost impossible for Nepal to adopt measures protecting its domestic market.

The real economic growth rate in the agricultural sector (growth rate at real added value) was 1.1% for 1965-1980 and 4.8% for 1980-1986 (World Bank, 1988). The growth rate for the 1980's has shown a substantial increase, but this should be seen as a temporary phenomenon caused by weather and other conditions. As a long-term trend, Nepal's agricultural growth has maintained only the speed compatible to its population growth rate.

In 1986, commercial import of cereals and receipt of food aid amounted to 30 million tons and 90 million tons respectively. Imported food and food aid received were 1.7kg and 5.1kg on a per capita basis. In Bangladesh, which is also one of the poorest countries in Asia, both per capita commercial imports and receipt of food aid amounted equally to 12kg in 1986. Thus, one can see that Nepal's agricultural performance is not as bad as in Bangladesh (World Bank, 1988). But on the whole, agricultural growth in Nepal has achieved only simple reproduction. The nutritional intake per person in Nepal is around 2,000 calories per day, the lowest level in Asia (World Bank, 1988).

The largest driving force behind Nepalese agriculture has been its high population growth. Nepal's agriculture has adapted to its high population growth by intensifying the utilization of the environment. As Nepal's rice paddy fields show, all arable agricultural lands are being fully used. Deforestation and top-soil erosion illustrate that the available land is being over-utilized. The migration of the population from hilly and mountainous areas to Terai, where irrigation is possible, is continuing, and this phenomena is also one aspect of intensifying the utilization of the environment.

Nepal's grain yield per hectare is the lowest in Asia. For

reached the saturation point, and has failed to keep pace with population growth. It is also difficult to introduce high-yielding crop seeds, and agricultural chemicals and fertilizers due to the economic restrictions on the farmers. Most farming households in Nepal are too small to make investment for the irrigation facilities vital to increasing and stabilizing the production of main crops.

### 3. Forestry

The vertical distribution of vegetation in Nepal reflects its geographical conditions; the land area runs about 180 kilometers from north to south, and has mountains of some 5500 meters above sea level. The highland grassland belt spreads above 3700 meters, coniferous arbor forests above 2700m, evergreen laurel forests above 1500m, and subtropical forests below that level. The forest resources are used as livestock feed and for fuel. People depend on timber for 40% of all livestock feed used and 75% of all fuel. Forests occupy 5.5 million hectares, making up 37% of the land area of Nepal.

As shown in Figure 4, forest land use (tree types), the largest group is the broadleaf at 37.8%, followed by mixed and conifer forests. Tree-size classification in Figure 5 shows that small timber makes up the majority.

Even though the statistics such as FAO's production yearbook has not indicated the rapid decrease of forestry in Nepal, it is a widely-known fact that deforestation has proceeded rather rapidly. The Master Plan for the Forestry Sector Project emphasizes that tree planting and other steps should be taken to combat the rapidly proceeding deforestation.

### 4. Livestock

Nepal does not have an intensive livestock industry because of the difficulty in securing the feed and grazing land necessary for intensive livestock farming. Potential grazing land is used mostly for agricultural production. The Nepalese diet uses dairy products but little pork and beef due to religious reasons.

Figure 6 shows the livestock population in 1986. Poultry made up the largest group, followed by cattle, goats, and buffalo. Large numbers of poultry are raised by farm families for their eggs and as a meat source. Cattle, considered a sacred animal, grazes around freely. Some cattle are used in cultivation, but the chief aim of raising cattle is their use as milk source. They are never used as a meat source. The need for beef is met primarily by imports from India. The mountains and

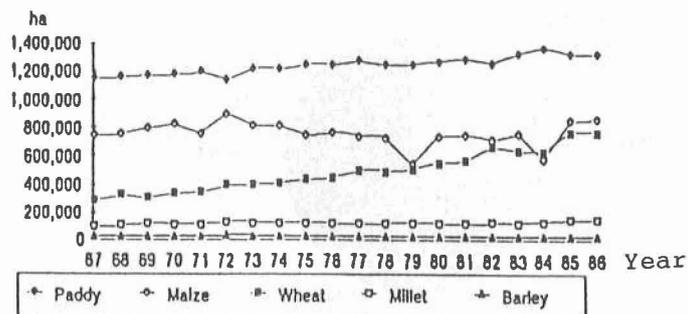
to the current standards of the basic human needs. The key point, however, is the more efficient utilization of the development funds including the financial aid. As Nepal's plan clearly acknowledges, increasing the efficiency of utilizing development expenditures is no doubt the most important issue.

The Japanese should pay more attention, not only to putting more money and men into building infrastructure and irrigation facilities, but also to the efficiency of such projects. For example, full-scale experimental research should be carried out to identify the farming methods best suited to Nepal's ecological system. This includes the improvement of crop breeds that are suited to the environment in Nepal's hills and mountains. Forest-related studies to stop soil erosion is another important aid task in Nepal.

Reference:

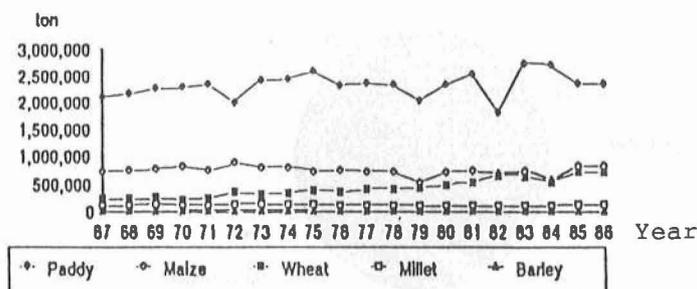
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Figure 1: Periodical changes on planted area of main crops during 20 years



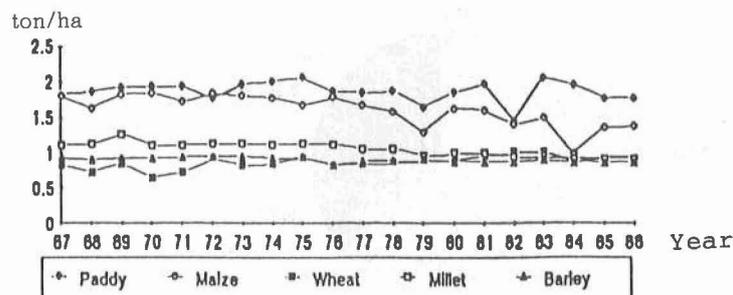
Source: Ministry of Agriculture *Agricultural Statistics of Nepal*, 1983

Figure 2: Periodical changes on yield of main crops during 20 years



Source: Same as Figure 1

Figure 3: Periodical changes on yield in ton per hectare during 20 years



Source: Same as Figure 1

## **CHAPTER 3**

### **PRESENT SITUATION OF SURVEYED DISTRICTS**

## 1. Bhaktapur District

### (1) Outline of Bhaktapur District

Bhaktapur District is located in the eastern part of the Kathmandu Valley of Bagmati Zone, in the Central Development Region. The center of the district is Bhaktapur, which was one of the capitals of the Malla dynasty until it was occupied by the Shah Dynasty in the late 18th century. Compared with Kathmandu or Patan, Bhaktapur has still maintained, the traditions of the unique Newar Culture.

