Final Report

Poverty Alleviation Fund, Nepal

A REPORT ON RATE OF RETURN AND BENEFITS STUDY OF THE COMPLETED COMMUNITY ORGANIZATIONS SUB-PROJECTS

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Kathmandu, Nepal

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Abbreviations

CBO	Community Based Organization
CO	Community Organizations
DDC	District Development Committee
DOLS	Department of Livestock Services
DOWD	Department of Women Development
DPMC	District Project Management Committees
DPSU	District Project Support Units
EDR	Eastern Development Region
GDP	Gross Domestic Product
GON	Government of Nepal
HH	House Hold
HPR	Holding period return
IG	Income generating
INGO	International Non Government Organization
IP	Infrastructure Sub-Projects
LSGA	Local self-Governance Act
LSMS	Living Standard Measurement Survey
MCPW	Micro Credit Project for Women
MERD/PAF.	Monitoring, Evaluation and Research Division of PAF
MLD	Ministry of Local Development
MOAC	Ministry of Agriculture and cooperative
NADC	National Agriculture Development commission
NGO	Non Governmental Organisations
NLSS	Nepal Living Standard Survey
NPC	National Planning Commission
PA	Payback Analysis
PAF	Poverty Alleviation Fund
PCRW	Production Credit for Rural Women
PO	Partner Organizations
PRA	Participatory Rural Appraisal
RCIW	Rural Community Infrastructure Works Program
RF	Revolving Fund
ROI	Return on Investment
RR	Rate of return
SCC	Saving and Credit Cooperatives
SE	Social Exclusion
SHO	Self-help organizations
TG	Target groups
TOR	Terms of Reference
UC	User Committee
UG	Users Group
VDC	Village Development Committee

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Executive summery

Poverty Alleviation Fund (PAF) has been established as an autonomous institution funded by the World Bank. The framework entrust PAF with a managerial responsibility for effective and efficient execution of the poverty alleviation programs in Nepal. PAF promotes demand-led Community Driven Approach using rigorous social mobilization by organizing and bringing poor at the mainstream of development. Likewise, the COs, representing the targeted community, have been formed and capacitated for the effective and efficient implementation of the community-led projects.

PAF's programs have been implemented in selected 6 pilot districts of Darchula, Mugu, Pyuthan, Kapilvastu, Ramechhap and Siraha. The objective of the present study is to evaluate the performance of the completed community driven sub-projects during the first year of operation. The subprojects are to be assessed in terms of their Rate of Return and benefit derived from the specific sub project/activities.

The study helps understand the trends on rate of return on investments. More precisely the report divulges the return to individual beneficiary from investments made in the income generating and Community Infrastructure Sub-Projects. Information was collected from the stakeholders on location by the principal investigator. Core data together with Expert's own observations were utilized to evaluate the financial benefits accruing to the target people from the investment support made by the community organisation with PAF's assistance.

The cost benefit analysis was computed based on; i) the Return on Investment; ii) the Holding period return; and payback analysis. The actual scenario on profitability/loss while undertaking business activities in a particular year is elaborately presented in the study. Owing to the nature of the study, different analytical tools were used. Accordingly various concepts and applicability were selected and their applicability has been defined as appropriate. One of the focuses of study has been to develop an appropriate methodology suitable for benefit computation of the vast project involving varieties of investment which are not mutually exclusive. This, required appropriate assumptions in respect to cost heads and hence are identified and elaborately defined as appropriate.

The level of earning or return to investment in income generating activity based on district is positive except for goat keeping. All district schemes demonstrate positive returns against gross income. But when evaluated considering the variable cost as well some projects of the districts indicate negative returns. The major reason for losses is the death in parent stocks due to unforeseen reasons like death in the parental loss. Some cases of loss were noted mainly due to high feed and labour costs as manifested by the respondents despite the fact that animal raising in Nepal is basically carried on farm residue. Besides, farming community in Nepal does raise animals and each HH normally owns a herd of animal. But the farmers were not able to determine exact cost of raising animal obtained from PAF's support. As it is a known fact that livestock rasing and field farming is complimentary to rural HH in Nepal.

The study concludes with a situation analysis of poverty in Nepal, followed by the GON's priorities and strategy for poverty reduction. Poverty is chronic in Nepal, particularly in rural areas and remote hills of the country. People simply have not been able to benefit from opportunities available and income has remained low with

rural populace in Nepal. Thus the blend of lack of skills and poor health results low productivity and low income and are thereby perpetuating poverty in Nepal.

The analysis takes a diagnostic approach to identify the causal relationship between poverty and cause. In doing so access to land, market access for produce and Social Institutional Barriers are elaborately discussed to assist in understanding the situations. Furthermore, the study presents an analytical overview of PAF's programs, strategy and implementation mechanism followed by the targeted programs of allied developmental agencies like Ministry of Agriculture and Cooperatives, Ministry of Local Development and MOWCSW, involved in the poverty alleviation efforts in Nepal. Besides, the role of civil societies including community based organizations (CBOs), self-help organizations (SHO), non-governmental organizations (NGOs) is presented in supplementing the efforts of poverty alleviation in Nepal.

The focuses of study has been to evolve appropriate methodology suitable for benefit computation of the vast projects involving investment in varieties of income generating activities which have a large variation in income generating schemes. This objective has been successfully attained by the study and applicable methodology has been devised at implementation of the study. Appropriate assumptions have been identified and elaborately defined. The present analysis is first efforts taken in this direction and the continuation of such initiatives is recommended in years to come.

The findings indicates that the schemes are successful in generating income by and large except in cases where losses have been mainly due to external causes like disease and natural calamities. This requires close of scrutiny of the PAF beneficiaries in terms of skills possessed by them to undertake income generating activities and it is recommended to develop a mechanism to extend services in technology transfer. For example, income generating projects relates to understanding of basic understanding of accounting as essential feature and it is seem most PAF beneficiaries largely consists of illiterate and this fact calls for a need in providing basic understanding of basic understanding of accounting to stakeholder to operate enterprise in business like manners.

This draft final report of this report was presented in the workshop organised by Poverty Alleviation Fund on 4th January, 2007 to share the findings of the study. The workshop had participation of the representatives of National Planning Commission, Prime Ministers Office, PAF officials based in Kathmandu, representatives of POs, and the local government (LDO office) of the 5 study districts. The comments, suggestions received in the workshop have been incorporated as appropriate in this final report.

Chapter I: Introduction

1.1 Background

Poverty Alleviation Fund (PAF) has been established as an autonomous institution through a separate Act- 'Poverty Alleviation Fund Ordinance 2004' to implement targeted programs to improve economic situation of the lower strata of the society drowned in absolute poverty and assist in addressing Government of Nepal (GON) Poverty Reduction Strategy. The World Bank (WB) funded PAF's activity is designed to reduce poverty and empower poor. The framework entrusts PAF with a managerial responsibility for effective and efficient execution of the poverty alleviation programs in Nepal.

