CHAPTER - V

Impact of Rural Development

The socio-economic impact of the Sagarmatha and Rasuwa/ Nuwakot Integrated Development Projects (IRDP) have been analysed in two perspectives namely, the socio-economic characteristics, and the benefit received by the sample respondents.

Section 5.1. Existing socio-economic Profile

This depicts the degree, and direction of benefits flowing from such development projects. The respondents, socio-economic status have profound influence in the thinking, behaviour and receptivity, to benefits or change (or betterment) brought about by IRDPs.

The demographic picture of the 453 respondents taken together shows the total population as 3038 (Table 5.27). Risku village panchayat (VP) had the highest population making Udaipur district of Sagarmatha IRDP the largest populated area of the sample. The ratio of female to male in the total population was 1:0.94 and hence male population was 51.55% and female 48.45%. The average household size was 6.71, a little higher than the national figure 6.11[1] which is higher than 5.8 national average (1981 census). Kalyanpur V.P. of Saptari district had the highest average size of household and Nuwakot district had the lowest being 5.42.

The age distribution shows that under 14 years of age the percentage was 43.95, between 15 to 64 years of age it was 53.98%

and 2.07% was of 65 and above. By districtwise, our study finds Udaipur topping the age group under 14 years. Siraha between 15 to 64 and Rasuwa and Udaipur was on equal footing in the age group of 65 and over (Table 5.28).

When looking at the projectwise age distribution, there was very slight difference between the two IRDPs (Table 5.29) . And between command area (where IRDP investment is centred) and control area (where there was negligible investment of IRDP) the difference was also minor compared with the total households (Table 5.30). All these tables picture the high percentage of children. The percentage being 43.45 of the total population, which comes very close to the national figure 41.35 percent (1981 census). In the Sagarmatha IRDP it was 44.29 percentage and in R/N IRDP it was 43.19%. While the child percentage was higher in control area 51.8 than that of the command area which was 48.15%. It was just the reverse in the case of the age group 65 and above. That is in the command area it was 64.52% and in control area it was 35.48%. The child dependency ration 81.4 percentage explains that for every 100 persons of the age group of 15 to 64, there was 81 child dependents, which speaks much. It requires high investment for generation of productivity in the future. Assuming from the child age group and old age group (65 +) comparison between the command and control, we can somewhat say that perhaps tentatively there is a tendency towards low birth and low death/or longibity is higher in command area than in control. A glimpse of some positive impact of IRDPs may be in order here.

The castewise distribution of the respondents as a whole shows that lower caste Madhesy (all low caste person of terai inhabitants) as 21.63 percent. The higher caste (Tagdhari) and higher caste Madhesy represented the same percentage as 20.31. The Tibeto Burman were in the third position 17.66%. While 7.06% was represented by other Chokho (who are not untouchables) hill groups, 6.62 by occupational caste and 6.41 by other groups (Table 5.31). Looking at the same table we find that similar position is held, when we classify the caste population wise. It is the Lower Madhesy and higher Madhesy who dominate. But though the Tagadhari caste and higher Madhesy's household number were same, the population of the former was less significant.

The comparative picture of the two IRDPs, shows that in the Sagarmatha project the highest in number were, the Lower and Higher Madhesy thus clearly picturing the distinction of the Mathalies speaking domination of the two terai district, Siraha and Saptari. In the Rasuwa/Nuwakot project the sample shows the conspicuous absence of these caste whereas the higher caste (Tagadhari)Tibeto-Burman, other chokho hill groups and occupational groups were present in greater as well as fewer numbers (Table 5.32).

Although in Rasuwa/Nuwakot project, there was the dominance of the Tibeto Burman, particularly of the Tamang Caste as shown by the Rasuwa Nuwakot Base line Study, our sample finds the Tagadhari in greater number. This discrepancy may be because, we have taken fewer respondents in the Rasuwa district compared to Nuwakot. But strangely, we found that in Ramche village Panchayat of Rasuwa, our

whole sample household represented the Tamang caste thus leading us to conclude that the Tamang Caste/or Tibeto-Burman dominate in the Rasuwa/Nuwakot project.

The comparative picture of the command and control area gives the same picture (Table 5.33) showing the dominance of the Mathali group, the difference was only, that, in the command area it was the higher Madhesy 26.4% which was dominant, and in control area it was lower Madhesy 33.3% which dominates. The second and third positions were held by Tagadhari (22.5%) and Tibeto Burman (15.2%) in command area. But in the control the second position was held by Tibeto-Burman (20.3%) and third by Tagadhari (18.0%). Numerically insignificant position of the occupational class namely 8.7 percent in command and 4.5% in control speaks much. Our observation reveals that they were in the worst position both economically and socially.

The occupational distribution shows that in all the five districts of both projects, agriculture provided the highest employment followed by labour, than trade, and lastly by service. The districtwise percentage for agriculture was 57% in Siraha, 72% in Saptari, 61.1% in Udaipur, 65% in Nuwakot and 61% in Rasuwa. Labour employment was highest in Nuwakot while trade employment topped in Siraha (Table 5.34). Service holders of the sample, come from teaching profession, and clerical staff of line agencies such as banks, co-operatives and V.P. private business and farm management. While in other occupation groups we included cottage industries and traditional occupation groups (blacksmith, tailor, shoemaker etc.). When we considered the full time engagement, we found

that only 3 percent were full time employed in cottage industries and only about 15 percent were partially employed in traditional occupation, as blacksmith, tailoring, housing, carpentry,basket and rope making etc.

The command and control area depicts similar picture, as of the district. The first position in both was held by agriculture occupation (70.13%) in command and (67.57%) control area. Next to it is trade by 13.85% followed by labour 10.39% in command, while in control area 20.7% was in labour followed by trade 6.31%. In the control area dependency in agriculture is not a positive sign, in other words, it does not demonstrate the development of non-farm sector rather it shows a negative sign. That is more number of households have come under labour occupation, as the primary source of income (Table 5.35). The sampled respondents, support the base line studies, of the two IRDP, as well as the national figure of occupation distribution, of 94% of population dependent on agriculture. Reflecting the fact that a poor level of non-farm based concern-cum economic activities exists, exerting greater pressure on agriculture/or farm occupation.

Words are not enough to describe the importance of education. In the modern urban life if it is regarded as a necessity in the rural life, it is looked up with awe. While in the national and international level, educational attainment is considered as one of the social indicators of development.

Hence education status of our respondents and their family members have been assessed broadly. Since our survey represents

a village level study, we have considered here litterate, all those who can read and write. Then accordingly, as a whole we find that the literacy rate was 39.1 percent which is close to the national figure 33% (Table 5.36). This discrepancy can be because, we have taken literacy in a wider definition. The same table shows the sex wise distribution, where the male literacy was 57.2% and that of the female was only 19.1%. The age group distribution in literacy displays the decline of participation in education with the increase in age. This represents Nepals national literacy tendency as well. The relevant table shows that education participation was highest (49.7%) in the age group 5-15, which gradually declined to 37.8% in 15-35 age group and 29.2% in age group 35-65.

The districtwise and projectwise comparison (Table 5.37) reveals that the percentage of literacy was higher (41.4%) in Sagarmatha than that of Rasuwa/Nuwakot IRDP. And the rate of male and female literacy were both higher in Sagarmatha, compared to that in Rasuwa/Nuwakot. Between the districts it was Udaipur that had the highest rate of literacy. This is in line with the Sagarmatha Base Line Study (1982). Taking the three districts this study shows the total literacy as 35.6% of which male literacy was 56.9% and female 13.0%[2] while our study shows the rate higher as total literacy 41.4%, male 59.3% and female 21.6%. While our findings of Rasuwa/Nuwakot comes very close to this base line, with total literacy 34.3% of which male comprise 52.6% and female 13.7%.

The command and control area demonstrates that the literacy rate was nearly 10 times higher in all age groups (Table 5.38). The total literacy was 42.6%, male 60.1% and female 22.7% in command area.

While it was 35.07% total literacy in which male consist 54.8% female 15.6% in control area. We may then conclude that perhaps there has been some positive impact of IRDP. Out of the total literacy percentage (39.1) only about 10% had attended primary, lower secondary and higher secondary, and 2% had attended the higher education level. A unique case was represented by Ramshey V.P. of Rasuwa, where all the respondents were illiterate.

Besides Caste, and literacy, the other important indicator of eco-scoio status is the amount of income one has. Though the source of income is a subjective factor it is an independent factor in determining prestige.

Income analysis is based on the calculation of annual income minus agricultural and/or business cost. That is except consumption expenditure all the other costs are deleted. On this basis six broad income groups have been classified. Starting from Nepalese Rupees (NR) 3000 to 15,000 and above. Our findings show that greater number of our respondents fell under the latter group, the percentage being 31.57. The second highest in the 6000-9000 group (20.53%) and third 3000-6000 group (18.10%). It should be noted that the largest number of respondents coming under the highest income group, were those who represent the largest average family size of 10.6 (Table 5.39).

When we consider the projectwise and districtwise difference (Table 5.40) we find that Sagarmatha respondents were better off than R/N's. In Sagarmatha 39.6% fell under the highest income group. While in Rasuwa/Nuwakot the highest number represented 27.5% in

the 6000-9000 income group. Followed by second position of 23.11 in the 3000-6000 group. While in Sagarmatha the second position was taken by 16.7% households in the 6000-9000 income group.

Then viewing the command and control area the comparative difference was not very much (Table 5.41). However we find that there were no respondent in the command area, falling under the income group of Rs. 3000, but in control 2% came under this income group. In both areas the highest percentage was held by the last income group, the percentage being 32% in command and 31% in control followed by 22% in the third group of command and 21.2% the second income group of the control area. But when we take note of the per capita income status the difference is significant. The highest per capita income was that of Kalyanpur V.P. NRs 3765 of command area of the Sagarmatha IRDP. And the lowest is of Ramshey V.P. NRs 1196 of control area in the Rasuwa/Nuwakot IRDP (Table 5.42).

The basis of income measurement in the related studies of the two projects are different from our definition of income. Hence a direct comparison could not be made. However they show that the source of income is mainly from agriculture and its allied sectors. Our study comes in line with this view. The Rasuwa district coming numerically in the highest number of low income group, made by the study of DRCG, was similar.

Land is the most important production factor, which grants high socio-economic status to its owner, especially in a village society, it is the big land owners who dominate and deeply influence the rural people in every aspect. Hence the distribution of land ownership determines the disparities in income, and the productivity

of land is the main determinant of the level of income. It was found that for the majority of our respondents, main source of income also come from land. Therefore it is vital to have the knowledge of the land ownership status of the respondents.

Since, uniform and more realistic criteria was lacking, our study had followed the National Planning Commission's household classification (1972) of (1) landless, (2) marginal* (1.5 bigha) (3) small (1.5-3.5 bigha) (4) medium (3.5-7.5 bigha) (5) large (7.5 +). The Base line of Sagarmatha has similarly followed this criteria. Our findings revealed that the total respondents average land holdings was 2.12 bigha. The landless represented 6.18%, marginal farmers 55.85% small farmers 25.39%, medium 9.27% and large 3.53% (Table 5.43). The ownership of land was thus more or less equal and skewed. This table further shows domination of the marginal farmers. And when taken together with the landless, marginal and small farmers, it shots upto 87.4%. It was higher than the total of 63.38 percent of Sagarmatha base line study.