The town panchayat, which had a population of 48,472 as of 1981, accounts for 30.3% of the total district population. Besides town panchayat, there are 21 village panchayats and these surrounding areas have been known as granaries since olden times.

The total district population was 110,157 in 1971 and 159,976 in 1981. It registered a big 45.04% increase in ten years. Annual average population growth rate is 3.79%, which far exceeds the national average of 2.66%. (See Table 1) (According to the survey by the District Government, the total district population in 1987 was 160,868, and the total area was 138 square kilometers, and thus, the population density of the district is 1,165.7 persons per square kilometers.) This large population growth is due not only to natural increase but also to increasing immigration from both the Terai and the hill areas. This is evidenced by the fact that the native Newar population increased from 69,274 in 1971 to 79,058 in 1981 while the population of the people whose mother tongue was Nepali increased by 88.0%, from 36,882 to 69,336. Furthermore, the population of Taman showed a rapid increase of 96.6%, from 3,862 to 7,594. Moreover, the names of other ethnic groups, including the Abadhi, Rai&Kirati, and Rajbansi have appeared since the 1981 statistics were compiled, none of which were found in the 1971 statistics. Therefore, the ratio of Newars in the total district population has declined from 62.9% to 49.5% in the last ten years. (See Table 2.)

Of the total economically active population of 69,225 in 1981, those who engaged in agriculture accounted for 81.4%, followed by service works at 8.2%, commercial business, 5.5%, manufacturing 2.0%, and other occupations, 2.9%. In this survey, 31.9% of the female population were housewives and were excluded as part of the economically inactive population. Therefore, the actual agricultural population seems to be greater than this data indicates. Yet, compared to the overall work force composition in Nepal, Bhaktapur has a more non-agricultural population, and this fact indicates that Bhaktapur has enjoyed some degree of prosperity as a city of commerce, hand manufacturing, and technical arts since ancient times. (The ratio of agricultural population in Nepal as a whole is 91.1%.) It seems that many of those who are engaged in service are commuting to Kathmandu by

money from the ADB (Agricultural Development Bank), and both money and crops can be accepted as payment.

According to a District Government survey, there are 6,433 traditional milking cows and 4,797 improved milking cows in the district. Improved milking cows have been gradually introduced in the last 10 years or so, and the amount of milk they can produce is substantially greater than that of native cows. Since the cow is a sacred animal for Hindus, the Nepalis never eat them. There are also 3,970 native water buffaloes and 6,027 improved type of buffaloes. They are kept for the purpose of milking, cultivation, getting manure, and are also grown as a source of meat. Straw and grass are used as fodder in most cases, but the shortage of feed has become a serious problem. Only a few farmers use assorted feed, which is sold at 150 rupees for a 50-kilogram bag.

The cultivated land area per farming household has declined compared to the farm land available 10 years ago, due to the increase in the population. As a whole, however, the rice paddy area has increased because of the spread of irrigation facilities, and the living standard has gradually improved thanks to the improvement of roads, electricity, and water supply facilities. An official of the District Government said that they would like to promote technological innovations and popularize more improved types of crops, as well as make additional efforts to promote fruit farming.

## 2. Kavrepalanchok District

### (1) Outline of Kavrepalanchok District

Kavrepalanchok District is located in the hilly area, the northeast of Bagmati zone, in a Central Development Region. The center of the district is Dhulikhel, a town which is famous for its views of the Himalayas. In the district, there are two town panchayats, Dhulikhel and Banepa, and 93 village panchayats. The total population of the district was 245,162 in 1971 and 307,150 in 1981, registering a 25.28% increase in 10 years. The natural annual increase rate is 2.29%, which is slightly lower than the national average of 2.66%. The total area of the district is 1,396 square kilometers, and the population density was 170 persons per square kilometer in 1971 and 220 persons in 1981. (See Table 1)

Of the total population, the people whose mother tongue is Nepali, accounts for 63.4%, the share of the Tamang is 23.5%, and the Newar account for 9.6%. Thus, these three major ethnic groups account for as much as 96.5% of the total population. The ethnic groups of Tibet and Burmese are declining, while the Maithali and Bhojpuri have immigrated gradually from the Terai area. (See Table 2.)

rupees, and only 10% of the cows are the improved type, due to such high prices. The District Government wants to increase the number of improved-type cows. Yet, nine tons of feed is required annually to raise one improved type of cow. Therefore, it will be difficult to increase the number of improved-type milking cows in a short period of time without the solution of the feed shortage problem.

The forest area covers 28.2% of the total area of the district, and areas of thin woods make up 24.4%. Both combined, more than half of the land are wooded areas according to the District Government survey. Compared with the data for 10 years ago, the forest area as whole has been increasing partly due to a Nepalese-Australian project. Besides national forests and Panchayat forests, there are individually-owned forest. Since free nursery trees are provided which are grown at a nursery plant center at Panchkhal, trees are being planted at a rapid pace on individually owned land as well.