PAF promotes demand-led Community Driven Approach using rigorous social mobilization by organizing and bringing poor at the mainstream of development. Likewise, the Community Organizations (COs), representing the targeted community, have been formed and capacitated for the effective and efficient implementation of the community-led projects. To implement these efforts the Partner Organizations (POs) have been selected from among NGOs, and Local Government Organization like District Development Committee (DDC) / Village Development Committees (VDC). The POs play an instrumental role in assisting COs, provides the technical support, facilitates social mobilization efforts, build capacity and develop skill by providing training, design and assist in implementations of community projects/sub-projects. PAF's programs have been implemented in selected 6 pilot districts viz. Darchula, Mugu, Pyuthan[1], Kapilvastu, Ramechhap and Siraha.

1.2 Scope and Objective of the study

The objective of the study is to evaluate the performance of the completed community driven sub-projects during the first year of operation, in terms of Rate of Return and benefit derived by the specific sub project/activities. The scope of the study as prescribed in the terms of reference (TOR) is given hereunder; the detailed TOR is annexed as annex 1.

- Review the research on the valuation of the other poverty alleviation programs and in particular work completed or underway in PAF operating areas;
- Review the institutional and organizational basis of current poverty alleviation sub - projects management and decision making at the community level;
- Design a research program consistent with the Project Appraisal Document, Operational Guidelines, rules and other documents such as draft Log Frame of Poverty Alleviation Fund and coherent with research currently underway in the areas.
- General objective of this study is to assess the performance of the community driven sub projects in terms of internal rate of return of the specific sub projects/activities.

It is expected that this report will help in understanding the trends on rate of return (RR) on its investments in the income generating (IG) and Community Infrastructure Sub-Projects (IP) of Community Organization (CO) and guide in setting future priorities as well as expand PAF program to other districts of Nepal[2]. The study represents the actual benefit accrued by the beneficiary from IG activities undertaken from the PAF support.

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[1] However, the program in Pyuthan have been differed to later date.

[2] Research Coordinator (Team Leader)- Mr. Rajendra Pratap Singh; Associated Research Coordinator- Dr. Subarna Bajracharya; Field Research Coordinator and Data Analyst- Mr. Uttam Prasad Dulal.

1.3 Definition of the Study Area and Coverage

On the basis of the TOR, the Study Area includes the five pilot projects of PAF viz., Mugu, Darchula, Ramechhap, Siraha and Kapilvastu. Brief information of the Project Area is presented hereunder.

- ***Mugu*** the district is administratively divided into 24 VDCs, with Shreenagar VDC being the district headquarters. The district has no road connectivity for vehicular movement and all internal movement is carried on foot. A limited air service is available from Nepalgunj and Surkhet. 81.15% of the population is economically active, out of which 89.52% are involved in agriculture activities and rest are involved in other activities like wage labor etc., and going to other parts of Nepal and India in search of employment. The agricultural land constitutes 2% of the area, out of which 15.11% land is irrigated. The major ethnic composition in the district include: Chhetri (44.30%), Thakuri (17.00%), Dalit (16.30%), Sherpa (10.13%) and Brahmin (4.34%).

- ***Darchula*** district is administratively divided into 41 VDCs with Khalanga VDC as the district headquarters. The district has no road connectivity with vehicular movement to any parts of Nepal. People travel to this district via Dharchula in India from Mahendranagar**.** The economically active population in the district constitutes 66.24% of the population, out of which 87.30% are involved in agricultural activities. The agricultural land constitutes 26.6% of the area of the district, out of which 22.5% land is irrigated. The major five ethnic groups in the district residing include: Chhetri (60.05%), Brahmin (18.47%), Thakuri (6.60%), Kami (5.29%) and Lohar (2.19%).

- ***Kapilbastu*** district is administratively divided into 78 VDCs and Taulihawa Municipality is the district headquarters. East West Highway passes through the district along its northern part and various north-south feeder roads connect the rural area. The economically active population in the district constitutes 58.88% of the population, out of which 71.52% are engaged in agricultural activities and other in wage labour within the districts as well as other area in Nepal and India. The agricultural land constitutes 34% of the area of the district, out of which 24.37% land is irrigated. The major ethnic group constitute, Muslims 19.42% of the total population are the dominant ethnic group of the district followed by Tharu (12.57%), Yadav (9.67%), Brahmin –Hill (8.39%) and Kurmi (6.69%).

- ***Ramechhap*** district is administratively divided into 55 VDCs, with Manthali VDC being the district headquarters. The district is connected by motorable road to Kathmandu from Manthali**.** The economically active population in the district constitutes 70.44% of the population, out of which 86.91% are involved in agriculture activities. The agricultural land constitutes 17% of the area of the district, out of which 28% land is irrigated. The major five ethnic groups in the district include: Chhetri (26.44%), Tamang, (20.56%), Newar (14.09%), Magar (10.92%) and Brahman (5.63%).

- ***Siraha*** district is administratively divided into 106 VDCs and two municipalities namely Sirha and Lahan. East West Highway passes through the district along its northern part and it is connected by various north-south feeder roads connecting various parts of the district. The district constitutes 53.45% economically active population, out of which 61.33% are engaged in agriculture activities. The agricultural land constitutes 52% of the area of the district, out of which 51.95% land is irrigated. The economic resource base of the district indicates that most of the land resource is used for agriculture activities, but the division of land is not

equitable. However, there are a large number of households without any land. The Tarai ethnicity namely Yadav, Muslim, Mushhar, Koeri and Teli make up the major five ethnic groups in the district and other Tarai castes include Brahman, Rajput, Kayastha. The Hill ethnic constitute approximately 20% of the total population and include Brahman, Chhetri, Dalits and Janjati groups. The number of ethnic groups comprising Janjatis and Dalits in Siraha is also the largest.

1.4 Food Sufficiency Status in the Study Area

Food sufficiency status in the study area is given in the table 1 below followed by the general socioeconomic conditions of these districts.

Table 1: Food Sufficiency Status in the Study Districts

Food in Mt.

Areas	Population	Rice	Wheat	Maize	Millet	Barley	Total edible production	Requirement	Balance
Mountain	1783738	71066	65991	113333	45766	3657	299813	340693	-40880
Hills	11009393	549508	376679	910532	182972	4140	2023831	2212889	-189058
Terai	12299060	1737966	708612	162975	9040	316	2618909	2226128	392718
Nepal	25092191	2358540	1151282	1186840	237778	8113	4942553	4779710	162843
Siraha	617101	112614	28299	0	982	0	141895	111695	30200
Ramechhap	221621	9824	7702	36996	4896	28	59446	44546	14900
Kapilvastu	528045	70669	40754	0	82	29	111534	95576	15958
Mugu	46979	2779	2811	148	1255	385	7378	8973	-1595
Darchula	129906	5941	7641	5989	969	278	20818	24812	-3994

Source: Ministry of Agriculture and Cooperative, Department of Agriculture, Agri-business Promotion and Market Development Directorate (2006): Agricultural Marketing Information Bulletin, Special Issue-2006.

The two districts Mugu and Darchula are food deficient and remaining three districts Siraha, Ramechhap and Kapilvastu are reported as being a food surplus. However, it may be noted that due to uneven distribution of land, considerable population including Dalits and landless do not have sufficient food production within own agricultural sources. Thus, a large majority of rural population falling in this category depends on share cropping, land leased from the land lords and wage earning for livelihood. Seasonal migration to India or to other towns of the country, to work as wage labour or to the third countries is a common phenomenon to this venerable population and earning from these ancillary sources constitutes a major source of livelihood to them.