The land ownership distribution, which was based on the same income group, explaining the income status is reproduced here (Table 5.43). This table projects that the highest number of marginal farmers (70) came under the income group of Rs. 6000-9000 followed by the income level Rs. 3000-6000. In the largest income group of 15,000 and above, it was the small farmers, who represented the majority (53) followed by marginal farmers (40). All except 8

---

*Nepalese Bigha 1.47 = 1 hectare.

respondents having medium and large size of farm fall under the Rs. 15,000 + group (34) medium farmers' and (12) large farmers.

Looking at the project and districtwise picture of land ownership, we find it was the household of Saptari district, that had the highest owned and operated land i.e. 314.98 bigha (Table 5.44). The average household land holding was 3.04 bighas and the man-land ratio was 0.46 in Saptari district. Second in line came Siraha and Third come Udaipur. Our findings support the Sagarmatha base line study. There was only one percentage difference in the average holding[3]. The lowest owned and operated land was represented by the Nuwakot district, 96.99 bighas, where the average land holding was 0.97 bigha and man-land ratio was only 0.18 bigha.

Lastly we come to the comparative picture of command and control area. It was found that there was very small difference in the landowenrship pattern between the two (Table 5.45). The table represents a mixed picture showing landless higher in command area (9.5%) than in control area (3.21). While marginal and small farmers were greater in control 56.1% and 27.1% than 55.6% and 23.3% respectively in command area. And the larger farmers represented more by 4.5% in control than by 2.1% in command area. On the whole, we can add that it was the marginal and small farmers who represented the most, which was in conformity with the studies as Rasuwa/Nuwakot Base Line[4] and the Rasuwa/Nuwakot Bank Credit Survey (1976-77).

Besides house and land ownership, our study took up the respondents' ownership of livestock also because animal husbandry

constitutes an important component as a source of income. In a mixed farming and unmechanised agriculture, livestock's importance can be appraised in the totality of the farming system. The role of domestic farm animals is so important in a village life, that the Nepalese farmers regard the drafting bullock and buffalo as equal to their sons, and cows equal to their mother. We can remark that agriculture can rarely flourish, without the help of livestock. In the farm operation from the sowing to the threshing, and finally transportation, these draft animals are used. Another importance of this resource is the dung. This provides the principal source of manure an organic matter especially when we consider the high cost of fertilizers in one hand, and the low income of the farmers on the other hand. This organic manure is most essential to replenish soil fertility, depleted by continuous cropping and erosion. It also improves soil structure and texture, affected by continuous application of chemical fertilizers[5].

Now let us see what our findings show. We have grouped the domestic animals in two broad groups. One is livestock and the other goats. Though pigs and sheep were also reared by respondents there were only few respondents who owned them. So we have brought them under the goats stock. The study underlines that the average livestock of the households were 4.5 and that of goats were 2.2. Altogether only 8 respondents were without livestock and 38 respondents did not have any goats (Table 5.46). The same table depicting the two projects and district, give interesting projection. That is Rasuwa provided the highest livestock ownership (5.8) as well as goats stock ownership (4.2). The lowest figure was represented by Siraha

in both livestock (3.2) and goats (1.3). The IRDP comparison shows slight difference, that is in Sagarmatha the average stock of the respondents were 4.4 and of goats were 1.7, while that of Rasuwa/ Nuwakot was 4.5 and 2.2 of livestock and goats respectively.

Similar studies done by Sagarmatha Base Line and Rasuwa/ Nuwakot Base Line reflect the same livestock holdings. In the district of Sagarmatha the average number of livestock in Siraha was 4.9, Saptari 4.8 and Udaipur 7.0. And of Nuwakot it was 3.9 and in Rasuwa 5.8[6].

Coming to the command and control area comparison, the households of both area have livestock and goats ownership in somewhat equal number. However as a whole it was the control area which had larger stock. That is 5.2 of livestock and 2.9 of goats. And command area had 3.8 of livestock and 1.5 of goats (Table 5.47). There was one similarity between the two areas. That is, the highest average stock holders fell within the top income group (15,000+). The percentage of livestock in command area was 49.5 and average per household stock of this income group was 6.1. While in control area the livestock percentage was 46.6 and average per household stock of the same income group was 7.7. This pattern leads us to the view that with land ownership, stock ownership also is one of the factors responsible for high income.

Table 5.27

Population Distribution Sexwise by Districts

District/Project	Male	Female	Total
Sagarmatha			
Siraha	342	340	682
Saptari	347	342	689
Udaipur	358	355	713
Total	1047	1037	2084
Rasuwa Nuwakot Project			
Nuwakot	225	187	412
Rasuwa	294	248	542
Total	519	435	954
Grand Total	1566	1472	3038

Table 5.28

Distribution of Population by Broad Age Groups and Dependency Ratio by Districts.

Districts	Age Group			Total Population
	0 - 14	15 - 64	65 and above	
Siraha	285	384	13	682
Saptari	297	382	10	689
Udaipur	341	358	14	713
Rasuwa	169	229	14	412
Nuwakot	243	287	12	542
Total	1335 (43.95)	1640 (53.98)	63 (2.07)	3038

Table 5.29

Percentage Distribution by Broad Age Groups Projectwise

Age Group	Sagarmatha Project		Rasuwa /Nuwakot Project	
	No.	Percentage	No.	Percentage
0-14	923	44.29	412	43.19
15-65	1124	53.93	516	54.09
65+	37	1.78	26	2.72
Total	2084	100	954	100

Table 5.30

Percentage Distribution of Population by Broad Age Groups

Area	0-14	15-65	65 and above
Command Area	48.15	49.36	64.52
Control Area	51.85	50.64	35.48
Total	100	100	100

Table - 5.31

Respondents Household Distribution by Sex and Caste

Caste	Population			No. of household	Percentage of total respondents
	Male	Female	Total		
Higher Caste (Tagadhari)	306	268	574(18.81)	92	20.31
Tibeto-Burman	257	228	485(15.96	80	17.66
Other Chokho hill group	119	122	241(7.93)	32	7.06
Occupational	89	96	185(6.09)	30	6.62
Higher Madhesy	339	304	643(21.16)	92	20.31
Lower Madhesy	351	366	717(23.60)	98	21.63
Others	105	88	193(6.35)	29	6.41
	1566	1472	3038(100)	453	100.00

Table - 5.32

Respondents Household Distribution of Caste Projectwise

Caste	Sagarmatha Project		Rasuwa/Nuwakot Project	
	Total No. of Household	Household percentage	Total No. of Household	Household percentage
Higher Caste (Tagadhari)	25	8.5	67	41.9
Tibeto Burman	23	7.8	57	35.6
Other Chokho hill group	21	7.2	11	6.9
Higher Madhesy	92	31.5	--	--
Lower Madhesy	98	33.4	--	--
Others	7	2.4	22	13.7
Occupational	27	9.2	3	1.9
	293	100	160	100

Table - 5.33

Distribution of Caste by Command and Control Area

Caste	Command Area		Control Area	
	No.	%	No	%
Higher Caste (Tagadhari)	52	22.5	40	18.0
Tibeto Burman	35	15.2	45	20.3
Other Chokho Hill group	28	12.1	4	1.8
Occupational	20	8.7	10	4.5
Higher Madhesy	61	26.4	31	14.0
Lower Madhesy	24	10.3	74	33.3
Others	11	4.8	18	8.1
Total	231	100	222	100

Table - 5.34

Respondents Distribution by Occupation (Percentage of the Sample District)

IRDP/Districts	Agriculture	Trade	Labour	Services	Others	Percentage
Sagarmatha Project						
Siraha	57.0	18.0	14.0	5.0	6.0	100
Saptari	72.0	4.0	16.0	7.0	1.0	100
Udaipur	61.0	12.0	18.0	4.0	5.0	100
Rasuwa/Nuwakot Project						
Nuwakot	65	3.3	30.0	1.0	0.7	100
Rasuwa	61.0	6.0	28.0	2.0	3.0	100

Table - 5.35

Distribution by Occupation in Command and Control Area (in percentage)

Area	Agriculture	Trade	Labour	Service	Others	%
Command	70.13	13.85	10.39	3.63	2.00	100
Control	67.57	6.30	20.72	2.41	3.00	100

Table - 5.36

Respondents Household Literacy by Age and Sex

Age Group	Male			Female			Percentage from Total		
	Literate	Illi-terate	Total	Lite-rate	Illi-terate	Total	Lite-rate	Illi-terate	Total
5-15	257	140	397	122	243	365	379 (49.7)	383 (50.3)	762 (100)
15-35	311	207	518	81	437	518	392 (37.8)	644 (62.2)	1036 (100)
35-65	158	189	347	19	239	258	177 (29.2)	428 (70.8)	605 (100)
Above 65	15	19	34	1	28	29	16 (25.4)	47 (74.6)	63 (100)
	741 (57.2)	555 (42.8)	1296 (100)	223 (19.1)	947 (80.9)	1170 (100)	964 (39.1)	1502 (60.9)	2466 (100)

Table - 5.37

Respondents Household Literacy Sexwise on the Basis of District

IRDP/District	Male			Female			Total Literate	Total Illiterate	Grand Total
	Literate	Illiterate	Total	Literate	Illiterate	Total			
Sagarmatha Project									
Siraha	164	130	294	51	214	265	215	342	557
Saptari	193	101	294	44	206	250	237	307	544
Udaipur	164	126	290	77	205	282	241	333	574
	521 (59.3)	357 (40.7)	878 (100)	172 (21.6)	625 (78.4)	797 (100)	693 (41.4)	982 (58.6)	1675 (100
Rasuwa/Nuwakot Project									
Rasuwa	68	110	178	12	152	164	80	262	342
Nuwakot	152	88	240	39	170	209	191	258	449
	220 (52.6)	198 (47.4)	418 (100)	51 (13.7)	322 (86.3)	373 (100)	271 (34.3)	520 (65.7)	791 (100)

Table -5.38

Respondents Household Literacy by Sex and Age Group in Command and Control Area

ge	Command Area									Control Area								
	Male			Female			Total			Male			Female			Total		
	Literate	Illi-terate	Total	Literate	Illi-terate	Total	Literate	Illi-terate	Total	Literate	Illi-terate	Total	Literate	Illi-terate	Total	Literate	Illi-terate	Total
-15	139	60	199	71	103	174	210	163	373	118	80	198	51	140	191	169	220	389
5-35	163	96	259	48	200	248	211	296	507	148	111	259	33	237	270	181	348	529
5-65	79	90	169	11	123	134	90	213	303	79	99	178	8	116	124	87	215	302
5+	10	14	24	-	16	16	10	30	40	5	5	10	1	12	13	6	17	23
	391	260	651	130	442	572	521	702	1223	350	295	645	93	505	598	443	800	1243
	(60.1)	(39.9)	(100)	(22.73)	77.27)	(100%)	(42.6)	(57.4)	(100%)	(54.26)	(45.74)	(100%)	(15.6)	(84.4)	(100%)	(35.67)	(64.33)	(100%)