Table 2 Racial groups by mother tongues in Baktapur and Kavreparanchok

	Bhaktapur		Kavreparanchok	
	1971	1981	1971	1981
Nepali	36,882	69,337	143,605	194,853
Maithali	26	401	5	1,668
Bhojpuri	1	72	-	206
Newar	69,274	79,058	26,311	29,611
Gurung	2	515	23	461
Taman	3,862	7,594	72,605	72,042
Abadhi	-	102	-	68
Tharu	-	12	2	31
Magar	-	71	439	648
Limbu	-	18	-	10
Rai & Kirati	-	480	49	1,723
Bhote & Sherpa	15	103	1,165	237
Thakali	-	9	-	53
Rajbansi	-	322	-	134
Satar	-	8	-	11
Sunuwar	-	6	65	71
Danuwar	-	38	233	1,280
Sinthali	-	3	-	426
Local	55	-	642	-
Others	40	1,613	21	3,617

Source: Nepal District Profile; Population, National Research Associates, 1987

**CHAPTER 4**

**STUDIED VILLAGES**

## 1. Balakot Village (Bhaktapur District)

### (1) Outline of Balakot Village

Balakot Village Panchayat is located at the west end of Bhaktapur District and borders on Lalitpur District. It takes about 20 minutes by car to travel from the center of Kathmandu to the village. The village is a part of a typical rural region in the Kathmandu Valley where you see reaches of paddy and maize fields in the rainy season. In the north of the village, the so-called Kodari road runs from east to west.

The village population in 1987 was recorded at 4,037, and there were 664 households. The average number of family members was 6.1 persons (District Government's survey). The village is further separated into nine wards. We conducted surveys in a total of 21 households in the village: 4 in the ward No. 1, 5 in the ward No. 2, 7 in the ward No. 5, and 5 in the ward No. 6. [Table 1, Map]

About 40% of the village population is made up of the Newar and another 40% of the population belong to the upper castes of the people called "Parbati", whose mother language is Nepali. The rest of the population are made up of the lower caste Parbati, or have other ethnic backgrounds. These different ethnic groups and castes are blended in the area, and people of the same caste or the same ethnic group do not always live together in a certain area.

Balakot Villages forms the Ilaka No. 7 (administrative area) of Bhaktapur District, together with Dadhikot Village and Sirutar Village, two neighboring villages on the southern border. (Bhaktapur District has nine Ilakas, and one Ilaka usually consists of two to three village panchayats.) As clearly indicated in the map, all the welfare facilities (welfare office and health posts) and development facilities (Agricultural Development Bank, irrigation facility, and embankment) are in Dadhikot Village. There are no such facilities in Balakot Village.

In Balakot Village, there is a village office in the ward No. 5, and seventeen village representatives and two clerks are working there to provide villagers with consultations and to negotiate with the District Government on behalf of the village residents. But none of them receive salaries for doing so. Next to the village office, there are a small community center and a nursery school.

A concrete bridge connecting Balakot Village and the Kodari road was completed five years ago, and it now has become much easier to go to Kathmandu. However, a pedestrian bridge directly connected to the town of Patan has been broken, and those who go to Patan in the early morning to sell vegetables at market are experiencing great difficulties. An electric power service was started nine years ago, and now most houses use electricity for lighting. The electricity charge for a month is

The total number of people surveyed in the 21 households in Balakot Village was 162, with an average number of 7.7 family members per household. This is slightly higher than the average number of family members in the village as a whole, which is 6.1 persons. In particular, the average number of family members in the ten Newar households surveyed was 8.9 persons, while that of the average Parbati family is 6.6 persons. This is because the Newar tend to have large families. However, as seen in example No. 10, in the case of a Newar large family, the family members may live in different houses, even though they are unified economically as a family unit controlled by a father or the eldest brother.

As for the demographic structure of the village population, there are 86 males and 76 females. There are 49 members below the age of 10 years (30.2%), 36 teenagers (22.2%), 32 are in their 20's (19.8%), 13 are in their 30's (8.0%), 12 are in their 40's (7.4%), 8 are in their 50's (4.9%), and there are 12 people who are 61 years of age or older (7.4%). Thus, those who are younger than 20 years of age account for more than half of the total population.

A unique feature found in Table 4 is that, although the village is in a agricultural area of Kathmandu Valley, there are only a small number of farming households which make their livings with agriculture. According to the responses to our questionnaires, agricultural income of the surveyed households accounts for only 16.1% of total cash income. Households which earn their income through agriculture are only Newar families who live in the ward No. 5 and No. 6 of the village. At the actual interviews we conducted, it was found that they generally produce agricultural products only for domestic consumption, and their cash income is earned from other sources.

The most popular income source other than farming is office work in government agencies, public services, and business companies in Kathmandu. On average they can earn 1,500 to 1,800 rupees for general clerical work per month (about 70 - 85 US dollars), 700 to 800 rupees for lower rank jobs, and 500 rupees for odd jobs. There are also some villagers who earn 800 rupees for temporary construction work. In the dry season, many houses are rebuilt in Kathmandu and Patan. Those who belong to the upper caste in cities do not like manual labor, and as a result, job opportunities in construction are given to farmers, such as those in Balakot. There are also some people in the village who run tailoring, variety stores, or tea shops. In the busy farming season, they have to participate in joint labor, and in such cases, 50-60 rupees are paid to each man, and about half of the same amount is paid to women or children. The average annual income of a household, other than farming income, is 11,086 rupees (about \$500) on the average.

The size of the cultivated land area by one household varies from farmer to farmer. Some have four ropani, while others have as much as 30 ropani (One ropani corresponds to about 0.05 hectare.). Our sample

### (3) Agricultural Conditions in Balakot Village

#### <1> Agricultural Production

The primary produce in Balakot village is rice grown in paddy fields. The planting of rice-seedling beds usually starts in the middle of May, and the transplanting takes place sometime between mid-June and the end of June, when the rainy season starts. Farmers weed several times in a season, and the rice is harvested after October. Wheat as a winter crop is planted in the middle of November, and harvested after the middle of April. Other main crop is maize, which is planted in April and harvested in late August. Beans are planted in the maize fields or along the furrows between the paddy fields. Traditionally, oilseed is grown as an cooking oil source, but the amount has been declining as the use of bean oil and imported cooking oils are increasing. In addition, near each farmer's house, cucumbers, garlic, peppers, pumpkins, and other garden vegetables are grown, mainly for domestic use.

The overall ratio of paddy fields to other cultivated fields is about 7 to 3. The results of our sample survey also show that paddy fields account for 67.0% of the total land under cultivation. The water supply for the paddy fields relies mainly on rain, and only four out of 21 households have some kind of irrigation facilities, such as temporary channel.

There are no statistical data available concerning the amount of agricultural production in the village as a whole. However, the total agricultural production of the 21 households surveyed amounted to 40,729 kilograms, or 1,940 kilograms per household: paddy, 29,500 kilograms (72.4%); wheat, 6,682 kilograms (16.4%); maize, 3,188 kilograms (7.8%); oilseed, 703 kilograms (1.7%), and other produce, including beans and potatoes, 656 kilograms (1.6%). On average, one farming household produces 1,405 kilograms of paddy, 318 kilograms of wheat, 152 kilograms of maize, 33 kilograms of oilseed, and 31 kilograms of other products.