The general socio-economic Indicators of the Study area is given in table 2 below.

Table 2: General Socio-economic Indicators of the Study Area

Indicators/Particulars	Districts				
	Mugu	**Darchula**	**Ramechhap**	**Siraha**	**Kapilvastu**
Ranking by ICIMOD	75	57	51	61	54
Ranking by CBS	75	60	56	64	55
Per Capita Income in Rs.	5,065	4,876	6,421	9,257	6,541
Area and Population					
Area of the District in Sq. Kms	3,535	2,322	1,546	1,188	1,738
Total Population	43,937	1,21,996	2,12,408	572,399	4,81,976
Male	22,250	59,791	1,00,853	278,466	2,47,875
Female		62,205	1,11,555	293,933	2,34,101
Total Households	8,261	21,029	40,386	100,010	72,932
Average Family Size	5.32	5.8	5.26	5.72	6.61
Population Density per sq.km.	12	53.	137.	482	277
Education and Health					
Literacy (6yrs. and above) **in %**	28.00	49.50	39.40	40.70	41.80
Male in %	45.40	67.40	53.80	27.10	53.30

Indicators/Particulars	Districts				
	Mugu	Darchula	Ramechhap	Siraha	Kapilvastu
Female in %	9.30	32.50	26.60	53.60	29.50
No. of Schools	123	300	408	405	275
Total Students	7,591	34,439	58,440	101,641	79,604
Total Teachers	471	1,233	1,185	2,293	1,647
Life Expectancy in years	36.0	52.0	61	62.5	53.5
No. of Health Care Centers	26	42	55	110	78
Access to Facilities to HH in %					
Use of Improved Toilets	14.4	14.4	34.9	19.3	18.6
Improved Drinking Water	55.3	71.4	72.8	91.8	84.3
Use of Electricity	5.7	8.3	7.01	32.1	28.4
Use of Television	0.2	2.9	1.4	12.9	15.0

Source: Various publications of GON.

1.5 Study coverage:

PAF has been providing assistances to rural populace with the partnership of selected POs on area covering i) Social mobilization, Capacity Building; ii) Income generating (IG) enterprises development; iii) Infrastructure development; iv) Social development providing facilitation services and closely monitoring COs from its formation to implementation of the sub-projects. A wide range of activities on Income Generation/Enterprise Development and Community Infrastructures are supported providing fund grants to COs, along with technical and skill necessary to run the activities in a package programme as demanded. Within the framework of TOR, the present study covers the completed income generating activities within first year of its operation including:

Income generating activity*:* Altogether 14 Income generating (IG) activities including: i) Animal business; ii) Buffalo raising; iii) Cow raising; iv) Goat raising; v) Ox raising; vi) Pig raising; vii) Poultry farming; viii) Yak raising; ix) Vegetable farming; x) Dhiki pump for irrigation; xi) Hand pump for irrigation /drinking water; xii) Retail business; xiii) Rickshaw pulling; xiv) Tailoring.

Infrastructure related activities include: i) culvert; ii) micro irrigation; iii) road; and iv) drinking water projects are covered in this study.

Chapter II: Study Approach and Methodology

This chapter presents the methodology used to answer the research questions of this study. After presenting the sampling frame and the selection of households, the data collection, entering and the cleaning of the data is described. The measurement of the dependent as well as the independent variables used in the financial and economic analysis is also described here under. The use of sampling weights and the methods applied to measure statistical inferences are also presented in this unit.

2.1 Study Design:

Based on the nature of the project and IG sub-projects the study design follows the following pattern. Infrastructure projects are more guided by the economic analysis where as the income generating projects are steered by the financial analysis. However, the economic analysis of the projects presented in this study is similar to financial analysis: both appraise the profit/loss of an investment. The concept of financial profit is not the same as economic profit. The financial analysis of a project estimates the profit accruing to the project-operating entity or to the project participants, whereas economic analysis measures the effect of the project in totality. For a project to be economically viable, it must be financially sustainable, as well as economically efficient. Financial analysis and economic analysis are therefore are seen as complementary and hence dealt accordingly.

2.2 Sampling frame and selection of the households

As this study is part of the PAF supported infrastructure and IG sub-projects, we used the common sampling frame agreed upon by all participating members and selection of sample population was done by random method using computer generated random table.

Ten percent of the completed COs was selected based on the first level activities clusters. In case of the COs sub-project having large number of beneficiary 5 interviews were conducted as a minimum base. However, COs having less than 5 members, interviews were conducted with all the beneficiaries available on the location.

The household involved with the infrastructure projects appeared quite large. As such only up to 20% of the beneficiaries Households were interviewed for the study. The schedule of total population involved in various categories of projects for conducting survey is given in the proposal submitted to PAF.

2.3 Surveys and Data Collection:

The study utilized secondary as well as primary data. The secondary data on various schemes were collected from district and the central level agencies. The primary data were collected from beneficiary households through questionnaires developed by the study team. Participatory rural appraisal exercise and group discussions with CO members, community leaders, women groups, implementing agencies, officials and the representatives of Non Governmental Organizations (NGOs) were carried out as appropriate based on the nature of information required. Besides, discussions were held with staff of agencies involved in poverty alleviation programs in Kathmandu as well as field as appropriate.

A draft questionnaire was designed and submitted to PAF for comments. The revised version was tested in one of the PAF districts, Mugu, as a part of the study. The experiences of the pre-test helped to further improve the questionnaire.

The interviews were conducted by the research team itself without using enumerators. Prior to the survey the members were extensively familiarized with the project in the office and in the field. Each question was raised and discussed in a greater detail with reasoning, measurement, concepts, coverage, and the reference period.

2.4 Data entry and analysis

It includes both quantitative and qualitative analysis. Excel, MS Access, FoxPro program was used for data entry and conduct descriptive and exploratory analysis. The data was cleaned for wild codes, inconsistencies, and extreme values. The financial analysis is focused on key aspects of RR calculation, and statistical tools are used for socio-economic analysis. Due to the high amount of information needed within PAF supported IG sub projects the households were visited personally by the study team members. Additionally, information was drawn from secondary data, interviews with experts, and from the results of similar other studies. The summery of interview for IG projects and infrastructure project is given in table 3 and table 4 below.

Table 3: Summery of interview taken in respect to IG Projects[3]

Activities	Siraha	Kapilvastu	Darchula	Mugu	Ramechhap	Total Interviews
Animal Business	9					9
Buffalo Raising	23	11				34
Cow Raising	13					13
Dhikki Pump	3	1				4
Goat	23	12	10	4	10	59
Hand Pump		2				2
Ox	7					7
Pig	9	4			4	17
Poultry	1	2		2		5
Retail Business	24	3			2	29
Rickshaw	7					7
Tailoring	4				1	5
Vegetable	2	9		4	4	19
Yak Raising			1			1
Culvert		3				3
Micro Irrigation			8	1		9
Road				1		1
Drinking Water	9	1		4		14
Grand Total	**134**	**48**	**19**	**16**	**21**	**238**

Source: RR study field survey, 2006

Interviews conducted with infrastructure project beneficiaries are not included in above table 3, as the nature of the benefits varied to income generating projects. In this case PRA exercises were used to draw the information and the number of interviews and the venue of the sessions are given below in table 4.

