Chapter 1
Introduction: The Study and the Study Area

Development can be defined as a process of all round socioeconomic transformation in a society bringing about a progressive improvement in the well-being of its members. Among the factors that determine development, entrepreneurship is observed to play a key role as its initiator and catalyst. The success of entrepreneurial activity, which is generated by the innovative and risk-taking capacities of individuals, depends, to a great extent, on a favourable environment, but the most essential factor for it is the presence of a high degree of achievement motivation among individuals (McClelland 1976). An entrepreneur who initiates a process of change in society is almost always likely to face resistance, and such 'resistance' depends on the nature, magnitude, and pace of the change. Any economic development programme calling for drastic, unfamiliar, and rapid change in society is unlikely to yield success, because it gives little time to prepare for and absorb such a change. Change is brought about successfully, in an entrepreneurial context, when it involves a logical progression from the status quo to a more profitable set of practices with the same resource base and similar inputs. Therefore, the first logical activity in terms of mountain enterprise development is non-traditional agriculture which includes vegetable and fruit farming and off-farm activities related to agriculture (ICIMOD 1996). Farmers cultivating traditional food grains in mountain regions can be more easily motivated to enter enterprises based on non-traditional agriculture than on other activities. Development of industrial entrepreneurship in these regions is possible only after the development of entrepreneurial abilities and culture through farm entrepreneurship.

However, it is very difficult to initiate the process of entrepreneurial development in mountain regions due to fewer opportunities and high risks associated with both natural and market forces. Inadequacy of basic infrastructure, high costs, and underdeveloped markets, together with other geoclimatic impediments, limit entrepreneurial development in these areas. However, certain comparative advantages are also available to these regions, particularly in terms of biodiversity and climate, which make it possible to grow some varieties of flora during seasons when it is not possible to grow them in the plains. Thus, there are good prospects in the mountains for cultivation of off-season vegetables and fruits that may elicit appreciable market demands. But the economies of mountain areas have traditionally been dominated by food-centred subsistence farming which is becoming both ecologically and economically unsustainable (ICIMOD 1996). Fortunately, self-motivated farmers in many areas have begun to recognise their comparative advantages and take advantage of marketing opportunities through cultivation of cash crops such as vegetables, fruits, etc. The valuable experiences of these farmers provide an opportunity to understand the process of transformation under the very restrictive conditions of mountain economies from subsistence farming into market-oriented agriculture. Other mountain regions can also derive benefits by implementing similar transformation processes. Garampani in Uttar Pradesh, India, is one place where transformation from conventional farming into market-oriented agriculture has taken place, thus making it a good study area.

Objectives of the Study

The objectives of the study are to examine the following.

i. The factors and circumstances that lead to the switch-over fromsubsistence to commercial crop cultivation by farmers
ii. The process of change, its initiators, and adoption by farmers at large
iii. The differential pace and extent of adoption by different groups of farmers, categorised by holding size, socioeconomic characteristics, and education
iv. Initiative and role of women in affecting the change
v. Marketing arrangements, their evolution, and present set-up
vi. Comparative income before and after the change and among adopters and non-adopters
vii. Role of external agents, the state, cooperative agencies, etc
viii. Replicability of the process and its conditions

Garampani: The Area of Study

Garampani is a small town in the Nainital district of Uttar Pradesh. It is situated in the Lesser Himalayan Belt of the Indian Central Himalayas, or Uttarakhand (Figures 1.1 and 1.2). It is about 28km from Nainital on the Nainital-Almora-Ranikhet motor road. Garampani town is well linked with Haldwani, a foothill town and market centre, and Nainital, Almora, and Ranikhet, the famous hill stations (Figure 1.3). This strategic location provides the town with good market access.

The villages adjacent to Garampani town are inhabited by poor and marginal farmers. Traditionally, they cultivated food grains (wheat, rice, course millet *[madua]*), but over the years the cropping pattern has changed. Along ,with farming practices that preserve their traditional biodiversity, the farmers of this area have started to grow vegetable crops which have become their main source of income. The main vegetable crops in this area are capsicum, tomatoes, french beans, cauliflowers, radishes, chillies, potatoes, peas, and so on. Capsicum and tomatoes are supplied to all the main cities of middle northern India, Calcutta, and Assam. The market-oriented farming of vegetables has brought about manifold increases in the income levels of farmers in this area.