Table - 5.39

Distribution of Respondents by Income Group

Income (NRs)	Respondent	Percentage	Average family size
0-3000	4	0.88	3.25
3000-6000	82	18.10	3.26
6000-9000	93	20.53	4.34
9000-12000	78	17.22	5.63
12000-15000	53	11.70	6.96
15000+	143	31.57	10.66
Total	453	100.00	

Table - 5.40

Respondents Distribution by Income Group Projectwise

Income	Sagarmatha Projects No. of Household in percentage	Rasuwa-Nuwakot Projects No. of household in percentage
0-3000	1.0	1.9
3000-6000	15.0	23.1
6000-9000	16.6	27.5
9000-12000	16.0	19.4
12000-15000	11.8	11.2
15000+	39.6	16.9
	100	100

Table - 5.41

Distribution of Respondents by Income Group in Command and Control Area

Income	COMMAND AREA		CONTROL AREA	
	Household No.	Percentage	Household No.	Percentage
0-3000	-	-	4	1.8
3000-6000	35	15.2	47	21.2
6000-9000	51	22.1	42	18.9
9000-12000	49	21.2	29	13.1
12000-15000	22	9.5	31	13.9
15000+	74	32.0	69	31.1
	231	100.00	222	100

Table -5.42

Average Per Capita Income of the Respondents Panchayatwise (in Nepalese Rs)

Command/ Panchayats	Income	Control Panchayats	Income
Kalyanpur	3,765	Khojpur	2580
Sukhipur	3,396	Govindpur	2487
Katari	3,071	Risku	1581
Chaugadha	2,626	Ganesthan	1896
Dhaibung	1,758	Ramche	1196

Table - 5.43

Respondents Farmsize by Different Income Group

Income	Landless	Marginal upto 1.5 bigha	Small 1.5-3.5 bigha	Medium 3.5-7.5 bigha	Large 7.5 bigha	Total
0-3000	6	2	1	-	-	9
3000-6000	9	59	7	4	-	79
6000-9000	8	70	12	4	-	94
9000-12000	3	51	21	-	-	75
12000-15000	2	31	20	-	4	57
15000+	-	40	53	34	12	139
Total	28 (6.18)	253 (55.85)	114 (25.17)	42 (9.27)	16 (3.53)	453 (100)

Table - 5.44

Landowned and Operated Per Respondent and Man/Land Ratio by Districts and Projectwise

IRD Projects	DISTRICT	No. of household	Land owned (Bigha)	Average land owned (bigha)	Total operational holding (in bigha)	Man/Land Ratio on operational holding (in bigha)
Sagarmatha Project	Siraha	80	226.40	2.83	219.65	.32
	Saptari	97	294.59	3.04	314.98	.46
	Udaipur	91	185.32	2.04	170.68	.24
Rasuwa Nuwakot Project	Rasuwa	72	100.70	1.62	103.53	.25
	Nuwakot	85	92.09	0.97	96.99	.18
		425	899.10	2.12	905.83	.30

Table - 5.45

Respondents Percentage Distribution of Ownership of Land Incomewise

Income	COMMAND AREA					CONTROL AREA				
	Land-less	Marginal upto 1.5 bigha	Small 1.5-3.5 bigha	Medium 3.5-7.5 bigha	Large 7.5 bigha	Land-less	Marginal upto 1.5 bigha	Small 1.5-3.5 bigha	Medium 3.5-7.5 bigha	Large 7.5 bigha
0-3000	13.6	0.77	-	-	-	42.9	0.9	1.7	-	-
3000-6000	31.8	17.83	1.8	9.1	-	42.9	29.0	10.0	10.0	-
6000-9000	31.8	29.5	14.8	-	-	14.2	25.8	6.7	20.0	-
9000-12000	13.6	20.9	27.8	-	-	-	19.3	10.0	-	-
12000-15000	9.0	10.8	11.1	-	80.0	-	13.7	23.3	-	-
15000+	-	20.2	44.4	90.9	20.0	-	11.3	48.3	70.0	100
Percentage of Total	9.5	55.6	23.3	9.5	2.1(100)	3.2	56.1	27.2	9.0	4.5(100)

Table - 5.46

Percentage Distribution of Livestock and Goats owned by Respondents Districtwise

Districts	Livestock			Goats		
	No.	%	Average stock of Household	No.	%	Average stock of household
Siraha	316	25.1	3.2	92	21.1	1.3
Saptari	457	36.3	4.8	158	36.1	1.8
Udaipur	486	38.6	5.2	187	42.8	2.0
Total	1259	100	4.4	437	100	1.7
Nuwakot	394	53.2	4.0	209	45.7	2.1
Rasuwa	347	46.8	5.8	248	54.3	4.2
Total R/N	741	100	4.7	457	100	2.7
Grand total Respondents stock	2000	-	4.5	894	-	2.2

Table - 5.47

Percentage Distribution of Livestock and Goats owned by Respondents by Command and Control Area

Income	COMMAND AREA						CONTROL AREA					
	LIVESTOCK			GOATS			LIVESTOCK			Goats		
	No.	%	Average stock household	No.	%	Average stock household	No.	%	Average stock household	No.	%	Average stock household
0-3000	-	-	-	-	-	-	2	0.2	2.0	-	-	-
3000-6000	63	7.3	1.8	32	10.2	1.0	111	9.8	2.5	61	10.5	2.0
6000-9000	123	14.2	2 .4	45	14.3	1.1	154	13.5	3.7	124	21.4	3.0
9000-12000	146	16.9	3.0	56	17.8	1.2	161	14.2	5.6	82	14.1	2.8
12000-15000	105	12.1	5.0	25	8.0	1.2	178	15.7	5.7	101	17.4	3.3
15000+	428	49.5	6.1	156	49.7	2.2	529	46.6	7.7	212	36.6	3.1
	865	100	3.8	314	100	1.5	1135	100	5.2	580	100	2.9

5.2 Impact of the rural development programmes

At the outset it would be proper to mention again, the limitation of our study before analysing the impact of IRDP on our respondents. The limitation is that, the whole of this analysis is based on the sampled respondents perceptions. So the authenticity and reliability of the data, depends on the respondents; their honesty and understanding capacity to the queries put forward by this study. The view articulated by Bharat Bahadur Pradhan on IRDPs evaluations, assert our position. He remarks "the household studies are not uniform. Except in few cases, most of the findings and recommendations are based on general observations and not empirical fact. Of course, in projects of this nature with social and political dimentions, quantitative assessment is difficult"[7].

In order to assess the benefits received, we have taken the eco-socio parameters as (a) Employment (b) consumption (c) production (d) irrigation (e) loans (f) education (g) health (h) drinking water (i) problems faced by the respondents.

Unlike the household characteristics, previously analysed, the analysis here will totally be a comparative one showing only the difference between command and control area.

Employment : Both IRDPs tried to solve the problem of unemployment and underemployment. Studies as ARTEP (1976), Planning Commission Report (1978) and the recent Multiple Household budget survey (1988) have shown that in rural areas, the underemployment is 46.4% of all annual working days. These studies clearly show the magnitude of this problem. It is necessary therefore that rural

development projects should try to provide more employment.

Further the findings of the Sagarmatha and Rasuwa/Nuwakot (R/N) supports the existence of unemployment in these areas. They remark that the main cause of migrating to and (from the hills and mountains) from the project area is due to unemployment and under employment[8,9,10].

The problem of unemployment and underemployment lead to another severe problem that is environmental threat[11]. The non-availability of adequate land for cultivation in the hills puts pressure on less fertile or whatever land is available thus enhancing erosion problem.

The study of "R/N IRDP on meeting Basic Human Needs" (1982) showed that only 19.70 percent of the sampled households in Rasuwa and 8.86% in Nuwakot were employed in the project works; the percentage declined to 0.76% in Rasuwa and 1.90% in Nuwakot, during their survey period. The unemployment rate was 79.54 and 89.24 in Rasuwa and Nuwakot respectively. The study concludes "that very little was done to solve the problem of unemployment after the implementation of R/N project"[12]. The study established that employment had positive correlation with land, i.e. the more the size of land holding the more rate of employment was found in both districts[13].

Our study is somewhat different from the above study. We have tried to find out the area, where our respondents received employment from IRDPs. The table below projects this (Table - 5.48).

Table - 5.48

Employment Provided by IRDP

Areas	Command		Control	
	Number	Percentage	Number	Percentage
Agriculture	41	20.3	6	3.9
Industry	..	..	..	..
Commerce	13	6.4	4	2.6
Construction	145	71.8	142	91.6
Service	3	1.5	3	1.9
Total	202	100	155	(100)

It is seen that in both command and control area, the largest number of respondents stated that they had received employment in the field of construction (71.8% in command and 91.6% in control). Next to it was agriculture. In other areas, the employment provided was small. A cursory glance at the table showed more employment in control area. But as a whole it is the command area which enjoyed higher employment benefit as stated by 87.4% and 69.8% of the respondents in the command area and control area respectively.

Taking another view from the same table, we find that respondents had more employment in construction works (i.e. roads and house building) which are no doubt temporary; others are

somewhat permanent. Now if we deduct the employment received in construction works, we find that only 24.7% in command and 5.9% in control have received employment benefits from the Sagarmatha and R/N IRDPs in their respective areas. Thus our findings come very close to the studies previously discussed.

Consumption: At the inception of the analysis of consumption, we mention that in the methodology, we inserted the dietary survey of the respondents. But in village panchayats surveyed we found contradictory facts that could not be comprehended. So we had to forgo this type of survey. As for example, in Ramche Village Panchayat of Rasuwa district, which is totally inhabited by Tamang ethnic group, we found that their dietary habit consisted high protein consumption. This is not because of high living standard (rather it is low) but because they ate a lot of carcas sold at NRs 2/- per kilogram; such meat is available due to high death rate of domestic animals in the village.

Therefore we confined our study only on limited items of non-consumable goods. That could in someway show some better change, brought about by the two IRDPs. These items were toilet, cloth and shoes. It is generally understood that after satisfying bare necessities of life such as food and shelter, a person seeks to satisfy the wants of comforts. Consumption of comfort goods, no doubt is a subjective matter and such goods may include innumerable list but one can definitely say that the most essential goods of comfort include toilet (for hygienic purpose) cloth and shoes (for better quality of life). So a country that provides such goods to the majority of its citizens can then be said that its

development efforts for better life is somewhat achieved. Hence assuming that IRDP has increased the income of respondents, we take the consumption of these three comfortable goods. Visualising now, the five/six years time duration and the substantial portion of unspent funds, especially in the Sagarmatha IRDP, we find that our expectation was too much. However these findings visualizes important aspects of our study.