[3] List of person interviewed is given in the table presenting the cost benefit analysis.

Table 4: Summery of interview taken in respect to Infrastructure Projects[4]

Type of Projects	Name of the CO	Place	Number of Participants
Culvert	Naba Prabhat CO, Pragatisil CO and Siddhartha CO, Kapilvastu Bajrang Samudayik Sanstha	Kapilvastu Kapilvastu	24 Included above
Micro Irrigation	Jhusku Chetansil Chetabsuk Samudayik Sanstha	Darchula	Included above
Road	Pragati Sadak Nirman Sewa at Gauntari, Siraha	Siraha Mugu	26 Included above
Drinking Water	a. Mijar Samudayik Sanstha,- b. Deepjyoti Samudayik Sanstha c. Murma Khanepani	Siraha Siraha Mugu	5 4 Included above
Total			
Grand Total of Interviews conducted for the study Table 3 and 4 = 297			

Source: RR study field survey, 2006

2.5 Special consideration in conducting the interviews:

Said earlier the study team members themselves conducted the entire interview and data collection so as to observe the real life situation of the beneficiaries. This process was instrumental in getting the true scenario, since most of the respondents involved were illiterate and hard core poor having no knowledge of accounting, and to them earning meant consumption. Most respondents were found living on day to day basis banking on limited farm produce and wage earning. Thus, the questions had to be repeated to generate the required information.

2.6 Economic Analysis:

The economic analysis is used to calculate the performance of the IG and Infra sub projects and evaluate that available resource (inputs and outputs) have been used appropriately. The procedure used to undertake economic analysis follows following sequence in interrelated steps:

- defining project objectives and economic rationale;
- determining whether economic benefits exceed economic costs;
- assessing whether the project's net benefits will be sustainable throughout the life of the project;
- identifying the distributional effects of the project, particularly on the poor; and
- enumerating the non-quantifiable effects of the project that may influence project design and the investment decision.

2.7 Cost Benefit Analysis

Cost Benefit Analysis is relatively simple and widely used technique to calculate a return on investment. As its name suggests, to use the technique simply add up the value of the benefits of a course of action, and subtract the costs associated with it.

[4] The number of interviews mentioned in this table is not included in table 3 and are not used for socio-economic analysis. These interviews were conducted based on PRA techniques.

Costs are either one-off, or may be ongoing. Benefits are most often received over time.

To substantiate the result generated by benefit/cost analysis payback period is also computed in this study. Payback period is the time it takes for the benefits of a change to repay its costs. Considering the nature of the PAF supported IG sub-projects, the benefits/cost analysis is computed in following two stages:

Return on Investment (ROI) is the ratio of money gained or lost on an investment to the amount of money invested. ROI is a measure of investment profitability, not a measure of investment size. Before drawing any conclusion on this ratio, the seasonal variability, and at the quality of the assets used are considered. In mathematical terms, the arithmetic return is defined as the following[5].

- ROI_{Arith} = +100% when the final value is twice the initial value
- $ROI_{Arith} > 0$ when the investment is profitable
- $ROI_{Arith} < 0$ when the investment is at a loss.

Formulla for computation of ROI

$$\mathbf{ROI}_{\boldsymbol{Arith}} = \frac{V_f - V_i}{V_i}$$

Where,
V_i is value initial investment
V_f is value final at the year end

Holding period return (HPR) is calculated to analyse the actual scenario on profitability/loss while conducting business in the particular year with different holding periods. Although the PAF sub projects are defined as completed one year, however during interview, the study team found some projects had just started and income generation had started only few months back. It is seen that the projects were complete from accounting point of view but from the financial stand point the return from the projects started since few months only. Thus, HPR was only tools found that could capture the rate of return from the investment. All the variable expenses and daily income from the business are computed and considered in this analysis. ***In this case the rate of return generated by holding period return is the actual return on investment[6].*** The concept here is corollary to the rate of return in financial analysis. HPR in simple term:

Holding-Period Return = (Ending Price – Beginning Price + Cash Return) / Beginning Price. Airthemitically as explained below:

[5] It may be noted that ROI is a measure of cash (or potential cash) generated by an investment, or the cash lost due to the investment. It measures the cash flow or income stream from the investment to the investor. ROI is used to compare returns on investments where the money gained or lost -- or the money invested – are not easily compared using values. Furthermore, it estimates an **Annual Rate of Return** is the return on an investment over a one-year period

[6] Generally, HPR concept is used in dividend bearing instruments like stocks and bonds with ensured payback on completion of maturity period. This concept is used in the study with assumption that keeping animal bears dividend on maturity, keeping other things like unforeseen death.

$$HPR_n = \frac{V_f - V_i + \text{Income}}{V_i} \times 100\ \%$$

Where; V_f is the end value of the product
V_i is the initial value of the investment

HPR is further calculated in two ways, i.e. HPR without variable cost (Gross Income) and HPR with variable cost (Net income). The purpose of conducting these two analyses is to observe the effect of variable cost on investment. This is essential mainly because the Asian (Nepalese) farmers in general have tendencies of projecting high cost attached to animal feed[7] and labour wage in agricultural profession.

Pay Back Period: It is measured in time it will take to recover the initial investment made in the IG sub projects. The efficency of the project can be measured from this calculation. The equation for the pay back period is:

$$\mathbf{P = \frac{I}{O}}$$

Where, I- Investment in the project.
O-Output generted from the project in the given year.

Stakeholders Productivity analysis: When question is asked on who looks after the cow, the general answer is that everyone in the family. Thus, this analysis is conducted to understand the contribution of each member of the family in the IG sub project. More the number of people involved to look after few number of the livestocks, the productivity per stakeholder will be automatically low. This analysis will give the status of the stakeholder from the prospective of its productivity.

2.8 Definition of the Concepts Used in the Study

The definition and the concept used in the study are presented hereunder.

Nature of investment: Most of the income generating scheme supported by the PAF relates to investment in livestock's and agricultural sector[8]. Income generation in animal keeping is perennial while considering the life of animal and nature of investment but the actual income generation is periodic and cyclical. Intervals in income generation relates to the reproduction cycle and lactation period, reproduction

[7] As we know that livestock growing mostly based on farm residue feeding.

[8] In Nepal, livestock sub-sector contributes 32 percent to agricultural GDP. More than 80 percent of the economically active population is engaged in crop-livestock-forest integrated farming systems. In general, livestock contribute close to 50% of the household income in the higher altitudes, 36% in the mid hills and about 28% in the Terai. In Nepalese society, livestock also carry social value and it is estimated that about 80% of the rural households benefit from the sector, of which 3% are landless. A significant proportion of small farmers and the landless keep a higher proportion of livestock. Livestock plays a vital role in food security for the poor, and is the only source of high value protein in the diet as well as providing 20 percent of total household income in the hills. Small farmers having landholdings between 0.2 and 0.5ha keep almost 25% of the livestock. As the large proportion of farmers with lower proportion of landholding keep livestock, they necessarily depend on forest supplies for their livestock.

cycle concerns with goat and piglets and the production cycle is presented hereunder in table 5 below.