Vegetable Fields

Different villages in this area are situated from 1,000 to 2,500masl. These villages have varying climates, soil structure, and surrounding vegetation; therefore, their crop-mix is also diversified. But one thing is common among all these villages, i.e., they have adopted one or other

Figure 1.1: Location of the Study Area

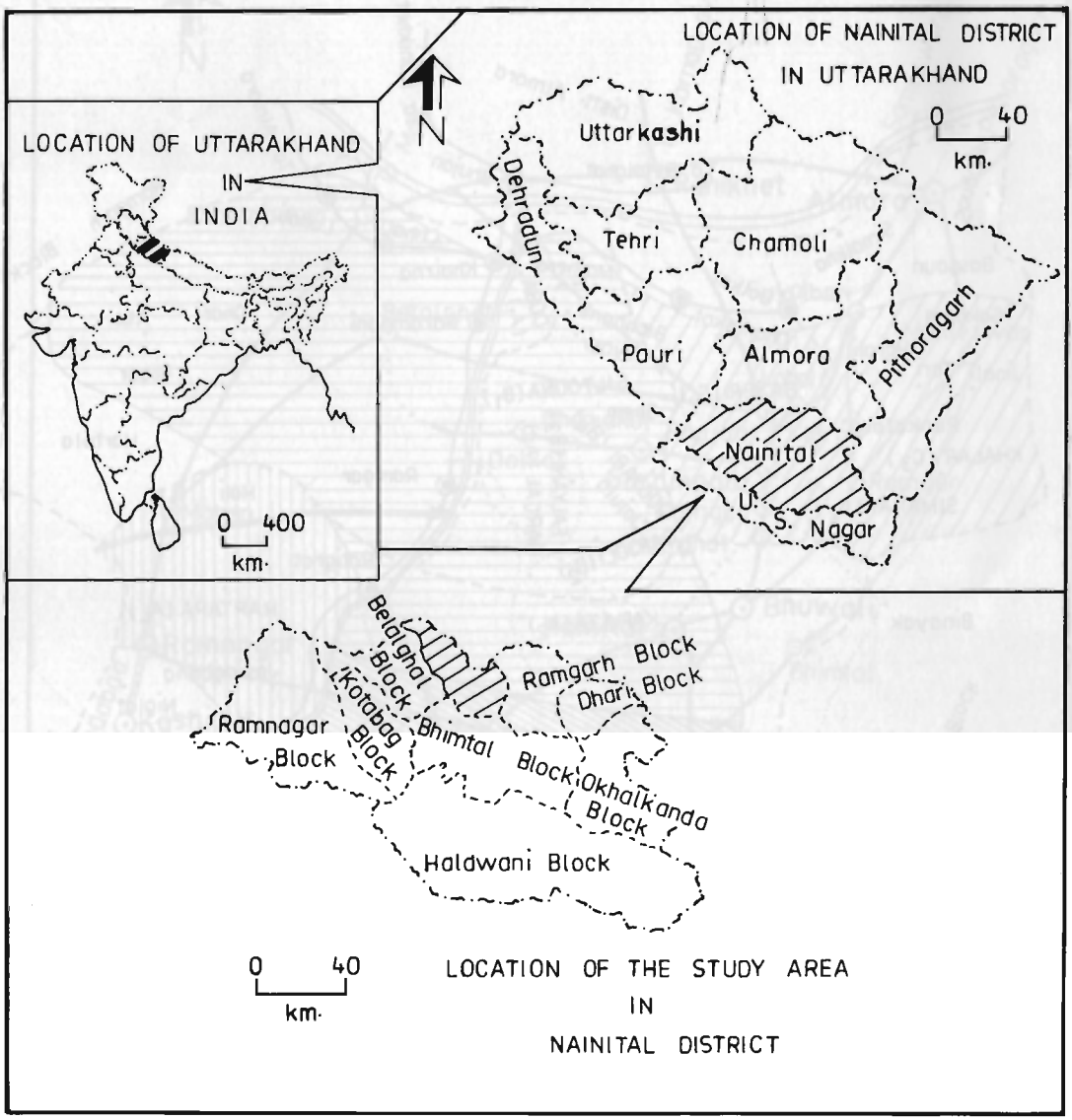


Figure 1.2: Location of the Sample Villages

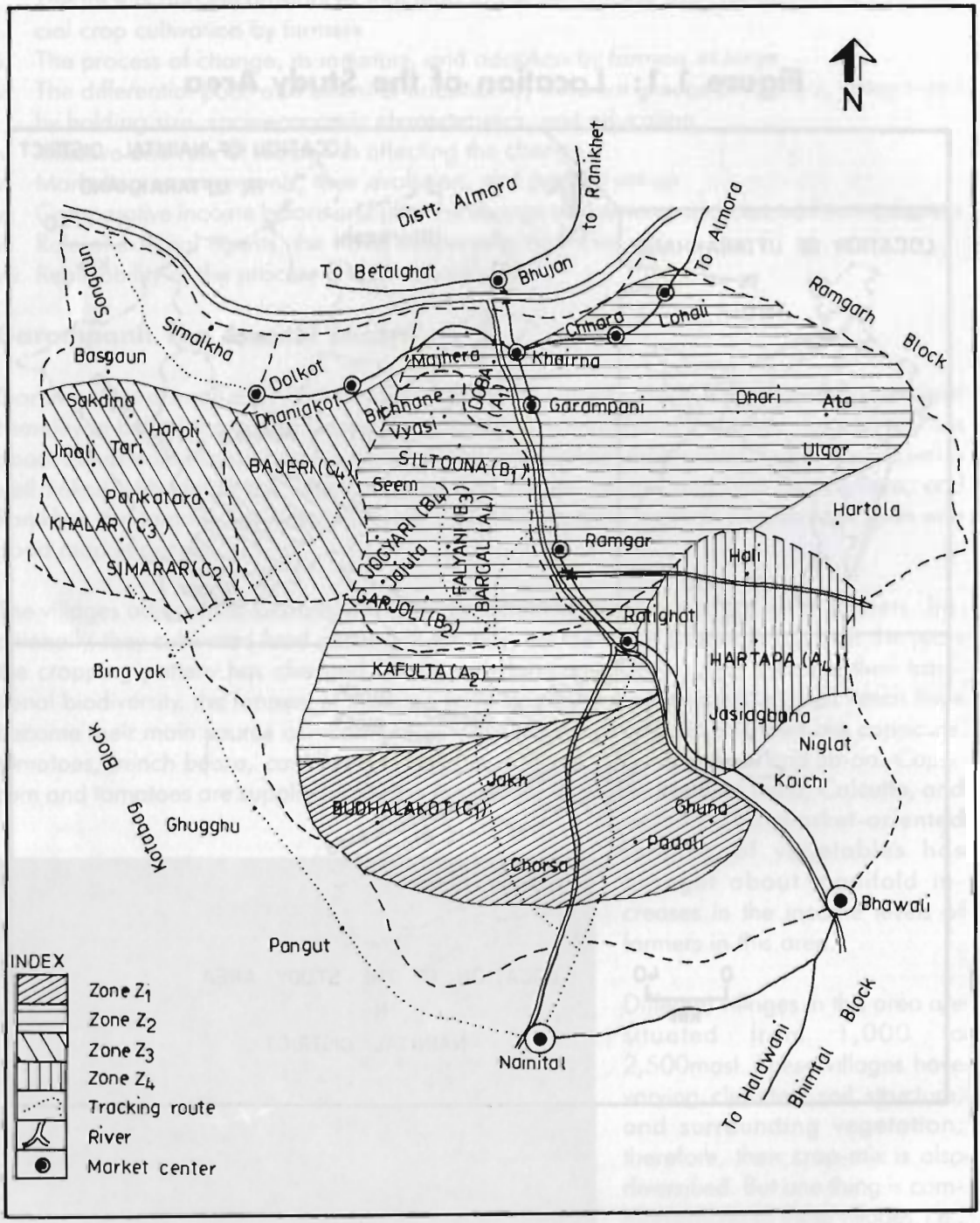
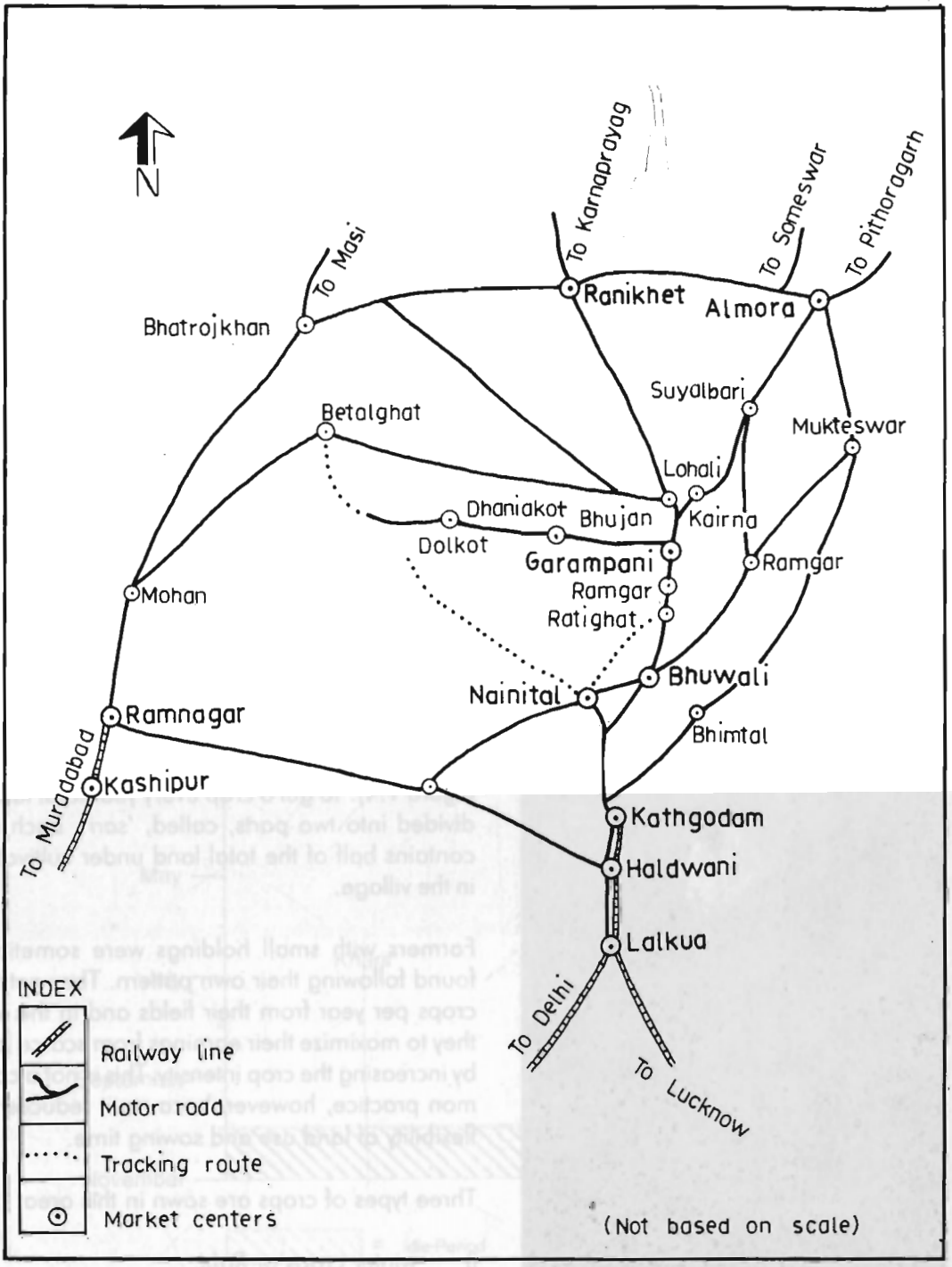