Based on our sample survey, the average yield of paddy per hectare is 4.76 tons, which is greater than the average yield of Bhaktapur District, at 4.15 tons per hectare. Two or three farmers can produce only three tons per hectare due to their deteriorating farming conditions, while more than the two-thirds of the farmers can produce 5 tons of paddy per hectare, and there are even some farmers who can produce 6 tons or more.

In the Kathmandu Valley, an improved variety of rice strain, called "Taichin," and which originated in Taiwan, was introduced about 24 years ago. Presently, most farmers grow this variety in Balakot Village. It is said that when this new type of rice was first introduced, they could produce more than 8 tons per hectare. However, as the seed rice has continued to be taken from the harvested rice, the yield has been

There are no ADB (Agricultural Development Bank) in Balakot Village, but there is one in the adjoining village about three kilometers away. They can borrow money at an annual interest rate of 14% to 18%. Usually, however, the Bank limits individual loans to half the appraised land value, and in some cases, it provides a loan in kind, including fertilizer. In general, they tend to borrow money from friends or relatives. There are a few people who deposit money in banks nearby. Interest rates are 8% for ordinary deposits and 13% to 14% for time deposits. However, it does not seem that they have substantial amounts of savings.

In Bhaktapur District, eight JTs (Junior Technicians) and 12 JTAs (Junior Technical Assistant) are stationed there as agricultural improvement advisers. People in Balakot Village know that there is such a system, yet, they told us that they had never met them nor seen their activities. The people in Balakot also strongly desire to expand irrigation facilities, but do not have any such organization as the IOU (Irrigation Users Organization).

The above results indicate that the policies which the Ministry of Agriculture and the District Government try to promote are not widespread throughout the area. The people in Balakot Village have nothing to do with Agricultural Cooperatives or the Agricultural Development Bank, and they have not received any instruction or guidance from agricultural improvement advisers. Nor have they formed an Irrigation Users Organization. There seems to be a wide gap of opinions on agricultural development between the administrative level and the village level.

### <3> Cattle

Our sample survey found that 12 farming households, or more than half of the samples, have milking cows. (two farmers have three cows, four farmers have two, and six farmers have one.) Such dairy products as milk and yogurt are very valuable in their diet, and cows' dung is used as fuel, as well as fertilizer. Milking cows are fed chiefly on straw, corn cobs and leaves.

Only one farmer has a water buffalo. Besides milk and manure, water buffaloes are kept for their meat. They are seldom used for farming. In addition, nearly half of the households have goats and sheep, which are also meat sources. As seen at the "Dasain" Festival, the goat is an important ritual animal. Eight farmers raise chickens for eggs and for meat, but only one farmer raises them (14 chickens) on a commercial basis. Other farmers have chickens meant only for their own consumption.

As a whole, cattle are important in the people's lives in the village for both their diet and as a source of fuel and fertilizer. However, there is no large-scale stock farming partly due to the

loans, develop distribution channels for farm products, and receive agricultural management guidance, but they did not express strong desires for these items. [Table 6]

All the respondents answered that they need better health and sanitation facilities for the improvement of their living standards. There are no health posts in Balakot Village, and no health workers ever visit the village. The most often seen ailments observed among the villagers were diarrhea and fever, which seem to be caused by infectious diseases. If a patient is not in serious condition, they use traditional measures, including drinking boiled water, etc. However, if the patient becomes seriously ill, they call a taxi to take him to a hospital in Kathmandu. Doctors who give advice about family planning sometimes visit the village for consultations. The desired number of children is two or three. The respondents have strong desire for hygienic water and better education facilities, while they are not much concerned with the improvement of roads and transportation services. [Table 7]

Nevertheless, the most serious social problem for the villagers is that there are only a few job opportunities. Even when they graduate from high school after a great effort, it is still difficult to get a good job. Foreigners visiting Nepal often express their impression that Nepali men do not look diligent. They say that the women in Nepal always look busy with farming, water drawing, and house work, while the men seem to be idling away their time. However, there are no jobs, even if they want to work, in the leisure season for farmers. As previously mentioned, it is difficult for most of the farmers to earn cash incomes from farming. Thus, the amount of income they can get from work other than farming determines their living standards. In recent years, various factories and plants have been under construction in Bhaktapur, Timi, and their suburban areas. The people in Balakot strongly desire and highly expect that there will be a work place near their village in the near future.

## 2. Bhagabati Village

### (1) Overview of Bhagabati Village

Bhagabati is a village located in the hills in the northwest of Kavrepalanchok District. Taking the Kodari road from Kathmandu to the east, you will pass the old city center of Bhaktapur on your left. Then, going through the terraced paddy fields that march up the steep hillsides, you arrive at the Dhulikhel, which is known for its beautiful views of the Himalayas. Then you go over the pass down to the Panchkhal and leave the Kodari road to turn right at Damidala. As you climb up the hill and thread your way through corn and grass fields, you see Bhagabati Temple, the center of Bhagabati Village. It is a two-and-half-hour drive from Kathmandu.

situations in these two wards differ greatly. In the center of Ward No. 9, the Newar people live on both sides of the road, and the people of the upper caste Parbati live in the surrounding area. These residents have access to the electricity and water supply facilities mentioned above. They sometimes go to Kathmandu for work during the farmer's slack season. They also participate actively in the village assembly or local development projects. In contrast, Ward No. 6 is 40 to 50 minutes away from Ward No. 9, and no major development or infrastructure have been achieved so far. Many of the residents in this community are people of the lower caste Parbati, or those who have an ethnic origin of the Tibet-Burmese language family. There are only a few people who have ever been to Kathmandu, and the average villager is completely ignorant and indifferent of the country's present political system, and Nepali administrative organizations.

We chose these two different sections as research subjects because they have different characteristics, although they are located in the same area: One community enjoys the benefits and positive effects of local development and administrative efforts, and a cash economy is gradually penetrating; the other community is isolated from such influences and the people still live in a self-sufficient economy. Through a comparative analysis of these two communities, we will clarify the present problems and future tasks for the development of Nepal.