Studies related to consumption though differently computed, point out two facts, which are similar to ours. First, major portion of income was spent on consumption of food (cereals) and similar items. It was closely followed by the expenditure on cloth. If we consider the expenditure items, then it was the cloth requirement which topped the list. This is clearly seen by Sagarmatha Base Line Study. It shows that expenditure on cloth and shoes was highest i.e. 24.2 percent and on food it was 11.8%. The DRCG report also shows that the domestic commodities account in R/N districts was 70% of total consumption and the third position was held by the expenditure on cloth, preceeded by that on health. The finding concludes that this may be due to the larger share of Tamang household in both districts "who are served by fairly costly faith healers"[14]. Acharya findings point out that it was the cereal consumption which remains in top position in the daily food consumption pattern for all farms[15].

The Household Multipurpose Budget Report (1988) findings, representing the country as whole revealed that out of the total monthly consumption expenditure of NRs 1092, a sum of Rs. 679 or 62.2% was spent on food, beverage and tobacco[16].

Our observation found that while about 95.2% of the expenditure was spent on consumption items and only 4.8% on non-consumption items such as marriages, recreation, education, death and other rituals. And under total consumption expenditure the major part was spent on cereals alone, it was about 48%. Among the non-food item it was cloth. Very few respondents spent on education.

Another important fact was that these studies and supported by our studies, establish a positive correlation between income and expenditure. As income increased expenditure increased. Further with the increase of income, the pattern of consumption also changed. The percentage of food purchase declined with farm size (main income source) and the percentage for education increased[17]. In other words higher the income or farm size better dietary intake and vice-versa[18].

Thus assuming this type of changes based on the simple economic theory, which states that as income increases (other things remaining the same) the propensity to consume increases for non-edibles and vice-versa. We assume that the IRDP has increased the income of the respondents. Hence there should be some change in the consumption pattern. The table below reveals the change in the three items, namely, toilet, cloth and shoes.

Table - 5.49

Percentage Distribution of Households Consumption by Income

Income	Pre Project period			Post Project period		
	Toilet	Cloth	Shoes	Toilet	Cloth	Shoes
0-3000	1.53	.93	.70	.88	.93	.87
3000-6000	20.31	17.52	12.89	18.10	17.02	15.28
6000-9000	29.89	21.03	11.15	20.53	21.68	18.78
9000-12000	16.09	15.19	15.33	17.22	15.15	17.03
12000-15000	9.20	10.92	11.50	11.70	11.89	11.57
15000+	22.98	32.41	36.43	31.57	33.33	48.46

Since there was similar trend in both command and control areas, we have lumped them together on the basis of income distribution. In the toilet items we have listed soap, hair oil and tooth paste which are of daily use. We had differentiated in cloth between cotton and synthetic and in shoes between rubber and leather. But for the purpose of calculation we have put them under these groups only.

Evidently under the table, the fourth, fifth and sixth income group have increased the consumption of these items, after the project was introduced but in case of the first, second and third group it was just the reverse. This confers that though the projects might have benefited the low income group; it had not led to the improvement regarding the consumption of these items, rather the condition has deteriorated. This may be due to the disparity between income and prices of these goods. If we take a

closer look at the table, we find that there was no significant change. Especially, in the case of cloth, and it is only in the highest income group that change in toilets and shoes had increased about 10 percent. In our causal enquiry with the respondents (especially the lower income ones) we observed that, new clothes would be purchased only when the worn clothes would become rags. Ordinarily moderate income earner purchases twice a year and that too on special ceremonial occasions. In the use of toilets the lower income group, hardly used soap, one cake of soap would be used for two or three months in a family of four. Clothes were cleaned with soda or ashes. In the hills slippery type of mud was also used for bathing and for cleaning clothes in poor families. The use of hair oil was also very rare, in these families. Majority of the respondents used mustard oil as hair oil. We strangely found that in Ramche Village Panchayat, mainly ghee was used as hair oil. Majority of the people did not wear shoe and were bare footed. But some of these respondents had a pair of rubber slippers which were owned and worn only on occasions. In the terai districts, except the very poor section majority of the people were rubber slippers . Some of them even had leather or cotton shoes to wear on occasions.

Production: It is conceived that farmers generally have a tendency to under report production and over report the cost of production. This is because of the fear of being taxed and a general reluctance to show off wealth before other town people, let alone enumerators and supervisors. This tendency is further exaggerated by the general desire to obtain more facilities from projects like the IRDPs[19].

We faced analogous situation, with more under statement of income and over statement of expenditure. To overcome this difficulty and make it realistic we inquired the production of principal crops e.g. wheat, corn and paddy.

Though our procedure is not quantifiable as other related studies (as to the actual increase in the rate of return or the quantum of production) it brings forth similar conclusion of positive impact of IRDP. Murari Mani Aryal comments that, there was substantial differences in production report of DRCG (1976) and the Base Line Report (1978) of R/N districts, though both were positive. He remarks that DRCG report gave lower increase rate, and could not explain the huge amount of rice exported in 1981. "The records available from police checkposts in Kakani and Nagarjung and the tax collecting post of Chaugadha (Our Village Panchayat area) revealed that deppite the fact the sale of food grains by Nepal Food Corporation in the project area, has increased almost threefold during the period under considerations, the net increase in paddy production and exports from the project area is not only positive but also very high"[20]. For the production of wheat and maize there was also an increasing tendency. The impact on wheat is most noteworthy, our observation supported by the findings of socio economic unit of crop survey in wheat, shows that in Chaugadha Village Panchayat wheat production was initiated in lands which was previously fallow. due to the advent of irrigation facility provided by R/N IRDP.

Archarya findings reveal that after the implementation of R/N project the production of wheat increased by 30.6% in Rasuwa, paddy by 12.44% and maize by 5.16%. While in Nuwakot it was 36.68% for wheat 21.91% for maize and paddy by 12.24%[21].

For the Sagarmatha project no such type of related studies was undertaken. Even the Base Line Survey of 1982, undertaken after the introduction of the IRDP, had incorporated no such comparisons. However, we assume that this project, intensified High Yield seeds, fertilizers, irrigation etc in the project area. Then it will naturally, have a significant impact. As for example the Sagarmatha Base Line showed that the yield rate was higher from improved seed compared to local seeds. As the table below reproduced in short, shows this.

Table - 5.50

Production and Yield of Major Crops (Land in Hectare, Production in Metric Ton, Yield in Kg/ha.)

Project Area	Paddy		Wheat		Maize	
	Improved	Local	Improved	Local	Improved	Local
Land	5849	217968	15010	8222	6346	11927
Production	12764	354044	19342	10271	10706	17869
Yield rates	2182	1624	1289	1249	1687	1498

Source: Household Base Line Study Sagarmatha SRDP. Table 3.1.5 p. 28.

Coming to our findings we find that putting both projects together as a whole there had been a positive increase of paddy wheat and maize. The number of high responses in both command and control area, as shown in Table 5.51 was for the maize crop.

Table - 5.51

Responses on Major Crop Yields Pattern

Crops	Command Area		Control Area	
	Yes	No	Yes	No
Paddy	77	155	49	173
Maize	102	118	93	138
Wheat	74	159	62	158
Total	253	432	204	469

It can be seen that in both areas, the negative responses was more to the questions of increase in production for all the three crops. Showing that the impact was not large enough. However based on this table the X^2 test shows that the yield of these crops had increased in command compared to control area.

Impact on Crop Yields

Rice				Expected values		
	Yes	No		Yes	No	X^2
Command Area	77	155	232	116	116	26.22
Control Area	49	173	222	111	111	69.26
	126	328	454	Calculated		95.48

Table X^2 for 1 df = 6.63

As the table value is lower than calculated X^2 value, it suggests that the yield has increased in command area compared to control area.

Wheat	Yes	No		Expected values		X^2
Command Area	74	159	233	116.5	110.5	31.00
Control Area	62	158	220	110	110	41.89
	136	317	453			72.89

As the calculated X^2 value is higher the yield in command area has positive impact.

Maize	Yes	No		Expected value		X^2
Command	102	118	220	110	110	1.16
Control	93	138	231	115.5	115.5	8.76
	105	256	451			9.92

As the calculated value is lower, it shows that the yield in command area has increased compared to the control area.

Besides the respondents, the line agencies and the panchayat leaders, were also, requested to give their view on the possible persentage increase of paddy, wheat, corn, millet. These results are produced in the table below.

Table- 5.52

Increase in Crop Productivity Based on Key Peron's Responses by District.

District	Average increase in crop production (% increase)			
	Paddy	Wheat	Corn	Millet
Siraha	27.9	20.4	8.6	6.8
Saptari	25.5	23.5	7.5	5.0
Udaipur	23.2	11.4	15.4	13.6
Nuwakot	45.0	48.8	40.0	27.5
Rasuwa	30.0	35.0	10.0	5.0
Total	28.0	23.1	13.0	7.2

The table projects, the increase in all crop production was highest in Nuwakot district. The percentage being 45.0 paddy 48.8 wheat, 40.0 for corn and 27.5 for millet. This could be right, for it was actually the irrigation of Chaugadha Village Panchayat that we observed was fruitful. The lowest rate of increase was 23.2% for paddy and 11.4% for wheat in Udaipur district while for corn the lowest recorded increase was in Saptari. The responses for increase of millet crop was lowest in all districts. Further the table depicts that R/N project comparatively had responses higher than Sagarmatha IRDP, represented by Saptari, Siraha and Udaipur districts.

Irrigation: "Productivity of farm labour is largely influenced by (1) the application of work methods that emphasize labour efficiency (2) the quality and capabilities of the agriculture worker (3) the increased use of particular agricultural inputs and (4) the adoption of new production processing and distribution technologies".[22]

To quote Stefan de Vylder's in the context of Bangladesh "there is one crucial natural factor limiting both the extension and effectiveness of the improved seed-fertilizer techology popularly known as the 'Green Revolution' cropping intensity and possible increase in yields per acre are related to the use and misuse of available water resources"[23].

Robert D. Yoder pictures expressively the Nepalese farmers situation, in a study, describing the techology, skills, knowledge and labour used in the construction operation and maintenances of farmers - managed irrigation systems in the hills of Nepal. In his lines "The sculptured rice fields in the river valleys are evidence

of the tremendous effort made by farmers in Nepal, to use all of their limited land resources. Less visible is an even larger effort that requires collective and continuing activity, careful organisation, skilled engineering and often bravery to divert the water from small streams and convey it along mountain slopes to irrigate the fields"[24].

To analyse the irrigation variable, we have produced the three writers, different views on irrigation. In the first place, dependency of the farm labour is on agricultural inputs such as irrigation. The second shows that increased agricultural output is related to the use and misuse of water resources. And lastly, however, backward a Nepalese farmer may be, he has the will, capacity (in terms of labour) and skill to utilize the water resources for his subsistence farming.