Figure 1.3 : Transport Network around Garampani



vegetable crop as their economic base. The present study does not attempt to correlate the crop-mix with climatic variables. Rather, this study attempts to identify the factors contributing to farm entrepreneurship that led to the transformation from conventional food-centred farming to market-oriented vegetable farming in this region and the economic implications of this transformation.

A *Madua* Field

Two types of land are found in the hill regions: (i) *shera* (*talaon*) or irrigated land and (ii) *uprar* (*upraon*) or unirrigated land. Both types of land are found in the Garampani area. In the present study we have taken into consideration only unirrigated land because of the following reasons.

i) The quality of vegetable crops grown on irrigated lands is very low.
ii) The level of productivity of cereals on irrigated land is satisfactory.

The main problem in hill regions is to make farming on unirrigated land economic. This is also the main focus of the present study.

A Paddy Field

Crop Rotation and Cropping Mix

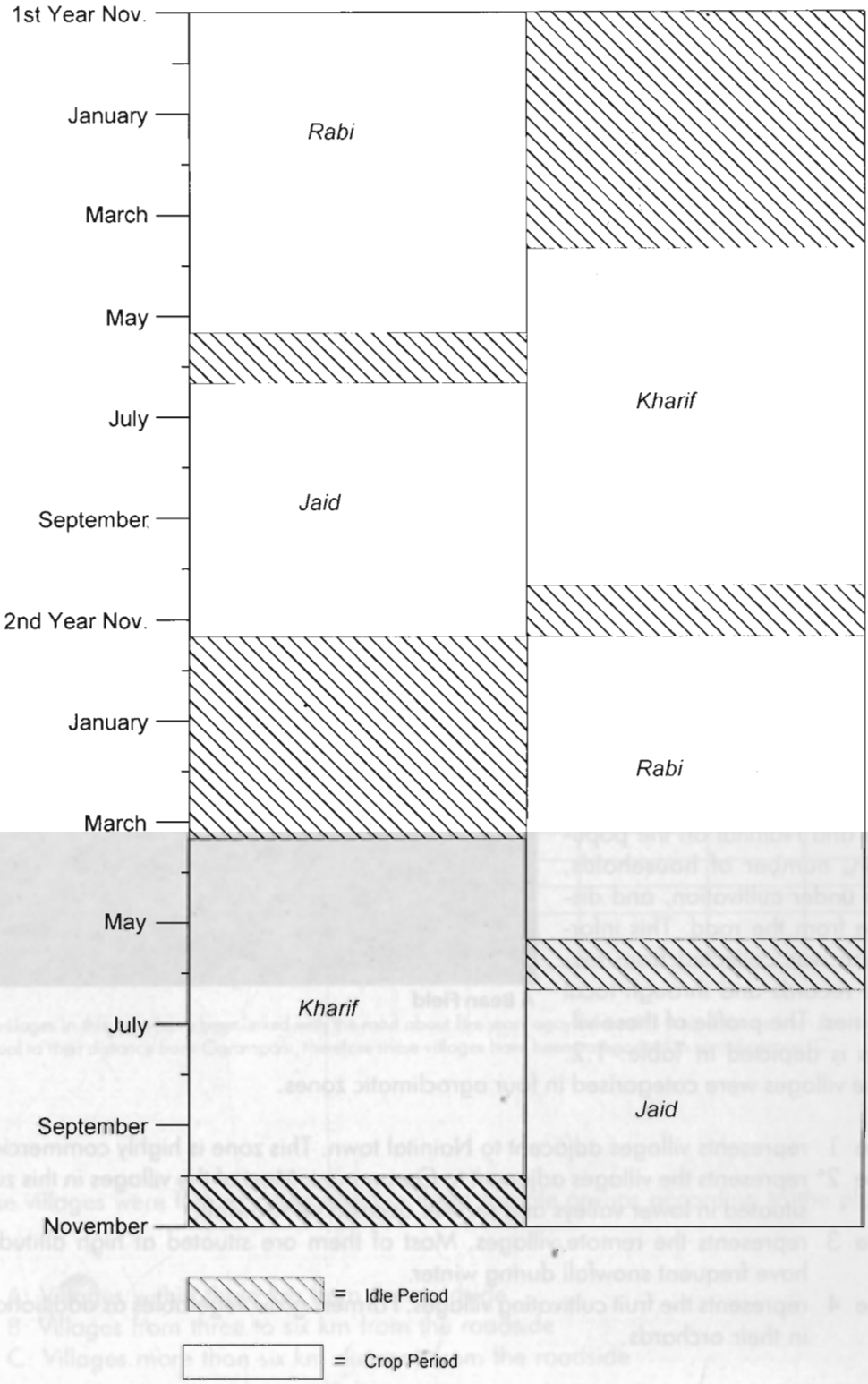
The crop cycle period in this area is two years. During this period, three crops are grown (see Figure 1.4). To get a crop every year total land is divided into two parts, called, '*sari*'. Each *sari* contains half of the total land under cultivation in the village.