## (2) Social and Economic Conditions in Bhagabati Village

As shown in Table 3, the average number of family members per household is 7.8 people in Ward No. 9, the largest in the village. By comparison, Ward No. 6 has the lowest average, with 5.5 people. (the average in the whole village is 6.2 persons). This difference is further evidenced by our sample survey. The average number of family members in the ten households we studied in Ward No. 9 was 12.4 people, while that in Ward No. 6 was 4.7 people. In Ward No. 9, three households have more than fifteen family members, and all of these families are Newars. Household No.1 in the Table has 37 family members. In it, five brothers live together as a family unit, even after marriage, although they live in three different houses on the same lot. Household No.2 also has three married brothers living together, and in the case of household No.3, a couple and their two married sons live together. As seen in Balakot Village, the Newar people tend to have large families, and they consider people who share the same household accounts as a family, even though they may live in separate houses. As a rule, the father or the eldest son manages the economic activities of the household.

In Ward No. 6, there are many small families. Household No.11 is a case of one where a man has two wives. In the lower caste Parbati families, it is not unusual to have two or more wives.

service began operating which makes it easier for people to work in the cities. We found in our interviews that even those families that responded by saying they had no cash income in reality go to work in the towns, and earn some cash income, though not much. Even if they have to go to town for work, they never settle there. They consider that the base of their life lies in the village where they grew up, and nowhere else.

As regards family expenses, some families must buy rice because they cannot produce enough to support the entire family. In addition to sundries and clothing, expenses for chemical fertilizer and the childrens' educations require significant proportions. The Bramin, who have a long academic tradition, and the Newar, who are connected to the civilized Kathmandu Valley in many ways, are highly interested in education. They think that children should have at least a secondary school education. The village has a lower secondary school, and many parents send their children to the secondary school in the neighboring village. There are even some families which send their children to a dormitory of the campus in Panchkhal. No tuition is required for primary school, but it costs about 15 rupees a month for lower secondary school fees. Tuition for secondary school is 28 to 35 rupees a month. Thus, if a family is sending three children to school, it generally costs 150 rupees, including tuition and additional expenses. Nevertheless, many parents told us that they wanted to make the effort if their children want to have higher educations at a campus or a college. In fact, some parents sold farm land to send their children to a college.

The situation in Ward No. 6 is absolutely different. The community does not have the benefit of electricity. Since there are no water pumps, the people must draw water every morning and evening. This task requires about an hour and a half to two hours. There are almost no opportunities in the community to earn cash incomes. When necessary, they sell goats (250-300 rupees per goat) or go to town to sell bananas or vegetables. For just a few days in the busy farming season, they have the opportunity to work in the paddy fields on the opposite side of the Jikukhola River and earn 12 rupees per day, plus lunch. There are only a few households who own paddy fields. Their staple food is corn, and they also grow dry-field rice, millet, and soy beans. Many of the people have never been to Kathmandu. If there is the opportunity, they go to Banepa, but only once or twice a year. They have almost no contact with the outer world, and they are generally reluctant to go out of the village.

The land in Ward No. 6 is mostly owned by the Bhagabati Temple. However, the tenancy fee (contribution) is 2 pati (or 7 kilograms of maize) for one ropani of field, and it can be said that tenancy is not a big burden. However, since the farmers do not possess property rights, they cannot borrow money from a bank.

addition, a few families grow wheat, and others grow soy beans and millet. The production of millet grass has recently been declining.

Ten samples in Ward No. 6 grow a total of 8 ropani of dry-field rice, 2.3 ropani of wheat, and 92.6 ropani of corn, in addition to a small amount of beans and millet. None of the households have paddy fields. An overwhelmingly large portion of the land is used as maize fields. The total agricultural production of these ten households amounted to 4,731 kilograms, which is 135.2 kilograms per person over age 11. The production levels are as follows: 738 kilograms of paddy (15.6%), 79 kilograms of wheat (1.7%), 3,407 kilograms of maize (72.0%), 479 kilograms of millet (10.1%), and 28 kilograms of beans (0.6%). As indicated in this data, they have only small rice production capabilities, and the main product of the community is maize. Compared with other research results, the ratio of millet is especially high in Ward No. 6. The average yield is 1.85 tons per hectare for dry-field rice, 0.70 tons for wheat, and 0.74 tons for maize.

#### <2> Chemical Fertilizers, Farm Tools, and Improved Crop Varieties

All the samples studied in Ward No. 9 use chemical fertilizers. In most cases, they buy chemical fertilizers from traders who come to Bhagabati from time to time. At other times they go to Damidala in Panchkhal to buy fertilizer. The total annual expenses for chemical fertilizers for the ten households is 16,229 rupees, which accounts for 19.5% of the total annual income reported by the questionnaire survey. Our interviews revealed that they have some cash income that was not reported in the questionnaire survey, and thus, the above ratio is not correct in a strict sense. Nevertheless, it is still true that they spend a greater proportion of their income for chemical fertilizers. Excluding households No.1 and No.3 as exceptional cases, each household spends 778 rupees a year for chemical fertilizer on the average. The government's suggested price for a 50 kilogram bag of fertilizer was 210 rupees, but the same amount of fertilizer now costs almost 300 rupees. This means they use two and a half bags every year. Based on a simple calculation, they use 157 kilograms of fertilizer (940 rupees) to produce a ton of paddy, 177 kilograms of fertilizer for a ton of wheat (1,060 rupees), and 118 kilograms of fertilizer for a ton of maize (710 rupees).

On the other hand, among the ten households surveyed in Ward No. 6, only six of the households used chemical fertilizer. The total value of the fertilizer used was only 1,849 rupees. In general, they use cattle manure. A simple average indicates that they use 107 kilograms of fertilizer (640 rupees) for a ton of paddy, 67 kilograms for a ton of maize (400 rupees).

The farm tools generally used include small plows (kodali), small hoes (kodalo), sickles (hashiya), and reaping hooks (kuto). In addition, most households have an ax (bancharo), and hatchet (khukuri).

no problem in obtaining feed for animals . However, in the dry season, it is considerably difficult to secure enough feed. If the problem of feeding were solved it is expected that more households would have cattle.

The number of domestic animals kept in Ward No. 6 is much smaller, but the overall situation is very similar.

(4) Living Conditions, Peoples' Perceptions and Prospects for Improvement

<1> Living Conditions

In the center of Bhagabati Village, electricity was installed two years ago, and about half of the families in Ward No. 9 are currently using electricity as a source of light. The remaining half use kerosene lamps, but the electricity service network is gradually expanding so that an increasing number of households are expected to have electricity. They use electricity only as a light source, except in the household previously mentioned that operates the rice-cleaning mill. There was an indication that they want to use electricity for poultry farming, and the use of electricity for purposes other than as a light source is a future problem. At least now the public water sources with an electric pump are available, which frees the women from the heavy daily work of water drawing.