Table 5: Reproduction Cycle and Lactation Periods of Some farm Animal[9]

Type of Animals	Gestation period	Return heat	Reproduction cycle	Number of offspring	Lactations days	Yield kg	Reason for keeping
Cow[10]	282 days	30 – 60 days	312 – 342 days	1	362 – 344 days	460 +,- 97 days	Milk production
Buffalo	304 days	30 – 60 days	337 – 367 days	1	216 – 523 (492) days	600 days	Milk and meat
Sow	120 days	60 days	180 days	10 to 15 each 3 times a year			Meat
Goat[11]	150 days	50 days	190 days	2 each 2 times a year.			Meat
Yak	259 days		1.5 Years	1			Milk, meat and transportation draught

Source: Malla, Shree-batsa Man, (2062), Handbook of Animal Husbandry and Animal Health Care.

***Beneficiaries**:* Beneficiaries are defined as person or persons receiving PAF contribution/grants to start any income generating activity. In most case the only available resource available with the household covered under PAF scheme relates to the labour available in the household. The general characteristic of HH covered under PAF project districts include:

- Hard core poor.
- Limited access to resources.
- Low literacy coupled with very low level of capability.

Fixed Cost: this relates to PAF contribution and investments by the individual taking support from PAF and the investment of individual enterprise owner.

Current value of investment: **Value of animal** is assumed at the purchase rates as the value largely fluctuates between the lactating and dry period. Generally, animal keeper purchases growing animal so for certain years value is seen constant.

Interest: Actual amount of interest paid by the enterprise as determined by the enterprise to the CO.

Variable Cost: The variable cost include the actual cost incurred in production of income generating sources like feed in case of livestock and seeds, agricultural inputs in case of farming, besides the labour cost common to all investment. Ideally, all cost besides the initial investment is included in variable cost. **In the contest of this study, it may be noted that the human labour cost charged against the activity appears very high, lowering return on the investment.** To measure variable cost relating to this study is briefly discussed hereunder:

[9] Shree-basta Man Malla, 2062, hand book of Animal husbandry and animal health care.

[10] Milk and calf constituted the major source of income to farmers besides cattle waste which is used as major manure and cow dung cake for cooking[10] fuel.

[11] Goat and pig, general reproduction cycle is 152 and 120 days respectively. Accordingly reproduction cycle is 2 and 3 for pig and goat respectively. In general goat gives birth to 2 kids and 10 to 20 piglets per year and these constitutes major source of income to farmers.

- **Feed cost:** Actual amount spent by the enterprise for keeping animal. It may be noted that livestock raring in Nepal is based on feeding farm residue and feeding feed is a new practice. In calculation cost of farm residue is not included as these have been charged in other counts, grazing time and field farm operations by the farmers. And, cost of actual money spent in feed[12] is included under this head as given by the individual enterprise.
- **Human labour:** This includes the time claimed by the farmers for animal husbandry and grazing. However, during interview with the farmer it was revealed that they performs multiple task during this period like, i) the time devoted for grazing animal do not relate to the animal taken from PAF support only but also include the herd owned by the each HH; ii) working in the field farming; iii) it is a common practice with the shepherd that they normally gets involved in other income generating activities like weaving rope, bamboo products etc.; iii) collecting wild edible plant for consumption or to sell etc.; iv) collect fire wood for selling and house use. **As such time claimed for this purpose have been adjusted for time devoted to a particular activity that about 15 % of the time claimed is actually devoted for grazing particular animal received under PAF assistance.**
- **Gross income:** is obtained as the sum of all kinds of vegetable production during the recall period valued at the market price as responded by the entrepreneurs. The data needed for calculating the income from livestock production was gathered at the livestock farming level. The gross income from livestock production is the sum of the value sold and the value slaughtered for home consumption. Similar bench mark was used to in respect to vegetables.
- **Net income**: was obtained by subtracting the sum of the cash expenses incurred in conducting business like, land preparation, seeds, fertilizer, irrigation, pesticides, transport, and hired labour in case of vegetable farming; and feed cost from the gross income. The labour component consisted of wages paid in cash and in-kind. Furthermore, in calculating net income the variable costs lost due to death of animal (partial) or theft, have been subtracted.

2.9 Major Assumptions

The main assumption applicable to the economical and financial calculation is presented hereunder.

2.9.1 Fixed cost

- **Value of animal:** The value of animal is calculated on the price invested at procurement whether lactating or not. This is mainly because the price of lactating animal reduces during the dry period and valuing animal at dry period rate could be misleading. This assumption is based on the fact that the price of animal goes up again when lactating.
- **Meat animal**: Meat animal is valued at the price mentioned by the owner. In this regards an attempt was made to determine value based on the weight-gain and prevalent meat rate per kilogram in the area. However, determining the weight as well as the price becomes a major problem as no standard rate for live

[12] Feed costs, where ever expressed very high, reference is made to Hand book of Animal Husbandry to determine standard feed requirement and costs.

animal existed. Besides, it was found that all live animals trading was done in lump sum in private trait based on negotiation.

2.9.2 Price/Income

- **Chicken meat and egg:** The price mentioned by the farmers was taken as the market price.
- **Vegetable:** The questionnaire was set to collect the quantity of vegetable grown and the amount for the sold volume. However, the farmers were not able to give such details except their total earning. As such the calculation is based on the earning declared by the farmer.
- **Annual Income:** taken as mentioned by the entrepreneurs.
- **Income main product**: the price of milk, meat or vegetables cost were taken as mentioned by the entrepreneurs.
- **Income from vegetable:** The lump sump seasonal earning as provided by farmers is considered in calculation, as farmers were not able to provide details on quantity and price of each transaction.
- **Cost of vegetable consumed by the HH**: The farmers were not able to provide any information on the quantity consumed by HH and price attached to such consumptions, except mentioning that they consumed. **Thus, the HH consumptions are estimated based on the HH family size, at the rate of Rs. 10 for family with 5 members and Rs. 15 for more than 5 members.**
- **Farm manures:** the quantities and the value of farm manures were taken as declared by the entrepreneurs. Besides, this value was crosschecked at general meeting of farmers on location.
- **Cow dung cake:** In Terai districts it was found that cow dung cakes constituted a major source of cooking energy, however, no monetary value was attached to this by-product produced out of cattle waste. In the study calculation value have been attached to this product. **The value of cow dung cake is determined based on the time devoted to collect firewood, which is estimated that 10 percent labor time per day, and the value of cow dung cake is determined at Rs. 8 per day i.e. 10 percent of average wage rate of Rs. 80.00. This value was authenticated at various locations during general discussion with the stakeholders.**

2.9.3 Variable cost:

Other than mentioned here in, all calculations are based on the amount declared by the farmers on various heads.