Farmers with small holdings were sometimes found following their own pattern. They get two crops per year from their fields and in this way they to maximize their earnings from scarce land by increasing the crop intensity. This is not a common practice, however, because it reduces the flexibility of land use and sowing time.

Three types of crops are sown in this area:

i) winter crops or *Rabi*,
ii) early summer crops or *Kharif*, and
iii) late summer crops or *Jaid*.

Figure 1.4 : The Crop Cycle



The different conventional and commercial crops sown in this area during these crop seasons are given in Table 1.1.

Table 1.1: Different Crops Sown in the Garampani Area

Crop Season	Nature of the Crop	Main Crop	Joint Crops	Sowing Time	Harvesting Time
1. *Rabi*	Conventional	(i) Wheat	Masoor, Mustard	Nov	May
	Commercial	(i) Peas	Mustard, Spinach Coriander	Nov	Mar-Apr
2. *Kharif*	Conventional	(i) Paddy	-	Mar	Sept-Oct
	Commercial	(i) Capsicum	Radish	Nov/Mar*	Jun-Sept
		(ii) Tomatoes	Radish, Paddy	Nov/Mar*	Jun-Aug
		(iii) Beans	-	Mar	Jun-Jul
		(iv) Chillies	-	Nov/Mar*	Sept
3. *Jaid*	Conventional	(i) *Madua*	*Urd, Gahat, Lobia, Chua*	Jun-Jul	Nov
	Commercial	(i) Soyabeans	*Chua*	Jun-Jul	Nov
		(ii) Cauliflower	-	Jun-Jul	Jul-Aug
		(iii) Potatoes	Radish	Aug	Oct-Nov
		(iv) Beans	Radish	Jul	Aug-Sept

** Seeds are sown in the nursery in November and transplanted in the fields during March.*

Methodology : Sample and Data Collection

A Bean Field

During the primary survey, a total of 30 villages was identified that were growing vegetable crops in this area. Information was collected from Garampani town and Nainital on the population, number of households, area under cultivation, and distance from the road. This information was collected from revenue records and through local inquiries. The profile of these villages is depicted in Table: 1.2. These villages were categorised in four agroclimatic zones.

Zone 1 represents villages adjacent to Nainital town. This zone is highly commercialised.

Zone 2 represents the villages adjacent to Garampani. Most of the villages in this zone are situated in lower valleys and receive occasional snowfall.

Zone 3 represents the remote villages. Most of them are situated at high altitudes and have frequent snowfall during winter.

Zone 4 represents the fruit cultivating villages. Farmers grow vegetables as additional crops in their orchards.

Table: 1.2: Profile of the Vegetable Growing Villages in the Garampani Area

Agro-Climatic Zone	Name of Village	Total holding in hectares	Population (1991)	Number of Families	Distance from Road (km)	Distance from Garampani (km)	Distance from Nainital (km)	Sample Group
Z_1	1. Budhalakot	121.568	329	50	7	12	7	C
	2. Jakh	49.200	379	58	3	8	6	A
	3. Chwarsa	27.850	409	61	4	9	7	B
	4. Pandli	49.950	388	54	2	7	6	A
	Total	**248.568**	**1505**	**223**	-			
Z_2	1. Kafulta	115.350	536	81	3	6	8	A
	2. Bargal	80.115	270	44	3	6	11	A
	3. Garjoli	41.331	182	31	5	6	13	B
	4. Jajula	36.258	174	28	7	8	15	C
	5. Falyani	11.750	71	13	6	7	14	B
	6. Jogyari	4.800	95	20	6	7	15	B
	7. Siltoona	79.550	513	86	5	6	15	B
	8. Seem	31.085	327	57	4	5	17	B
	9. Darmani	7.875	101	12	4	4	17	B
	10. Vyasi	4.955	144	19	3	3	18	B
	11. Doba	5.261	132	21	2	2	20	A
	12.Lohali	19.707	305	52	5	10	26	B
	13. Dhari	3.488	95	20	4	8	25	B
	Total	**441.525**	**2945**	**484**	-	-	-	
Z_3*	1. Bajeri	72.841	373	61	2	8	19	C
	2. Simarar	79.095	136	44	3	10	16	C
	3. Basot	13.224	82	14	2	10	17	C
	4. Palari	59.050	56	10	2	11	17	C
	5. Songau	59.007	107	20	2	12	18	C
	6. Pan-Katara	22.079	232	34	5	13	16	C
	7. Khalar	39.075	197	73	6	13	15	C
	8. Tari-Jainoli	49.950	510	97	5	15	17	C
	9. Sakdeena	10.705	109	32	6	15	18	C
	Total	**410.026**	**1802**	**385**	-	-	-	
Z_4	1. Hartapa	41.075	575	93	3	7	16	A
	2. Hali	239.075	618	88	7	11	20	C
	Total	**280.150**	**1193**	**181**	-	-	-	
	Grand Total	**1380.269**	**7445**	**1273**	-	-	-	