A country with huge water resource on one hand and on the other a farming system totally dependent on the vagaries of monsoons, sums up the importance of irrigation. The importance of which is well recognised by the R/N and Sagarmatha IRDPs. For both have placed irrigation separately, from agriculture, in the allocation of resources. R/N had allotted 13 percent and Sagarmatha 35 percent from its total investment[25].

Coming to this study area, the two Base line studies shows the irrigation facilities available in the areas. The findings of R/N shows that out of all sampled land some 70% was bariland (hill land) and 29% was Keth land (valley land); 63% of Keth land was irrigated, but only 1 percent of the bariland had irrigation[26].

And in the Sagarmatha project area, only 4.40% owned and 4.50% operated, had perennially irrigated land, of the entire project. Approximately 62.3% rely on rainfall and canal irrigation. The Sagarmatha coordination office report remarks "Irrigation facilities are very poor. One irrigation system Chandra Canal irrigates about 2500 hectares in the target area"[27].

Analogous is the conditions of our surveyed village Panchayats. In the chapter on leadership, we had already discussed the view represented by the respondents and the respective Village Panchas, about the acute necessity of irrigation. We will analyse here the amount of land of our respondents, which are covered by IRDP irrigations. The table below shows this.

The benefit of irrigation, as underlined by the relevant table points out that only the R/N project provided this facility. None of the sampled respondents of Sagarmatha reported of receiving this benefit. The table reveals that, in both areas the project provided the irrigation benefits. But in relation to household and land covered, it was the command area, which had been benefitted more. In Nuwakot more than double have been benefited, and in Rasuwa two respondents enjoyed more benefits in command area. Among the 49 respondents of Chaugadha Village Panchayat 26 respondents lands were covered by IRDP irrigation facility, while out of 50 respondents of Ganesthan only 10 respondents had this benefit. And in Dhaibung out of 33 respondents 18 received its benefit and out of 23 of Ramche 16 respondents had irrigation benefit. Though the number of beneficiaries were high comparatively in Ramche, it

Table - 5.53

Land Covered by IRDPs Irrigation

Panchayats/ District	Household	Command Area			Panchayats/ Districts	Household	Control Area		
		Katha	Bigha	Total			Katha	Bigha	Total
Nuwakot					Nuwakot				
Chaugadha	26	5	19	19.5	Ganesthan	10	15	5	5.15
Rasuwa					Rasuwa				
Dhaibung	18	4	8	8.4	Ramche	16	8	5	5.8

it was the Dhaibung respondent's land that received more benefit compared to Ramche. It was observed in Chaugadha Village Panchayat that the Gadkhar Irrigation scheme, marked a high rise in production. And as quoted and cited by us earlier, it was this facility which made the possibility of introduction of wheat in lands which were earlier fallow.

Loans: To a farmer, next to irrigation the important input is the availability of credit, especially to the Nepalese farmer, majority of whom are marginal and small farmers in greater numbers who constitute about 60% of the total farmers in the country. Loans can be a boon to uplift them from the poverty line. Besides these farmers, who are landless or resourceless (whose number is also increasing) can be, benefitted by the facility of credits. But it should be remembered that loan facility may militate, if supportive services are not provided.

The agriculture Development Bank, Nepal (ADB/N) Sajha, Agriculture Input Corporation, Nepal (AIC/N) are the institutions, through which the village panchayats receive the benefits of IRDPs, in cash and material, in the agriculture sector. Besides these the different commercial banks also provide the institutional credit. While the traditional or non-institutional credit suppliers are local money lenders, (Landlords, traders, family members and friends).

Pertaining to this aspect we have tried to assess the source of credit, as well as the purpose of the credit flow to the respondents. The related studies, come in line with this findings. As for the source of loan the evaluation of the credit report of

R/N by Joan Voigtgr, showed that "almost half of the credit group farmers reported taking loans from private money lenders, 34% in Rasuwa and 50% in Nuwakot. The weighted average annual interest rate paid to money lenders was 36.9 percent"[28]. Base line survey of Sagarmatha, shows similar dependency on the local money lender. Its evaluation, on the basis of farm size showed that 25.5% of households involved in Institutional borrowing, while 32.2% were in Non-Institutional borrowing in the project area[29].

Taking all the village panchayats 58.74 percent of respondents took loan from local money lenders, and 29.78 from ABN and 11.48% from commercial banks. On the comparison of command and control area, the Chi-square test, taken on the basis of Table 5.54, shows that there was quite difference between source of loan. In the command area, the responses were higher for the institutional credit, but it was higher in non-institutional credit for the control area.

Table - 5.54

Number of Respondents Taking Loans from Different Sources

Source	Command Area	Control Area
Agricultural Development Bank	51	52
Commercial Bank	27	25
Local money lender	106	109
Total	184	186

For the source of loan the X^2 test conducted on the basis of above table gives the result as

	Loan Source		
	Institutional	Traditional	
Command Area	78	106	184
Control Area	77	109	186
	155	215	370

Chi Square = 0.038

Chi Square value from table for 1 df = 6.63

Ho : There is difference in loan sources between command and control area.

Since, the calculated value is less than tabular value, the Ho can not be rejected.

The role of the co-operative, known as Sajha, is becoming popular in the Village Panchayat which we have already discussed in our participation chapter. These local institutions provide loan, fertilizers, and insecticides in the Village Panchayats. Among the respondents 34% benefited by this institutions. To see which income group actually benefited, we analysed the benefit reported by the respondents, on income basis.

Table - 5.55

Number of Respondents Benefited by Sajha (Co-operatives)

Per capita Income Group	Command Area	Control Area
Upto 1200	16	17
1200-1400	11	6
1400-1600	7	3
1600-1800	10	5
1800-2000	7	9
2000+	36	27
Total	87	67

The table shows that comparatively the command area derived more benefit compared to the control area; and it was the highest per capita income group that had been benefited in both areas. This was natural because it was the large landowners who had the means to buy the inputs. But the second highest number who took these benefits were the small income group. In our household analysis, we found, that marginal and small farmers were the highest group of land owners. So this local institution has also served them.

From a brief study of the loan requirements it has been found that in both command and control areas, highest loan amount was used for the purpose of consumption alone. Table 5.56 reveals this:

Table - 5.56

Respondents Requirement for Loan in Percentage

Loan Requirements for	Command Area	Controlled Area
Daily consumption	23.81	29.28
Crop production	19.91	23.87
Animal Husbandry	12.99	10.81
Poultry	.87	.45
Industry	19.48	10.81
Festival or other rituals	7.79	8.11
Loan not required	15.15	16.67
	100	100

The Base line study of Rasuwa/Nuwakot project reports "no less than 80 percent or more of the loans (amount outstanding) in poor villages were taken to meet consumption expenditure". The Sagarmatha Base Line Study points out a similar trend. In the project area "37.1 percent households incur consumption loans while only 8 percent and 6.3 percent of total households borrow for agricultural and livestock purposes"[30].

Looking back to the above table, we find that in the control area, the loan requirement for daily consumption and crop production was more; but it was more for industry and crop production in the command area. Although the institutional credit facilities do not charge high interest rate, still these have not been able to break the dominance of the local money

lenders. Our inquiry found that in some Village Panchayat such as Katari, even rate of interest to the extent of 100% was charged by these local lenders. It would be an interesting study, if more detail survey was conducted to explore the cause of this dominance. Our limited observation found that the institutional credit was more in the form of kind, and the long traditional relations between the lender and the debtor was perhaps the cause of the persisting dominant role of the local lenders.

Socio-Impact: On this aspect we have taken up drinking water, health and education. In these fields the two IRDPs have provided aid in the form of functionaries and medicines, cash and technicians. In the ten village panchayats there were 4 health centres located in four panchayats under our study. The other Village Panchayats were covered by the neighbouring health centres located in other Village Panchayat not in the perview of our study.

The health of a person directly effects the will and capacity to work. Hence the provision of health facilities is a necessity. The primary health problems here are similar to those found in the rural Nepal. Children are prone to stomach parasites; dysentery and diarrhoea are common in the rainy season for all age. Adults seem most affected by gastic and respiratory infections. There are two aspects of medical are, curative and preventive. IRDP has made the maximum emphasis on preventive aspect and investments have been made for the provision of drinking water facilities, etc.

A majority of the population obtain their domestic water from unprotected wells, streams and ponds. "The universally inadequate sanitary arrangements in rural areas cause unprotected water source to be very liable to pollutions. Evidence of this may be seen in the high incidence of water borne diseases"[31]. We thus investigated as to the fruitfulness of IRDP investment, in providing drinking water. We enquired about different source of drinking water, and the time consumed in fetching drinking water.

The related studies in this aspect, show the existence of the scarcity of tap water which is similar to our findings. Archarya remarked that in the R/N project of his study, households using spring water was more 33.81% compared to them there using tap water 29.73%[32]. Likewise in Sagarmatha the lowest percentage was from taps and the highest was from wells.

Comparing the two projects, it was the households of Sagarmatha who enjoyed higher benefit from good water source, than the R/N households. And when viewing, the command and control area, it was the command area which had more access to tap water than control area. This is projected by the table 5.57. It presents little difference regarding to the water source from wells and ponds in both areas excepting in the tap water source. Further in the command area the second position of water source is the tap water which is an improved water source whereas in control area, the second position is the river source. Based on this table 5.58 the Chi square test, shown below indicates a significant difference in the source of water.

Table - 5.57

Reporting on Source of Drinking Water

	Command Area	Controlled Area
Tap	34.63	4.50
Hand Pump	13.85	7.66
River	10.82	36.94
Well & Ponds	40.69	46.40

For the above table showing the source of drinking water the Chi Square test shows the following:

Source of water:

	Tap	Hand pump	Well & pond	River
Command	35	14	41	11
Control	5	8	49	39

Null Hypothesis Ho : There is no significant difference between Control and command Area in regard to source of water

$x^2 = 45.53$

Tabular value of X^2 for 3 d.f. at 1% level of significance = 11.34

As the calculated value X^2 is greater, Ho is rejected.

Studies relating to the time taken for carrying water have presented an interesting picture. The Base Line Study of R/N project showed that it took on an average, each household, 8 (eight) labour days a month on water collection[33]. Base line study of

Sagarmatha which enquired "more time now then five years ago", indicated that the percentage was affirmatively 11.88% and negatively for 88.32 percent[34]. This somewhat indicates that there is positive trend in the time consumed for collecting drinking water. Our findings also support this view. The table below and Chi square test on this basis enumerates the difference in command and control area.

Table - 5.58

Travel time Taken for Collecting Water

Time	Project Area	Controlled Area
Upto ½ hr.	99.13	86.49
½ to 1 hr.	.87	6.76
1 to 2 hrs	-	5.86
2 + more	-	.90

From table above showing the time for the collection of water the X^2 result shows

Time to fetch water

Command Area	99	1	0	0	100
Control Area	86	7	6	1	100
	185	8	6	1	200
	92.5	4	3	.5	
	92.5	4	3	.5	

Chi Square = 9.41

Chi Square value from table for 3 d.f. at 5 percent confidence level = 7.81.

Ho : There is no difference in time taken to fetch water between command and control area.