In contrast, all the households in Ward No. 6 use kerosene lamps, and they have to spend long hours going to a spring to draw water.

As fuel, they mainly use firewood cut in the surrounding woods. They use everything they can burn, including corn stalks and cobs.

List watches and radios are widely used. Of the families surveyed, seven out of ten own a watch, and five out of ten had a radio in Ward No. 9. In Ward No. 6, three households own a watch and three families have a radio. In Ward No. 6, where people rarely earn cash incomes, they purchased a watch or a radio when they sold a goat. No other durable goods other than watches and radios are popular. [Table 4]

<2> Perception of Present Conditions and Prospects for Improvement

As regards the degree of satisfaction with their living area, eight out of ten households in Ward No. 9 answered that they are "fairly satisfied", and two answered "somewhat satisfied." To the question concerning changes in living standards in the past five years, one family answered it has "improved", six answered "somewhat improved", two answered "no changes", and one answer "somewhat worsened". The people admit that their lives are still difficult, but they now feel that living conditions are being improved little by little due to the

nobody she knew, no matter how difficult life in this village was. It seems that this represents the general attitude of the villagers.

There are many people who have never been in Kathmandu or Banepa, which is only two and a half hours away. Others went to these cities only once or twice a year. In economic terms, the 15-rupee fare for a one-way bus trip is not a small expense for them. Many people in Ward No. 9 know about a basic development scheme established by His Majesty the King so that the people's basic needs will be met by the end of the 20th century. However, those in Ward No. 6 know nothing of the scheme, and nothing has been achieved from it, nor have any practical benefits been seen in their lives.

In Ward No. 6 as well, the reduction in cultivated land per household has accelerated due to the inheritance system. In this section, there are no projects to absorb excessive population growth nor is there an educational tradition through which to create job opportunities. Thus, the situation is even more serious. It is said that to make an ordinary decent life in the village, an adult needs at least two ropani of land. A simple calculation reveals that three out of ten samples do not satisfy this standard (adults being those over 11 years of age). This situation will be worsened as cultivated land further decreases.

The residents recognize this problem to some extent, and they also consider better quality education to be a solution. However, there are no concrete plans, and it is obvious that the people are only anxious about the future without doing anything.

In fact, there is a case where a 17-year-old brother and 16-year-old sister went to Banepa to work and never came back. It is likely that the excess population in these villages will be pushed out to Banepa or Kathmandu as a lower-class labor force or as job-less people. It is urgently required to take some measures to prevent such cases in the future.

### 3. Conclusion

Balakot Village is located in a rural area in the suburbs of Kathmandu. A typical farming household consists of 6 to 7 members and has 0.5 hectare of cultivated field, three-fourths of which is tenant farm land. Seventy percent of the cultivated land are paddy fields without irrigation, and they grow maize and oilseed in the remaining area. They also grow wheat as a secondary crop in winter. A variety of vegetables are grown around houses. However, cash incomes cannot be made from farm products, and they are mostly consumed at home. They have to earn cash from other jobs. Some commute to Kathmandu because there are convenient transportation services and others are engaged in

have received higher educations and have found clerical work in the cities. There are also young people who have taken agricultural courses in high school and use that knowledge and technology for the development of local agriculture. The installation of electricity has brought a rice cleaning mill, promoted a drinking water supply project, and has also provided opportunities to make cash incomes. Needless to say, such an advancement is due not only to the improvement of the infrastructure but also to the social relationships of the Newar, who have some connections to the cities, and an academic tradition since ancient times among those belonging to the upper caste. It also stemmed from various other positive factors, including the historic environment surrounding Bhagabati Temple, and the geographical advantage of being close to the Kodari Road. It is true that their positive approach has changed their social environment, and the changed social environment has in turn served as a new stimulus in their awareness for the need for further development.

Needless to say, there are many problems to be settled in the future. It is important to promote public health and sanitation. It is also undeniable that the gap in the living standards among the residents is gradually widening. There is a wide difference in annual cash incomes between those that have a rice mill and those who do not. There are also differences among those working in cities. Some have better educational backgrounds and work in clerical positions, while others work in the cities as seasonal laborers. In Ward No. 9, the community leaders often talk about agricultural development, the introduction of stock farming, including poultry farming, and the establishment of a domestic cottage industry. Yet, they have not reached the point of putting these ideas into practice.

In the case of Ward No. 6, the situation is far more serious, because they have been isolated from the outer world. People in this community do not have any effective means of coping with such problems as the reduction in cultivated land and food production. They realize the importance of education, but it cannot be said that they fully recognize the positive effects and results of education. Therefore, the excess population leaves the village to flow into the cities as unskilled workers or uneducated immigrants. Such a movement has not become a major trend yet. However, it cannot be denied that by the time today's children reach manhood, the shortage of land and food will be serious, and the disinherited will rush into the Kathmandu Valley from the poorer rural areas. It is time to seriously consider the situation of the rural regions and to take practical measures to change these communities which have been left underdeveloped.

Even in the same villages, such gaps were observed as were seen between Ward No. 9 and Ward No. 6. From now to the future, it is necessary to fully understand the unique characteristics of each local community and to take careful and thoughtful measures that are effective under the different conditions of each community.