Source : Revenue Records and Survey

All the villages in this zone have been linked with the road about five years ago, before this their distance from the road was equal to their distance from Garampani, therefore these villages have been categorised in sample group 'C'.

All these villages were further categorised in three sample groups according to the plan of study.

Group A: Villages within three km from the roadside
Group B: Villages from three to six km from the roadside
Group C: Villages more than six km distance from the roadside

Cauliflowers in an Orchard

Villages in zone 'Z_3' have been linked with the road for the last four to five years; before this, they had no motor road facility up to Garampani. Therefore, these villages were included in Group 'C'.

Apart from these 30 villages, other villages in this region are also cultivating vegetable crops in varying quantities, so we have adjusted our estimates with a premium for omission of 10 per cent. Population data were available for 1991. The current population figure was estimated based on a 22 per cent growth rate of the population over the last decade in Uttarakhand. During the sample survey, it was found that the total land holdings could not be used for cultivation because of a number of reasons (e.g., unsuitability of land for cultivation, land used for horticulture, etc). The land under actual cultivation in different zones has been estimated on the basis of this survey (Table 1.3). Similarly, the population in the working age group (14-60) has also been estimated on the basis of the same survey. Some macro-estimates for the sample space are given in (Table 1.4).

Table: 1.3: Estimates of the Land under Actual Cultivation

Zone	Total Holding Area (ha)	Percentage of Land under Actual Cultivation	Land under Actual Cultivation (ha)
Z_1	248.57	80.36	199.75
Z_2	441.53	72.90	321.88
Z_3	410.03	66.71	273.53
Z_4	280.15	72.00	201.71
Total	1380.28	72.22	996.87

Source: Estimates are based on the sample survey.

Table: 1.4: Some Macro-Estimates of the Sample Space

	Particulars	Recorded	Adjustment*	Estimate
1.	Total landholding (ha)	1380.28	138.02	1518.30
2.	Area under cultivation (ha)	996.87	99.69	1096.56
3.	Population (on 1.4.1997)	7445	1826	9271
4.	Population in working age group, i.e., 14-60 (63%)	-	-	5840
5.	Number of households	1273	127	1400
6.	Average holding size (ha)	-	-	1.084
7.	Average size of cultivated area	-	-	0.783

** Adjusted for omission allowance of 10 per cent, for details, please refer to the text.*

B. The Sample

According to the plan, four villages from each of the sample groups were selected randomly. Each village was given a particular code. The sample villages are as follow.

Sample Group	Village Code	Village
A	A^1	Doba
	A^2	Kafulta
	A^3	Bargal
	A^4	Hartapa
B	B^1	Siltoona
	B^2	Gargoli
	B^3	Falyani
	B^4	Jogyari
C	C^1	Budhalakot
	C^2	Simarar
	C^3	Khalar
	C^4	Bajeri

Locations of sample villages in the study area are given shown in Figure 1.3.

A total of seven survey rounds was conducted. Questionnaires were prepared for the first four rounds of the survey, while three rounds were based on unstructured interviews. The techniques used for data collection and analyses are given in Annex 1.