Since, the calculated Chi square value is higher the Ho is rejected.

Concerning the time taken to reach the source of drinking water it is seen from the table that in both areas the highest responses was half-an-hour (99.13% in project area and 86.49% in control area). It is remarkable that only about 1 percent of households said that time taken to collect water took more than an hour. However there exists significant difference in command and controlled area.

The most successful work of IRD in survey area was the provision of drinking water. Therefore, the investment in the area has made the respondents aware of benefits that could be received from I.R.D.P. developments. The table 5.57 shows that better source of drinking water was available in the command area, i.e. 34.63% compared to 4.50% in control area. The difference is statistically significant.

Potable drinking water facility, for our respondents is in line with average standard of the country which is 10.9% and 5.2% for urban and rural community respectively[35]. But the most pitiable condition exists in health care facilities. The World Bank Report 1988, enunciated the population served per physician and per nursing person for 1981 in Nepal, was 28,780 and 33,390 respectively. Generally, poor health facility is interrelated with poverty and high birth and high mortality rate. Hence respondents were asked to enumerate the mortality rate of their

families in seven year period. For treatment they were enquired as to where or to whom they went. Did they go to the Health Clinics or traditional treatment? And what time duration it took to reach the Health Centre?

The Sagarmatha Base Line reported that 83% go to health post but 29.8% also go for traditional practice[36]. Our findings show that in both command and control areas large number of responses were for Health Centres. But as the table below shows, on the basis of which Chi square test is made, there was little change in the attitude of the respondents.

Table - 5.59

Respondents visiting different types of treatment (In Numbers)

Districts	Command Area		Control Area	
	Health Centre	Traditional Practice	Health Centre	Traditional Practice
Siraha	36	14	46	2
Saptari	40	3	39	4
Udaipur	37	8	40	10
Rasuwa	20	7	5	21
Nuwakot	30	15	20	24
Total	163	47	150	61

From the table 5.59 showing the visits of household for the Health Centre and traditional practice the X^2 shows the following.

Visits for treatment by types

	Health Centre	Traditional Practice	
Command Area	163	47	210
Control Area	150	61	211
	313	108	
Chi square = 2.35	156.13	53.87	
	156.87	54.13	

Chi square from table for 1 d.f. at 10 percent confidence = 2.71

Hence there has been no significant change in the attitude of the population towards treatment in the command and control area.

To the time taken, far reaching the health centres, the readings show that the command respondents in area were in better position.

Table - 5.60

Respondents Reporting of time taken to Reach Health Centres (Numbers)

Time taken to reach	Command	Control
Upto ½ hr.	121	74
½ to 1 hr.	53	70
More than 1 hr	57	78

From the above table X^2 test conducted gives the results as

	½ hr	1 hr	More than 1 hr	
Command Area	121	53	57	231
Control Area	74	70	78	222
	195	123	135	453
	99.44	62.72	68.84	
	95.56	60.23	66.16	

Chi square = 16.624

Chi square value from table for d.f. at 1 percent confidence level = 9.21.

Hence, the calculated value is highly significant. It suggests that the time taken to reach the Health Centre in the command and control area differs. From the table it is observed that a higher segment of population reach to health centres in command area only in half an hour compared to the longer time taken in the control area.

It is strange that though the health centres were situated nearer to the people in the command area yet the number of deaths reported was high, roughly double the deaths reported in the control area. The table below points this out.

Table - 5.61

Household reported death within seven years

Age Group	Command		Control	
	Male	Female	Male	Female
0-5	26	16	21	8
6-14	9	8	5	5
15-34	1	4	2	1
35-65	12	6	4	9
66+	15	11	6	7
Total	63	45	38	30

The table points out that in both command and control areas the infant mortality was high; but the number was higher in command area. Then there was a decline in the two age groups (6 to 14 and 15 to 34) and again a rise in the later age groups. The mortality rate is higher for male compared to female. These conditions were found present in both the areas. Now the question arises, as to the cause of high death in command area. There can be two possibilities. In the first place, respondents of command area reported high male death number, because of their thinking that survey personnels (representing the political authority) may perhaps bring them more health facilities (which are distributed free or for nominal cost). In the control area respondents were not aware of such facilities and they being ignorant they could not remember the death number. Secondly it may be perhaps, that the concentration

of investment of IRDPs, has led to concentration of people also. But since the provision of santitation facilities was absent, it may have lead to contiguous diseases. We found that in these areas business flourished; there was more commuting in and out from the area. But the roads in the market place and the market complex constructed by IRDPs lacked cleanliness. Such case was especially seen in Sukhipur Village Panchayat and Katari Village Panchayat. In fact, the respondents of Sukhipur reported the highest deaths. During our stay in this panchayat, we heard some death incidents due to diarrhoea, dysentery and vomiting. So we perceive that the reported death rate may be correct.

Education: Development does not begin with goods, it starts with people and their education, organisation and discipline. Without these three all resources remains latent, untapped potentials[37].

Though there is still much to achieve in the education field, we cannot deny that in this regard Nepal has made some break through[38]. The percentage of literacy has increased from 10%[39] to 20%[40] and thence to about 30%[41]. Since primary education is free for all from 1976, the enrolment in primary, lower secondary and secondary sections have increased.

But in the rural schools student participation is very poor. And schools in general are run with limited physical facilities. These schools in the survey area, vary in types and size ranging from an improvised one room structure to a concrete building with wall partitioned class rooms. There was one example of a good standard secondary school in Sukhipur with Library,

science equipments, sports materials and a hostel.

In confirmation of our view, studies indicate that the importance of education has still not been realised by the rural mass. The survey conducted by Tribhuwan Research Centre for Educational Innovation and Development 1984 revealed that out of 4655 sampled children 1863 including boys and girls, were found to be participating in school education. But the boys' participation rate was higher by 33% compared to that of the girls. Furthermore, it showed that a child's chance of participating in formal education is reduced by 33%, if he is engaged in earning his living.

The same study points out another important feature. It reported that approximately 58% of the household with some land of their own had at least one of their children participating in formal education. While 73% of landless households did not have any of their children attending school thus clearly indicating a strong positive correlation between land ownership and education participation[42].

The Base line findings of Sagarmatha shows similar trend. The 80.0% of the population aged six years and above either does not attend the formal education imparted by schools or leaves before completing the primary level. And as the level increases the participation decreases. So we see that 20.0% have completed primary level, 11.3% lower secondary and only 4.1 percent completed school leaving certificate[43]. These have been corroborated by Archarya's findings in Rasuwa/Nuwakot. For example in Rasuwa 51.16% was accounted for Primary level, 12.21% for lower secondary

7.56% for Secondary, and 1.16% for higher education[44].

In our respondents household characteristics we have already analysed the number of literate and illiterate in our sampled households. So here we shall assess what is the participation of our respondent family members in different levels of education. We have given four broad education level. Primary, lower secondary and secondary (in one) higher level and technical level. The first two means upto 10 class, higher level means college level and technical means training of practical skill with or without education level. We inserted this level so as to find out, if any of our respondent members received such training. The two IRDPs did not give top priority to education. Rasuwa/Nuwakot project incorporated this field two years later of its initiation; Sagarmatha Project invested especially on the provision of technical training. The table 5.62 reflects that none of the respondents come under the beneficiaries of the training programme.

Table - 5.62

Formal Educational Participation of Respondents Family

Education Level	Command Area	Control Area
Primary	164	145
Secondary	65	62
Higher	4	10
Technical	..	..
Total	233	217

The table remarkably shows that there is a very insignificant difference between the command and control area. The higher number of participation in the command area was actually due to the students of the primary level. While in the higher level, the participation was more in the control area. Our observation found that there were positive correlation between caste and level of education. So members of high castes were seen to have sent their children to far off places, for higher studies, as such facilities were not available in their places. Further the table supports the other studies showing the decreasing participation level of education, in both command and control areas.

5.3 Hinderances towards social equity & justice

The deplorable conditions of the Nepalese people have been already exposed, in our first chapter. Rural programme as IRDP, cameforth implicitly for the upliftment of the rural mass, from their precarious situations. Since it is generally perceived that economic development tends to reduce the increasing gap between the rich and the poor such development should also be accompanied with the equity and justice.

No doubt, a large majority of the Nepalese have a very low living standard. But it is actually those Nepalese who are below the poverty line (living in sub-human conditions) that have drawn the attention of the leaders and economist of the international world. The Multipurpose Budger Survey estimates that out of 22,572 persons surveyed a total of 9,727 or 43.1 percent were living below poverty line in rural Nepal. According to the Survey,

the poverty line is defined as the average per capita monthly income less of NRs 160.80 (hills/mountains) and less of NRs 125.64 for the Tarai (base year 1983/84) required to meet the minimum basic needs. Therefore we find that the objectives of the Rasuwa/Nuwakot and Sagarmatha IRDP were designed to support. His Majesty's Governments (HMG) development strategy that seeks to blend economic growth with equity. The project states that the programmes will help to minimize rik and uncertainties of large number of subsistence farmers, by the adoption of improved farm practices and new technology, which will result in increase in the net income of these farmers, with a farm holding of 0.75 ha, from NRs 1400 to NRs 3000 in the hills and NRs 1600 to NRs 3600 in the tarai district[46]. Similarly it was assumed that the construction works such as roads, irrigation, water conservation, forestry etc will generate large employment opportunities and thus mitigate the problem of unemployment and underemployment of the project areas. Further, the assistance provided in social services by the IRDPs, will eventually assist the large segment of population to reach such services that were priority, at reach only for the few upper class people. It is in these ways the two projects tend to follow the principle of equity.

But pragmatically how far such rural programmes have assisted the poor, is questionable. This is valid in the context of critical finding of different evaluation reports. As to quote the DRCG on Rasuwa/Nuwakot IRDP — "The condition of poverty observed in the course of this evaluation have left one a little shocked and concerned. After five or ten years FAO and IBRD effort

in the Trisuli valley inequality persists and development efforts being focussed on irrigation and low land crops are likely to increase inequality. The project objectives of equity in income distribution and project assistance being relevant and directed to the disadvantaged sections has not been implemented by any of the project component"[47]. The study projects that the upper income group consists more of Chhetries and Brahmins, while in lower income group include Kamies and Damais (Blacksmith and tailors). The Tamang as caste dominates in both Rasuwa and Nuwakot districts, are predominantly in the lower quartile[48]. The report shows very sharp differences in these two groups in the ownership of irrigated lands, income, food intake, and literacy.