- **Animal grazing time:** when asked about the time required for animal husbandry, the general answer was 4 to 8 hours. However, close scrutiny of the time spent by the cow boy indicated that as he gets involved in different activities, only **15 percent time** is devoted to grazing . However, it may be noted that attaching any value to grazing any particular animal would be very difficult as the grazing herd constitute several types of animal like cow, buffalo, goat, ducks etc., beside a Shepard may take neighbors animal for grazing.
- **Animal business:** The respondents were not able to provide exact duration of time spent in conducting this business except time devoted for going to weekly

animal haat bazaar. Thus, based on this information time devoted to animal business is **counted at 52 days a year at daily wages declared by the respondent.**

- **Retail business and tailoring:** In the strict economic sense the shop operation cost requires to calculate the total duration spent in business multiplied by the wage rate. However, the shops in rural selling are more of casual business and more of an extra curricular activity. **Thus, operation cost in calculation represents 50% of the daily wage rate of Rs. 80 per day.**

Chapter III: Profile of PAF Beneficiaries

3.1 Composition of CO

Findings on ethnic composition of the CO surveyed indicate that the COs based in the mountain has larger membership followed by hill and Terai. The average membership ranged form 33 person in Darchula to 21 people in Ramechhap. The sex composition is given in figure. The detail on composition is given in the table 6 below.

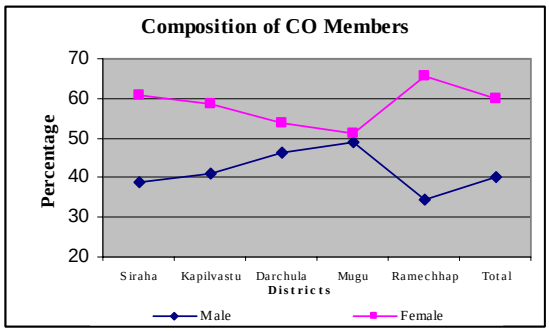

Table 6: Average Ethnic Number of Population in COS

District	Siraha	Kapilvastu	Darchula	Mugu	Ramechhap	Total
Composition of CO members by sex in percentage						
Male	39.0	41.2	46.3	48.8	34.6	40.3
Female	61.0	58.8	53.7	51.2	65.4	59.7
Ethnic Composition (Average in number)						
Non Dalits	1.9	6.4	2.6	11.9	5.2	3.9
Dalits	18.1	14.8	10.4	17.9	9.3	16.1
Janajatis	10.5	3.6	19.4	0.0	6.0	8.7
Total	30.5	24.6	32.4	31.4	20.5	28.7

Source: RR study field survey, 2006

It is seen that the HH size of the sample population range from 9.1 in Kapilvastu (largest) to (Siraha). This findings is larger than the national average of 5.45 per HH and this findings generally indicate that poorer house hold have larger family. The detail on findings is presented in table 7 below.

Table 7: Average No. of people in survey HHS

District	Siraha	Kapilvastu	Darchula	Mugu	Ramechhap	Total
Male	3.1	4.6	3.3	3.9	3.7	3.5
Female	3.1	4.5	3.2	3.9	3.7	3.5
Adult	3.4	4.8	3.6	4.1	4.3	3.8
Minor	2.8	4.4	3.1	3.9	3.6	3.3
Total	6.1	9.1	6.5	7.7	7.2	6.9

Source: RR study field survey, 2006

3.2 Economic Status of the Household

The best parameters to gauge the economic status of people living in the rural setting of the Nepal is to look at the land holdings, animal possessions and the occupation adopted for the livelihood.

3.2.1 Land Ownership

The survey findings on land holding reveal that the highest average land holding per households is recorded in Ramechhap (0.46 ha), followed by holding in Kapilvastu (0.41 ha) and lowest in Darchula (0.24 ha). Table 8 below presents the information about land less and land holder house in the different surveyed districts.

Table 8: Land ownership pattern

	Siraha	Kapilvastu	Darchula	Mugu	Ramechhap	Total
Landless	32.1	27.1	0.0	0.0	0.0	23.5
Land Holders	67.9	72.9	100.0	100.0	100.0	76.5
Total	100.0	100.0	100.0	100.0	100.0	100.0
Av. land holding (ha)	0.29	0.41	0.24	0.29	0.46	0.33

Source: RR study field survey, 2006

3.2.2 Livestock Ownership

The livestock ownership pattern by HH in the surveyed district is given in the table 9 below. The findings reveal that every HHs owns livestock and small ruminants are popular in mountain and hills than Terai. The details on findings are presented in the table 9 below.

Table 9: Average number of livestock in survey districts

Particulars	Siraha	Kapilvastu	Darchula	Mugu	Ramechhap
Cow	2	1	2	3	3
Bull	2	2	2	2	2
She-Buffalo	2	2	1	1	2
He-buffalo	1	3		1	1
Goat	4	3	4	14	5
Pig	3	4			1
Total	12	14	7	18	11

Source: RR study field survey, 2006

3.2.3 Occupation of the HHs

It is found that the agriculture is primary occupation in all five districts followed by service/wage labour and a very small fraction of population is found involved in trade. It is also revealed that a majority of people living in hills and mountain, by and large depend on agriculture than any other source and this findings also correlates with the land holdings. Besides, the dependency on agriculture could be high due to limitations in opportunities. The engagement in trade is well understandable as the HH covered are poor. The secondary occupation is given in table 10 below.

Table 10: Occupation of the households

Occupation	Siraha	Kapilvastu	Darchula	Mugu	Ramechhap	Total
Primary Occupation What is Ural						
Agriculture	59.0	68.8	89.5	100.0	81.0	68.1
Service Wage Labour	40.3	31.3	10.5	0.0	19.0	31.5
Trade	0.7	0.0	0.0	0.0	0.0	0.4
Total	100.0	100.0	100.0	100.0	100.0	100.0
Secondary Occupation						
Service Wage Labour	35.1	62.5	42.1	37.5	61.9	43.7
Business/Trade	2.2	0.0	5.3	0.0	4.8	2.1
Others	2.2	0.0	5.3	0.0	0.0	1.7
Total	39.6	62.5	52.6	37.5	66.7	47.5

Source: RR study field survey, 2006

3.2.4 House Ownership Pattern

The type of house ownership pattern by the HH is given in the table 11 below. The findings represent the bare minimum requirement in possession.

Table 11: Type of houses in the survey households

Type of house	Siraha	Kapilvastu	Darchula	Mugu	Ramechhap	Total
Thatch house	94.8	50.0	0.0	0.0	0.0	63.4
Stone house	0.7	12.5	94.7	100.0	100.0	26.1
Brick with Cement mortars	1.5	6.3	5.3	0.0	0.0	2.5
Brick with mud mortar	3.0	31.3	0.0	0.0	0.0	8.0
Total	100.0	100.0	100.0	100.0	100.0	100.0

Source: RR study field survey, 2006

3.2.5 Literacy Status of the Respondent

The literacy rate with the sample population appeared relatively higher in the mountains and the hills. The findings appeared surprising at the first sight, however the close scrutiny of the situation indicate that the coverage of PAF beneficiary in Terai constitute mostly Janagati and Dalits of Terai origin who have limited exposure on value of education and access to school. In this regard the situation is better with the people living in the hills. Mugu (87%) HH represents the highest in sending children to school followed by Darchula (84%), Kapilvastu (71%), Siraha and Ramechhap (67%).