Table 2 Results of Sample Survey in Balakot Village I

Household No.	Section	Language	Number of household members	Agricultural income	Other income (rupee)	Cultivated area (ropani)	Irrigated area	Acreage (ropani) and yield (kilogram)			
								paddy	wheat	corn	Others
1	1	NW	12	0	10,000	10	0	9 (2,500)	9 ( 441)	2 ( 45)	beans ( 7)
2	1	NW	8	0	12,000	7	0	6 (1,400)	5 ( 190)	1 ( 63)	rapeseed (23)
3	1	NP	4	0	7,000	2	0	1 ( 300)	1 ( 75)	1 ( 150)	
4	1	NP	4	0	8,000	2 1/2	3/4	1 ( 250)	1 1/2 ( 63)	3/4 ( 24)	
5	2	NW	8	0	10,000	2	0	1 ( 250)	1 ( 50)	1/2 ( 38)	
6	2	NW	3	0	1,200	6	0	4 (1,000)	3 ( ? )	2 ( 30)	beans ( 6)
7	2	NW	2	0	0	3/4	0	3/4 ( 200)			
8	2	NP	10	0	20,000	8	0	5 (1,000)	6 ( 635)	3 ( 510)	rapeseed (57) potatoes (300)
9	2	NP	9	0	0	8	0	3 ( 900)	3 ( 65)	5 ( 440)	
10	5	NW	23	10,000	5,000	28	20	20 (5,000)	20 ( 650)	1/2 ( 35)	
11	5	NW	10	15,000	30,000	21	0	20 (4,000)	20 ( 545)	1 ( 138)	rapeseed (57)
12	5	NW	7	720	0	6 1/2	2	5 (1,400)	5 ( 320)	1 1/2 ( 20)	beans, vegetables
13	5	NP	13	0	30,000	15	0	8 (2,000)	8 (1,575)	7 (1,015)	beans (63) rapeseed (300)
14	5	NP	7	0	9,600	2	0	1 ( 250)	1 ( 63)	1 ( 63)	
15	5	NP	5	0	0	8	0	7 (1,000)	7 ( 180)	1 ( 63)	rapeseed (35)
16	5	NP	3	0	18,000	0	0	0	0	0	
17	6	NW	9	10,790	40,000	12	0	9 (2,500)	9 ( 340)	2 ( 138)	beans (32) rapeseed (85)
18	6	NW	7	8,000	0	17	15	15 (3,750)	5 ( 945)	2 ( 30)	rapeseed (30)
19	6	NP	7	0	12,000	1/2	0				
20	6	NP	6	0	0	2 1/2	1	1 ( 300)	1 ( ? )	1 1/2 ( 110)	beans (200)
21	6	NP	5	0	20,000	14	0	8 (1,500)	8 ( 545)	6 ( 276)	beans (48) rapeseed (43)
Total			162	44,510	232,800	173	39	125 29,500	124 6,682	38 3,188	
Average			7.7	2,120	11,086	8.2	1.8	5.9 1,402	5.9 381	1.8 152	

Note: Section code indicates the number of the community in the village panchayat.  
In the language column, NW stands for Newar and NP stands for Nepali.

Note: 1 rupee is worth about 5.66 yen (1988). 1 ropani is equal to about 0.05 hectare.

Table 3 Population Structure in Bhagabati Village

Section no.	No. of household	Population	Average number of people per household
1	50	297	5.9
2	43	304	7.0
3	58	374	6.4
4	53	324	6.1
5	42	365	6.3
(6)	54	296	5.5
7	107	590	5.5
8	47	282	6.0
(9)	59	460	7.8
Total	513	3,192	6.2

Source: Based on the 1987 survey by the village office.  
( ) denotes sections surveyed.

Table 5 Villagers' Perception

	Balakot					Ward No. 9 in Bhagabati					Ward No. 6 in Bhagabati				
	a	b	c	d	e	a	b	c	d	e	a	b	c	d	e
Degree of satisfaction about living place	16	4	1			8	2				5	4	1		
a: fairly satisfied															
b: somewhat satisfied															
c: somewhat dissatisfied															
d: fairly dissatisfied															
e: no answers															
Changes in the last five years	7	9	2		3	1	6	2	1			2	8		
a: improved															
b: somewhat improved															
c: no changes															
d: somewhat worsened															
e: worsened															

Table 6 Required Materials for Agricultural Production

	Balakot				Ward No. 9 in Bhagabati				Ward No. 6 in Bhagabati			
	a	b	c	d	a	b	c	d	a	b	c	d
Irrigation facility	19	1	0	1	10	0	0	0	10	0	0	0
Sewerage	2	5	13	1	1	1	5	3	1	1	7	1
Farm road	2	16	2	1	2	8	0	0	2	7	1	0
Seeds	18	2	0	1	6	4	0	0	8	2	0	0
Fertilizer	18	1	1	1	3	7	0	0	10	0	0	0
Financial assistance	6	15	0	0	6	3	0	1	4	5	0	1
Distribution system	0	15	3	3	0	4	5	1	0	6	3	1
Managerial guidance	2	15	1	3	2	4	2	2	3	4	3	0

a: badly needed; b: better, if any; c: not necessary; d: no answer

Table 7 What is required for improvement of social life

	Balakot				Ward No. 9 in Bhagabati				Ward No. 6 in Bhagabati			
	a	b	c	d	a	b	c	d	a	b	c	d
Drinking water	17	4	0	0	8	2	0	0	10	0	0	0
Roads	0	18	1	2	2	5	2	1	2	5	3	0
Health-care facility	21	0	0	0	9	1	0	0	7	3	0	0
Education facility	15	6	0	0	7	3	0	0	6	4	0	0
Electricity	12	0	6	3	8	0	2	0	6	3	1	0
Transportation	4	17	0	0	5	5	0	0	0	9	1	0
Others	0	0	0	19	0	0	0	10	0	0	0	9

a: badly needed; b: better, if any; c: not necessary; d: no answer

**CHAPTER 5**

**SURVEY MEMBERS AND ITINERARY**

## Survey Members

### 1. Japanese Committee

- Dr. Shigeto Kawano Professor Emeritus, The University of Tokyo  
(Chairman)
- Dr. Yonosuke Hara Professor of Economic Development, Institute of  
Oriental Culture, The University of Tokyo
- Mr. Fumitaka Yuki Associate Professor, Yachiyo International University
- Mr. Yoshimichi Sato Associate Professor, Faculty of Economics and  
Business Administration, Yokohama City University
- Mr. Hiroaki Sumida Full Time Lecturer, Agricultural Chemistry, College  
of Agriculture and Veterinary Medicine, Nihon  
University
- Mr. Tsuguo Hirose Secretary General, The Asian Population and  
Development Association (APDA)
- Mr. Masaaki Endo Senior Programme Officer, The Asian Population and  
Development Association (APDA)
- Ms. Yuiko Nishikawa Research Staff, The Asian Population and Development  
Association (APDA)

### 2. Preliminary Research Team (July 17 - 23, 1988)

- Mr. Tsuguo Hirose Research Chief  
Mr. Masaaki Endo

### 3. Field Research Team (Aug. 14 - 30, 1988)

- Dr. Shigeto Kawano Research Chief.  
Mr. Fumitaka Yuki  
Mr. Masaaki Endo

Expert

Mr. Dibakar Poudyal  
Mr. Nanda Kishor Shahi  
Mr. Monoj Shrestha

Family Planning Association of Nepal

Mr. Yadav Kharel                      Director General

- Aug. 25 (Thu.) Briefing on agricultural development plan of Nepal by Dept. Agriculture, Ministry of Agriculture.
- Aug. 26 (Fri.) Report to Rashitria Panchayat Secretary on the results of field survey.  
Report to Mr. Takashi Muromoto second secretary, Embassy of Japan on the results of field survey.
- Aug. 27 (Sat.) Leave Kathmandu, arrive in Bangkok.
- Aug. 28 (Sun.) Free day.
- Aug. 29 (Mon.) Collect population data of Nepal at ESCAP.
- Aug. 30 (Tue.) Leave Bangkok, arrive in Narita.