The IRDPs in Nepal are not objected towards target groups as in India. There is thus, as the DRCG report evaluates, less chances to attain the objective of balance growth with income distribution. In India these are different studies, pointing distinctly to the percentage of families that crossed the poverty line. As for example the evaluation of Harikumar S in Kumaleom village of Ernakulam District shows that 20.6 percent of families crossed the poverty line. But 79.4% are still below the poverty line[49]. But here also there are several studies revealing the snags in the Indian IRDPs. They project that this programme benefits more to the better off families than worst off. As IRDP in Andhra Pradesh the writer remarks on irrigation benefit — "the policy has a propensity to respond to the better off conditions, rather than create those condition .... it indicates the failure of the policy, both in terms of its capacity to intervene and also to

transform the existing condition in which the poor people have been trapped for centuries"[50]. While in Jalpaiguri district (West Bengal) a study showed that loans were more utilised by well off sections, with non-farm occupations. Subsistance farmers felt that unless necessary infrastructures were provided, such loans served no purpose in raising income[51]. The IRDP observation of Rajasthan points that the administrative lacuna involved, rendered "Asset transfers so common under the IRDP have generated poverty instead of alleviating poverty"[52].

If we take the case of Bangladesh where the successful Comilla model (1961) for IRDP, was sought to be diffused, throughout the country in 1970-71[53], we find that its glorious success has faded in later years thus making writers to conclude that IRDP, though has increased agricultural production, the gains have not been lasting. The programme has proved to be "... very costly in terms of scarce factors of production (capital for subsidies motivated high calibre personnel), is therefore probably not capable for replication over the entire country, and most important of all, IRDP does little to help meet the basic needs of landless and marginal families"[54].

In this context, let us see what our findings bring forth. Now, when we wholly consider the Rasuwa/Nuwakot and Sagarmatha IRDP, it may be noted that the initial beneficiaries were the lower income families because any economic activity, as of construction works, conservation programmes, transportation of materials etc. require the use of labour power. Hence it is possible that the

projects have generated employment benefit for the poor. Our analysis of the employment benefit received by our respondents also support this. Again if we consider the socio-economic facilities provided by the projects, such as the provision of drinking water, health centres and education facilities, undeniably the poorer section has been benefited.

But when we distinguish the benefit received, by the higher and lower income group we find that larger share is gobbled up by the former, leaving very little benefits for the latter.

The household characteristics of our respondents, and the advantages received by the IRDP, manifest two types of deprived or weaker sections. One are those families, who belong to lower caste and backward ethnic group such as Tamengs, Danwars, Kamis, Damai (Traditional occupation classes) in the hills and Doams, Tatmas, Dusat, Musher and Hazams in the tarai. Second are those who have little or no productive resource ownership except their labour.

Taking into consideration only three factors such as land ownership pattern, income distribution and education participation, there exists an wide agreement with Nepalese and other scholars, who are largely skeptical of equity and justice through IRDP.

Our findings reveal that among the total 160 respondents of Rasuwa/Nuwakot project, only 6 are big landowners (with 3.5 and above gigha of land ownership), while out of 293 respondents of Sagarmatha project, about 59 represent this group. Asserting that

majority of the households are marginal and small farmers (consider the tables at the end of this section No. 5.63 and 5.64 of Rasuwa/Nuwakot), we find that though Tamang and Danwar ethnic race were the majority occupants, the Brahmins and Chhetries were in a better position in land holdings. The caste ownership pattern was more pronounced in Sagarmatha, Table 5.65 and 5.66 projects, that although the higher and lower Madhesys represented somewhat equally; it was the higher caste who was better off. All medium and big farmers belonged to the upper class. Only 7 such farmers came from the Danwar caste of Risku village panchayat.

Then coming to the income distribution pattern, it was the higher caste who was in a better position. Table 5.67 and 5.68 of Rasuwa/Nuwakot, projects that, in command and control area altogether 25 represent Brahmins and Chhetries in Rs. 2000 and above income group while only 17 Tamangs and Danwars in both areas comprise this group. In Sagarmatha 88 higher caste respondents in both command and control came under this income group while only 13 represent lower caste in this group (Tables 5.69 and 5.70).

Similarly in participation of different education level of school going family members, our study demonstrates that the higher castes were in majority at all levels (Table 5.71). Both high caste (Tagadhari) and higher caste Madhesy in education participation represent somewhat equal percentage at all levels. But the Tibeto Burman (Tamang, Danwars, Magars) and the lower Madhesey in education participation was negligible. And in the higher level (above secondary) their participation was totally nil.

Then viewing the two important components of IRDP, namely irrigation and credit facilities; the results show that comparatively it was again the upper income caste group taking more advantages. As seen (Table 5.72) the higher caste, respondents numbering 67 have availed institutional credit facilities. While only 9 of lower caste enjoyed this facilities. Similarly in the Rasuwa/Nuwakot IRDP, it was the Brahmins and Chhetries availing credit facilities more than the Tamang and Danwar caste (Table 5.73).

A first hand glance of irrigated land distribution pattern depicted by tables 5.74 and 5.75 show that more irrigated land was held by the lower class. But when viewing the land ownership size and the number of respondents owning it, one can clearly mark, the upper hand position of the higher caste. It is therefore doubtful as to the fruitfulness of agriculture input facilities for the purpose of equalising income distribution.

Conclusion:

The foregoing analysis testifies that the two IRDPs efforts towards equity, has made insignificant dent in the study areas. Even after 4 (four) decades of planning endeavours and the continuous flow of bilateral and international aid, the condition of acute poverty persists. This dimension has been sufficiently articulated by the renowned Nepalese scholar Rishikesh Shaha. In his words quoting of CEDA study 1973 "80% of the position of power (govt. post) and profit are still held by these three castes (Brahmins, Chhetries and Newars). This chronic state of inequality,

which has tended to give the widest opportunity for government services and education to only three castes and to one small area of the country (Kathmandu) cannot be said to be consistent with the modernization goals of the country"[55]. This calls for a drastic Land Reform policy and intensive implementation for employment generation programme.

All the foreoging chapters manifest that in Nepal, rural development is the harbinger of development. Our findings substantiates, largely the conditions of rural Nepal. Projecting the pervasiveness of poverty as the obstacle in the country's development.

The majority respondents of the ten Village Panchayats are residing in these villages for two to three generations whereas about 100 household have been residing from five to six generations. These village settlements like Kalyanpur, Govindpur, Sukhipur, Dhaibung and Ramche, Chaugadha, are old settlements. But Katari, Ganesthan, Risku and Khojpur are new settlements. Perhaps, these new settlements are formed on account of migration from hills and mountains and some development works done in the neighbouring Village Panchayats. IRDP activities have thus augmented the growth of the human settlements.

From the preliminary demographic position with high birth and death rate it may be stated that still a large segment of rural population is devoid of basic health facilities. The somewhat equivalent ratio of female to male and the high child dependency ratio and lowest education participation of female specifically suggests that IRDP should not overlook this segment of the

Table - 5.63

Land holding by Caste in Command Area of R/N Project

Farm Size	Brahman	Chhetries	Danuwar	Tamang	Newar	Damai	Magar	Kami
Upto 1.50	21	12	6	16	8	2	1	..
1.50 to 3.50	5	-	2	4	-	-	-	-
3.50 to 7.50	1	-	-	-	-	-	-	-
Total	27	12	8	20	8	2	1	-

Table - 5.64

Land holding by Caste in Control Area of R/N Project

Farm size	Brahman	Chhetries	Danuwar	Tamang	Newar	Damai	Magar	Kami
Upto 1.50	11	7	11	17	-	-	1	1
1.50 to 3.50	2	7	3	12	1	-	-	-
3.50 to 7.50	1	-	-	4	-	-	-	-
Total	14	14	14	33	1	-	1	1

Table - 5.65

Landholding by Caste in Command Area of Sagarmatha Project

Farm Size	Higher Caste	Lower Caste	Occupational Caste	Others
Upto 1.50	21	5	14	11
1.50 to 3.50	31	2	9	3
3.50 to 7.50	22	-	-	2
	74	7	23	16

Table - 5.66

Landholding by Caste in Control Area of Sagarmatha project

Farm Size	Higher Caste	Lower Caste	Occupational Caste	Others
Upto 1.50	14	5	16	10
1.50 to 3.50	26	3	2	18
3.50 to 7.50	24	1	2	5
	64	9	20	33

Table - 5.67

Per capita income group by Caste in Command Area of Rasuwa - Nuwakot Project

Per Capita Income group (Rs)	Brahmin	Chhetries	Newar	Magar	Danuwar	Tamang	Damai	Kami	Total
Upto 1200	6	-	2	-	1	6	1	-	16
1200-1400	7	3	-	-	1	1	1	-	13
1400-1600	1	2	2	-	1	2	-	-	8
1600-1800	3	2	2	-	1	6	-	-	14
1800-2000	3	1	1	-	-	1	-	-	6
2000 above	8	4	2	1	5	4	-	-	24
Total	28	12	9	1	9	20	2	-	81

Table - 5.68

Per Capita Income Group by Caste in Control Area of Rasuwa/Nuwakot Project

Per capita Income Group (Rs)	Rahmin	Khastriya	Newar	Magar	Danuwar	Tamang	Damai	Kami	Total
Upto 1200	6	4	-	-	9	15	-	1	35
1200-1400	2	-	-	-	-	4	-	-	6
1400-1600	-	1	-	-	1	3	-	-	5
1600-1800	-	-	-	-	-	5	-	-	5
1800-2000	-	2	-	1	-	3	-	-	6
2000 above	6	7	1	-	5	3	-	-	22
Total	14	14	1	1	15	33	-	1	79

Table - 5.69

Per capita income group by caste in Command Area of Sagarmatha project

Per Capita Income Group	Higher Caste	Lower Caste	Occupational Caste	Other Caste	Total
Upto 1200	10	2	6	5	23
1200-1400	4	2	1	9	16
1400-1600	5	1	8	2	16
1600-1800	3	2	1	2	8
1800-2000	5	2	2	-	9
2000 + above	53	7	8	10	78
Total	80	16	26	28	150

Table - 5.70

Per Capita Income Group by Caste in Control Area of Sagarmatha project

Per Capita Income Group	Higher Caste	Lower Caste	Occupational Caste	Others	Total
Upto 1200	11	5	9	7	32
1200-1400	-	-	4	7	11
1400-1600	11	4	4	5	24
1600-1800	7	1	4	-	12
1800-2000	3	2	-	3	8
2000 + above	35	6	4	11	56
Total	67	18	25	33	143

Table - 5.71

Percentage Distribution of Respondents Members by Level of Education Attainment by Caste

Caste	Primary level	Lower & Secondary Level	Higher Level (above Secondary)	Technical	Total
High caste (Tagadhari)	27.18	37.93	57.14	-	31.40
Tibeto Burman	1.39	5.75	-	-	26.7
Other hill group	12.89	11.49	7.14	-	12.28
Occupational	4.36	2.30	-	-	3.59
Higher Madhesey	28.75	22.61	28.57	-	26.88
Lower Madhesey	16.03	13.03	-	-	14.60
Others	9.41	6.90	7.14	-	8.57
Total	66.52	30.24	3.24	-	100.00

Table - 5.72

Institutional Credit Received in Sagarmatha Project Castewise

Caste	Sajha	Agriculture Bank	Total
Higher Caste	19	48	67
Lower Caste	3	6	9
Occupational	5	7	12
Others	1	14	15
Total	28	75	103