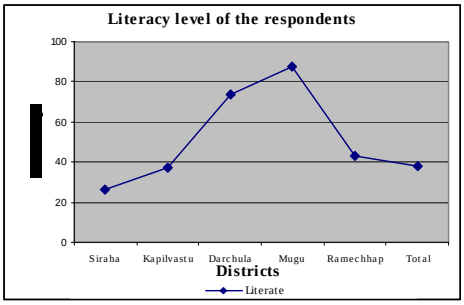

Table 12: Literacy status of the respondents

Literacy Status	Siraha	Kapilvastu	Darchula	Mugu	Ramechhap	Total
Literate	26.1	37.5	73.7	87.5	42.9	37.8
Illiterate	73.9	62.5	26.3	12.5	57.1	62.2
Total	100.0	100.0	100.0	100.0	100.0	100.0

Source: RR study field survey, 2006

3.2.6 Decision making and property ownership in HHS

It is found that the males are dominant in making household decisions in the hills and mountains. However, joint decision making practice is observed more dominant in the terai districts of Kapilvastu and Siraha. However, in all the cases, females making decision in the household ranged from 5 % in Ramechhap to the highest in Siraha (13%). Similarly, the property holding is also dominated by males across the study districts and female ownership of property is highest in Ramechhap (9.5%) and lowest in Mugu. Table 13 and 14 present the detail information about decision making practice and property ownership.

Table 13: Decision making in households

Decision maker	Siraha	Kapilvastu	Darchula	Mugu	Ramechhap	Total
Male	53.7	50.0	73.7	81.3	81.0	58.8
Female	12.7	8.3	5.3	6.3	4.8	10.1
Joint	33.6	41.7	21.1	12.5	14.3	31.1
Total	100.0	100.0	100.0	100.0	100.0	100.0

Source: RR study field survey, 2006

Table 14: Property ownership in the households

Property Ownership	Siraha	Kapilvastu	Darchula	Mugu	Ramechhap	Total
Male	91.8	89.6	94.7	100.0	90.5	92.0
Female	6.0	8.3	5.3	0.0	9.5	6.3
Joint	2.2	2.1	0.0	0.0	0.0	1.7
Total	100.0	100.0	100.0	100.0	100.0	100.0

Source: RR study field survey, 2006

3.2.7 Source of knowing about PAF supported Program

The findings of the study indicate that the major source of information about PAF activities is POs. Furthermore, the beneficiaries along with the COs official informed that the POs were the main source of providing information on starting income generating projects to the stakeholders.

Table 15: Source of information about the IG activities

Sources	Siraha	Kapilvastu	Darchula	Mugu	Ramechhap	Total
Family source	0.7	0.0	5.3	0.0	0.0	0.8
Own experience in the past	1.5	6.3	5.3	6.3	4.8	3.4
Idea from CO meeting	2.2	0.0	0.0	0.0	0.0	1.3
Other experience	1.5	0.0	5.3	0.0	0.0	1.3
PO suggested	94.0	93.8	84.2	93.8	95.2	93.3
Total	100.0	100.0	100.0	100.0	100.0	100.0

Source: RR study field survey, 2006

Chapter IV: Benefit Analysis

Cost-benefit analysis is carried out by using financial costs and financial benefits. Cost/benefit analysis of a road would measure the cost of building the road, and subtract this from the economic benefit of improving transport links. It would not measure either the cost of environmental damage or the benefit of quicker and easier travel to work. If we decide to include intangible items within the analysis we must estimate a value for these, this inevitably brings an element of subjectivity into the process. The cost benefits analysis is computed in following stages:

ROI in the context of this study is used to express annual return accrued during the first year of operation out of the initial investment. The income relates to value appreciation of the property and this is common in investment relating to animal keeping. For example, Cow, she buffallow or goat is procured when matured, lactating, reproducing or preganent. Thus value of lactating animal appreciates at giving birth to offspring besides added income from calf. However, the value of non lactating animal like parent goat depreciates and loss is compensated by gains from its offspring giving birth and again when it becomes preganent. Similar is the case with pigs but value of saw remains the same[13].

HPR presents the benefit analysis of the scheme. HPR presents the actual scenario on profitability/loss while conducting business in particular year. All the variable expenses and daily income from the business are computed and considered in this analysis. ***In this case the rate of return generated by holding period return is the actual return on investment[14].*** The concept here is corollary to the rate of return in financial analysis.

4.1 Summery findings on the RR

The district wise rate of return involving all analytical tool mentioned above is presented hereunder in table 16 and table 17. The table presents the aggregate rate of return for all the income generating activities. The level of earning relating to investment in income generating activity based on district is positive. However, in the case of goat keeping, the average rate of return in some district is found negative particularly parental loss due to natural calamities of PPR disease epidemic. It may be noted that the benefit from goat keeping is one of the popular and highest income earning in normal situation and it is a lucrative income generating activity in rural Nepal.

The table is followed by case by case analysis of returns by schemes and districts with detail analysis. Thus, to avoid duplications no elaboration is presented in this section.

[13] This is mainly because she goat meat is not consumed by people where as people are indifferent in consumption of pork whither it comes from sow or a boar.

[14] Generally, HPR concept is used in dividend bearing instruments like stocks and bonds with ensured payback on completion of maturity period. This concept is used in the study with assumption that keeping animal bears dividend on maturity, keeping other things like unforeseen death.

Table 16: RR by Districts and Scheme

Activities and districts	ROI (%)	HPR(Gross Income) (%)	HPR(Net Income) (%)	PA(Gross Income) (Yrs.)	PA(Net Income) (Yrs.)	Productivity Analysis (Rs/day/adult)
Tailoring						
Ramechhap		71.4	-24.6	1.4	-4.1	6.8
Siraha	NA	131.7	-21.0	0.76	-4.76	12.0
Animal Business						
Siraha	NA	110.8	75.2	0.90	1.33	15.4
Retail Business						
Siraha	NA	110.8	75.2	0.90	1.33	15.4
Yak Raising						
Darchula	12.0	12.0	-60.7	8.33	-1.4	0.0
Pig Raising						
Siraha	25.1	25.1	-1.1	3.98	-46.5	2.8
Kapilvastu	111.3	111.3	68.9	0.90	1.5	1.7
Ramechhap	306.3	306.3	156.6	0.33	0.6	2.9
Ox Raising						
Siraha	10.3	65.7	36.2	1.52	2.9	8.7
Goat						
Siraha	11.4	11.4	-16.5	8.75	-6.1	3.2
Kapilvastu	-19.3	-19.3	-65.3	-5.18	-1.5	0.8
Darchula	-6.6	-6.6	-61.1	-15.07	-1.6	0.0
Mugu	61.6	61.7	18.7	1.58	5.3	0.0
Ramechhap	75.2	76.4	21.1	1.31	4.7	2.0
Poultry						
Siraha	NA	145.1	45.1	0.1	0.4	46.0
Kapilvastu	NA	113.1	13.1	1.0	8.9	5.3
Mugu	NA	93.6	-6.4	1.0	-15.0	14.7
Buffalo Raising						
Siraha	8.4	109.4	45.0	1.0	2.7	17.2
Kapilvastu	11.3	78.8	47.5	1.5	2.8	11.1
Cow Raising						
Siraha	37.6	134.7	89.4	1.0	1.9	18.5
Rickshaw						
Siraha	NA	253.8	32.9	0.28	0.75	47.9

Source: RR study field survey, 2006

In the table below an additional calculation involving input: out put ratio presented and the findings indicate that the benefit is highly lucrative income generating activity.