**CHAPTER 6**

**QUESTIONNAIRE SAMPLE**

COMMUNITY SURVEY QUESTIONNAIRE - NEPAL

Name of Panchayat : Balkot

Ward No. : 2

Mother Tongue : Nepali

I. Household : 

I-1 Name of the Respondents 

I-2 Present members of the household 9

Name	Relation to the head	Residence	Age	Sex	Marital Status	Age at marriage	Education	Occupation
1. Self	—	Do	23	M	2	16	5	Agri
2. Padma Kumari	Mother	Do	65	F	2	14	1	Agri
3. Manu	Wife	Do	21	F	2	1	—	Agri
4. Mitthu	Sister	Do	16	F	—	2	2	—
5. Rupas	Brother	Do	14	M	—	1	5	Student
6. Sankita	Daughter	Do	7	F	—	—	—	—
7. Sarmita	"	Do	5	F	—	—	—	—
note) Sabina	"	Do	3	F	—	—	—	—
Sanku	Son	Do	1	M	—	—	—	—

1. Never married      2. Married      3. Divorce  
 4. Separated      5. Widower/Widow

2. Education

2a.

1. Can you read or write      2. Cannot read or write

2b.

1. No schooling      2. Elementary school not complete      3. Elementary school  
 4. Junior high school      5. Senior high school,      6. Academy/University

3. Occupation

1. Cultivator      2. Agricultural labourer      3. Working other than agricultural sector  
 4. Seeking job      5. Engaging in house duties      6. Attending school

II-2 What kind of water do you use for drinking ?

- 1 Tube well    2 Tap    3 Spring    4 Lake  
5 River    6 Well    7 Deep well    8 Other (Specify) \_\_\_\_\_

Is there any change in last 5 years ?    1. Yes    2. No

If yes, what kind of change ? (Specify) \_\_\_\_\_

II-3 What are you using for cooking and heating ?

- 1 Firewood    2 Cow dung    3 Kerosene  
4 Others (Specify) Straw

Is there any change in last 5 years ?    1. Yes    2. No

If yes, what kind of change ? (Specify) \_\_\_\_\_

II-4 What are you using for lighting ?

- 1 Electricity    2 Lamp (a) Lantern (b) Tuki    3 Candle  
4 Others (Specify) \_\_\_\_\_

Is there any change in last 5 years ?    1. Yes     2. No

If yes, what kind of change ? (Specify) Availability of Electricity

### III Asset

III-1 Do you and your household members have any land ?

1. Yes     2. No

If yes, how many ropanies do you and your household members have in total ?

8 ropanies

Is your holding land is larger than that of 5 years ago ?

1 Yes : I got \_\_\_\_\_ ropanies by (                    ) <---- specify the reason

2 No : I lost \_\_\_\_\_ ropanies by (                    ) <---- specify the reason

3 No change

IV Agricultural activities

IV-1 What kind of crops are/were you cultivating this year/5 years ago ?

Name of crop	Ropani		Quantity (Kgs)		Name of Crop	Ropani		Quantity (Kgs)	
	present	past	present	past		Present	past	present	past
✓ Rice	3-0-0	✓	900		Potatoes	—			
Wheat	3-0-0	✓	65		Barley	—			
Millet	—				Oil seeds	—			
Beans					Vegetables	—			
Maize	5-0-0	✓	440						

What kind of condition has contributed to increasing productivities ?

- 1 Put more labour force      2 Use new fertilizer      3 Irrigation system introducing  
 4 New variety of seed introducing      5 others (Specify \_\_\_\_\_)

What kind of condition has affected to reducing productivities ?

- 1 Shortage of labour force      2 Shortage of fertilizer      3 Lack of agricultural tools  
 4 Land erosion      5 others (Specify irrigation)

IV-2 Labour pattern

- ✓ 1 Only by you/ your household member's labour  
 2 By you/your household member's labour and hired labour  
 3 Only by hired labour  
 4 Help from other community members (mutual labour exchange system like mutual cooperation).

IV-3 Land irrigated \_\_\_\_\_ (ropanies)

IV-4 Source of water for agriculture

- ✓ 1 Main water      2 River      3 Pond/Lake  
 4 Pump      5 Well      6 Canal  
 7 Others (specify) \_\_\_\_\_

- 4. Family Planning is not good for religious point of view
- 5. The partner / family member does not like Family Planning
- 6. Others

V-4 If you are practicing Family Planning/have any experience of Family Planning, what's the method ?

- 1. Sterilisation
- 2. Pills
- 3. I.U.D
- 4. Injection
- 5. Condom
- 6. Others ( )

G-5 From where do you get information and tools of Family Planning ?

- 1. Primary Health Center, 2. Village Health Worker, 3. Private Clinic, 4. Others ( )

VI. Community and Life

VI-1 Are you participating in any kind of community activity ? 1. Yes 2. ~~No~~

If yes, what kind of activity are you participating ?

VI-2 Are you satisfied with this locality ?

- 1. Yes, satisfied
- 2. More or less satisfied
- 3. More or less dissatisfied
- 4. No, dissatisfied
- 5. Not stated

VI-3 During last five years, how progress your living standard /

- 1. Much better
- 2. Slightly better
- 3. No progress
- 4. Slightly worse
- 5. Much worse

VII. Production and Living Facilities

VII-1 What kind of facilities do you need ?

1 For agricultural production

Item	Keen to need	Better if available	Not necessary
Equipment for irrigation	✓	✓	
Equipment for drainage		✓	
Maintenance of a farm road			✓
Accessibility of seeds	✓		
Accessibility of fertilizer	✓		
Accommodation of a loan with low interest	✓		
Stable sales network for production		✓	
Information for agricultural management			✓

**CHAPTER 7**

**REFERENCES**



# जिल्ला भक्तपुर - इलाका नं. ७