Table - 5.73

Institutional Credit Received in Rasuwa/ Nuwakot Project Castewise

Caste	Sajha	Agriculture Bank	Total
Brahmin	39	12	51
Chhetri	23	7	30
Newar	6	2	8
Magar	1	1	2
Danuwar	17	4	21
Tamang	40	6	46
Damai	1	1	2
Kami	-	-	-
Total	127	33	160

Table - 5.74

Castewise Irrigated and Non-irrigated Land Distribution in Command Area (Sagarmatha Project)

Caste Group	Respondent No.	Total land (in Bigha)	Irrigated land (%)	Non-irrigated (%)	Total (%)
Higher caste	78	234.83	17.43	82.57	100
Occupational	22	28.99	3.79	96.21	100
Lower Caste	9	10.37	20.25	79.75	100
Others	16	23.78	37.34	62.66	100
		In Control Area			
Higher Caste	76	286.26	18.33	81.67	
Occupational	20	20.48	18.80	81.20	
Lower Caste	12	26.78	24.68	75.32	
Others	35	77.94	28.90	71.10	

Table - 5.75

Castewise Irrigated and Non-irrigated Land Distribution in Command Area (R/N Project)

	House No.	Total Land (in bigha)	Irrigated land(%)	Unirrigated Land (%)	100%
Brahmin	28	31.11	35.68	64.32	100
Khastriya	12	6.80	64.12	35.88	100
Newar	8	6.20	51.45	50.16	100
Danuwar	8	7.04	71.45	28.55	100
Magar	1	0.52	67.31	32.69	100
Tamang	20	21.42	25.25	74.75	100
Damai	2	1.67	17.96	82.04	100
Kami	-	-	-	-	-
			In Control Area		
Brahmin	14	19.54	32.45	67.55	100
Khastriya	15	19.95	34.84	65.16	100
Newar	1	2.50	30.00	70.00	100
Danuwar	14	11.71	45.00	54.73	100
Magar	1	1.50	43.33	56.66	100
Tamang	33	65.04	9.92	90.08	100
Damai	-	-	-	-	-
Kami	1	0.54	-	0.54	100

population. Programme should entail more in training, educating and providing loans facility to the fairer sex.

The caste composition of our sample reveals that in the Sagarmatha IRDP the higher and low caste are somewhat equal numbers. The Maithali speaking people dominate. But they are totally absent in the Rasuwa/Nuwakot project area. While the hill groups especially the higher caste and the elite groups are present in all panchayats. Further the study finds that the lower caste of the Terai inhabitants in the hill group (lower Madhesy) are the ones who have less fertile and poor land, and small domestic animal stock. Being marginal farmers they have low income. Their main source of income is labour in farms, construction sites, poterage and selling fire wood. In the hills, where development activities are initiated and land is comparatively better the higher caste (hill groups) are infiltrating and are eliminating the original inhabitants such as Tamangs and Danuwars. On analysis the natural tendency on the part of better-off and worse off is that of migration to the better areas. This calls for regional framework of development plans. The IRDP no doubt has considered this, but what is more required is that specific programme for the backward class should be the rule.

The land ownership pattern testifies the dominance of the marginal and small farmers. The study also shows that majority of them fall under the highest income group. This seems paradoxical. Observing the occupation pattern except for a few, it may be noted that most of them supplement their farm income by labour in farm and non-farm sectors. Hence, non-farm supportive programmes and

animal husbandry development is more essential.

In regard to the benefits received as a whole in IRDP, we find that the infrastructure facilities such as roads, bridges including trail bridges, market complex, agriculture facilities, animal husbandry, drinking water and health facilities have no doubt benefited our respondents. But when we review individually the benefit received it is just like a drop of water in the ocean. Observing the village environment, the inhabitants' way of life, their standard of living, it seems development facilities have not soaked to the village level. It is only those households who live near accessible areas from the main East West High way in Sagarmatha IRDP received benefits from the development works. In Rasuwa/Nuwakot the main Trisuli/Kathmandu and Trimuli/Somdang road has very insignificantly affected the households. Except for Chaugadha Village Panchayat of Nuwakot no other Village Panchayat of our sample seems stirred from their backwardness. Our findings support this situation, though it covers a small study areas.

Our analysis shows that employment benefit received is largely temporary. Likewise consumption pattern of the majority has not changed. The acute problem of irrigation is not solved. Credit facilities are not enough. Agriculture extension service has not reached the majority of small farmer. The use of HYV, and fertilizers is limited. Consequently, the IRDP programme to increase agriculture production has also limited result. Similarly, the health facilities provided are constrained with lack of personnels, medicine, financial assistance need for the maintenance of the completed development works, thus limiting the

benefit to the few households only. What could be suggested is that, if the object of IRDP is to develop particular region then infrastructural development should receive the topmost priority. But if it is to erradicate poverty, or to raise the living standards of the rural mass, then the rule of investment must be to generate maximum labour employment in primary, secondary and tertiary sectors. If however the aim is to embrace the equity and justice with development then creation of asset and change in land ownership pattern should receive priority.

R E F E R E N C E S

1. Multipurpose Household Budget Survey (A Study on Income, Distribution, Employment and Consumption patterns in Nepal), Nepal Rastra Bank, Kathmandu, 1988, p. 111.
2. Sagarmatha Household Base Line Survey Agriculture Project Service Centre (APROSC) 1981, 1982, Kathmandu.
3. Ibid, p.
4. Household Base Line Survey, Rasuwa-Nuwakot Development Project, The Socio-Economic Unit, Project Co-ordinator Office, Kathmandu, 1978, p. 21.
5. Sagarmatha Base Line Survey, op. cit., p. 38.
6. Rasuwa-Nuwakot Base Line Survey, op. cit., p. 47.
7. Pradhan, Bharat Bahadur, Centre for Integrated Mountain Development (ICMOND), Kathmandu, 1985, p. 8.
8. Sagarmatha Household Base Line Survey, op. cit., pp. 13-17.
9. Acharya, Rajeswar, Impact of Rasuwa-Nuwakot Integrated Rural Development Project on Meeting Basis Human needs Centre for Economic Development and Administration (CEDA), Kathmandu, 1982, pp. 153-154.
10. Rasuwa/Nuwakot Evaluation Report, Development Research Communication Group (DRCG), Kathmandu, 1981, p. 28.
11. Icmond, op. cit., p. 35.
12. Acharya, Rajeswar, op. cit., p. 146.
13. Ibid, p. 149.
14. DRCG, op. cit., p. 40.
15. Acharya, Rajeswar, op. cit., p. 116.
16. Multipurpose Household Budget Survey, op. cit., p. 12.
17. Sagarmatha Household Base Line Survey, op. cit., p. 67.
18. Acharya, Rajeswar, op. cit., p. 120.
19. Reports - Socio/Economic Unit Rasuwa/Nuwakot Project Co-ordinator office, April, 1983, Kathmandu, p. 12.

20. Ibid, p. 12.
21. Acharya, Rajeswar, op. cit., pp. 126-127.
22. Snodgrass, Milton, M & Wallace, L.T. Agriculture Economics and Resource Management, Prentice Hall, New Delhi, 1982, p. 436.
23. Vylder, Stefan de - Agriculture in Chaina : Bangladesh A Case Study in contradiction and Constraints, Zed Press, London, 1982, p. 18.
24. Yder, Robert D., Himalayan Research Bulletin, Winter, 1986, Vol. VI, No. 1, New York, U.S.A., p. 41.
25. Pradhan, Bharat Bahadur, Rural Development in Nepal, Problems and Prospects, Kathmandu, 1982, p. 50.
26. Household Base Line Survey, Rasuwa-Nuwakot Development Project, The Socio-Economic Unit, Project Co-ordinator's Office, Kathmandu, 1978, p. 2.
27. Reports of Co-ordinator's Office, Office of Co-ordinator Lahon, 1982, p. 4.
28. Voigtgr, Joan, Office Memorandum, World Bank/International Finance Corporation (Nepal, Rural Development, Evaluation of the Effects of the Project Credit Component on Beneficiaries) 1980, p. 16.
29. Sagarmatha Base Line Survey, op. cit., p. 77.
30. Ibid, p. 74.
31. Porter, R.S. & Walsh, M.R., Development Digest, Vol. XVII, No. 2, April, 1979, p. 100.
32. Acharya Rajeswar, op. cit., p. 108.
33. Household Base Line Survey Rasuwa/Nuwakot, op. cit., p. 8.
34. Sagarmatha Household Base Line Survey, op. cit., p. 108.
35. Agrawal, Govind Ram & Shrestha, Rajendra Prasad, Health Care System in Nepal, Centre for Economic Development and Administration (CEDA), Kathmandu, 1984, p. 3.

36. Sagarmatha Household Base Line Survey, op. cit., p. 86.

37. Schumachar, E.F. "Small is Beautiful", A Study of Economics as if people Mattered, Anchor Press, 1977, p. 157.

38. Shrestha, Kedar Nath (Dr.), Educational Management in Nepal, Jagdamba Press, Lalitpur, 1989, p. 63.

39. Nepal, Sikkim & Bhutan (Himalayan Kingdom), Oxford & IBH Publishing Co., Calcutta (Visual Geography Series), p. 38.

40. Jha, H.B. 'Resource Mobilization and Economic Development in Nepal during the Plan Period, Kitab Mahal, Allahabad, 1984, p. 43.

41. SAARC Report, country profile of Members State of South Asian Association for Regional Co-operation (SAARC) Nepal Rastra Bank, Kathmandu, 1987, p. 56.

42. Shrestha, Gajendra Nath (Project Director), Determinants of Educational participation in Rural Nepal, Tribhuvan University, Research Centre for Educational Innovation and Development, Kathmandu, 1984.

43. Sagarmatha Household Base Line Survey, p. 81.

44. Acharya, Rajeswar, pp. 84-86.

45. Multipurpose household Budget Survey, op. cit., p. XV, XVI.

46. Appraisal Report of Sagarmatha Development Project, Asian Development Bank, 1978, p. 44.

47. D.R.C.G., op. cit., p. 56.

48. Ibid., p. 45.

49. S. Harikumar, 'Yojana' Vol. 28, No. 16, Govt. of India Press, New Delhi, 1984, pp. 17-20.

50. Gopal Hara, G. and Ramulu, Bala C.H. Economic & Political Weekly, Vol. XXIV No. 35 & 36, Sept. 29, 1989.

51. Banerjee, S.D., Rural Leadership & Rural Development - A Study of Jalpaiguri District North Bengal (1973-1975) (Thesis), p. 150.

52. Sharma, Rakesh, Economic & Political Weekly, Discussion - IRDP and Rural Diversification, Vol. XXIII, No. 19, May, 1988, pp. 986-987.

53. Vylder, Stefen De, op. cit., p. 148.

54. Jones Steve, 'Rural Poverty and Agrarian Reform' "A critical evaluation of Rural Development policy in Bangladesh", Allied Publishers, 1982, p. 83.

55. Shaha, Rishikesh, Nepali Politics Retrospect and Prospect, Oxford University Press, Delhi, 1978, p. 21.