Table 17: RR by Districts and Scheme (Vegetable farming)

Activities and districts	ROI (%)	HPR(Gross Income) (%)	HPR (Net Income) (%)	PA(Gross Income) (Yrs.)	PA(Net Income) (Yrs.)	Output input ratio (Gross Income) (Rs.)	Output input ratio (Net Income)
Vegetable farming							
Siraha	147.1	247.1	176.2	0.40	0.57	2.5	1.8
Kapilvastu	368.1	468.1	248.1	0.21	0.40	4.7	2.5
Mugu	-7.3	92.7	6.9	1.08	14.47	0.9	0.1
Ramechhap	26.8	126.8	85.3	0.79	1.17	1.3	0.9

Source: RR study field survey, 2006

4.2 Benefit Analysis Buffalo and Cow keeping

Animal raising and field farming activities are taken jointly and seen as complimentary. Livestock constitutes, major source of farm manure and draught power in agriculture. Animal waste is also a major source of cooking fuel[15] of rural household in Terai settlements that are situated distantly from the forest. Farm residue constitutes a major source of fodder to animal and it is topped by feed during pregnancy. Income generation from cow and buffalo keeping is cyclic based on the dry (gestation) and lactating period.

4.2.1 Sources of income and its calculation basis

- **Milk** actual quantity of milk drawn and amount earned by the enterprise after taking up the particular income generating activity. The income taken for calculation represents the actual income accrued to the enterprises and mentioned by the beneficiaries.
- **Calf** is another source of income to the entrepreneurs. The estimation of this cost is based on the cost declared by the enterprise owner.
- **Manures** constitute major source of farm nutrient and approximate value is determined by the quantity produced and price determined by the enterprise.
- **Cow dung cakes** is another important by products made from animal waste and its use as cooking fuel is a common practice in rural Terai.

4.2.2 Study findings for Buffalo

In general the study findings evidently indicate that buffalo keeping has positive contributions to the entrepreneurs, the contribution amounts from 257 percent to 15 percent on HPR without variable cost (gross income) and 128 to negative HPR with variable cost (net returns). Based on the findings, it is enumerated that negative returns relate to higher variable costs in terms of feed and human labour for keeping this animal[16]. The findings indicate sufficient evidences that buffalo and cow keeping is a profitable venture for the enterprises.

[15] Cow dung is mixed with rice and paddy husk and wrapped around dried plant straw. This mixture "cow dung cake" is sun dried and used as energy for cooking in household.

[16] It may be noted that the comparison of returns are made just to evaluate the operating efficiency as the farmers were not able to quantify the feed cost and labour used for keeping animal.

Similar findings were observed while conducting the payback analysis i.e., HPR with net income reflected negative payback period and it is enumerated that such results is mainly due to high variable cost. This indicates the need to reduce variable cost to attain profitability and a positive payback period. Thus, in cases where payback period is reflected negative, it implies that unless variable cost reduction takes place, the schemes will not yield positive returns and pay investment to entrepreneurs. Besides, it has not been possible to estimate the payback periods of such schemes in the present study.

ROI were found even either represented by zero or positive except in cases where the animals were sold at lower price than procured. Noted case with negative responses is recorded in the remark column of the table 18 given below.

The purpose of productivity analysis is to evaluate the individual contribution of the family members to buffalo keeping and the contributions appears minimal and cases reflecting higher contributions relate to small membership in the HH.

Table 18: Survey Findings on Buffalo

Beneficiary	Name of the COs	ROI (%)	HPR on Gross income (%)	HPR on net Income (%)	PA on gross income (Yrs.)	PA on Net Income (Yrs.)	Productivity Analysis (Rs/adult/ day)	Comments and Remarks
District: Siraha								
Kushila Chaudhary	Rajaji Aaya Aarjan CO	0.0	81.3	30.7	1.2	3.3	26.7	
Kushila Chaudhary	Rajaji Aaya Aarjan CO	0.0	81.3	30.7	1.2	3.3	26.7	
Mukbhati Tharu	Rajaji Aaya Aarjan CO	0.0	21.8	-28.6	4.6	-3.5	3.4	High cost of feed
Gita Chaudhary	Rajaji Aaya Aarjan CO	13.6	126.2	43.3	0.9	3.4	22.6	
Abar Karki	Rajaji Aaya Aarjan CO	0.0	54.2	15.5	1.8	6.4	17.3	
Sumitra Mahato	Himalayan Pragati Aaya Aarjan CO	0.0	33.6	7.3	3.0	13.6	36.6	
Malarika Mahato	Himalayan Pragati Aaya Aarjan CO	4.5	45.1	-4.1	2.5	-11.6	12.2	High cost of feed
Ratna Mani Choudhary	Bajrang Bhawani CO	45.6	257.1	111.4	0.5	1.5	59.7	
Chandra Devi Paswan	Shree Rajaji Chhimek Mahila CO	13.6	127.1	51.6	0.9	2.6	8.5	
Rajkumari Devi Paswan	Shree Rajaji Chhimek Mahila CO	13.6	192.5	106.1	0.6	1.1	53.9	
Sajan Devi Chaudhary	Shree Rajaji Aaya Aarjan CO	0.0	64.0	13.9	1.6	7.2	12.8	
Chandra Maya Sadai	New Suryodaya Gramin Sewa CO	9.4	187.2	50.2	0.6	2.5	19.7	
Prem Lal Yadav	New Suryodaya Gramin Sewa CO	20.0	186.6	82.2	0.6	1.6	22.8	

Beneficiary	Name of the COs	ROI (%)	HPR on Gross income (%)	HPR on net Income (%)	PA on gross income (Yrs.)	PA on Net Income (Yrs.)	Productivity Analysis (Rs/adult/ day)	Comments and Remarks
Godan Paswan	New Suryodaya Gramin Sewa CO	0.0	100.6	-8.5	1.0	-11.7	13.8	High cost of feed
Jagdish Mahato	Nav Samudaya, Gram Sewa	0.0	187.6	127.3	0.5	0.8	12.8	
Bishnu Kunwar	Janakalyan CO	8.0	139.7	95.0	0.8	1.1	12.9	
Nathuni Paswan	Janakalyan CO	8.0	135.7	122.6	0.8	0.9	17.5	
Jasho Devi Paswan	Radha Devi Samuha CO	40.0	61.1	37.9	NA	NA	NA	Animal is sold
Dew Devi Sedai	Radha Devi Samuha CO	60.0	91.7	59.3	3.2	-148.1	4.3	
Gitani Devi Paswan	Radha Devi Samuha CO	0.0	18.6	-2.5	5.4	-40.7	2.9	High Labour Cost and lactation has not started
Lali	Radha Devi Samuha CO	0.0	18.6	-2.5	5.4	-40.7	2.2	High Labour Cost and lactation has not started
Choktan Sedai	Nava Suryodaya CO	-50.0	65.6	-29.8	NA	NA	NA	Animal was sold at lower cost on exhaustion of lactating period.
Juge Paswan	Janakalyan SS	28.0	158.9	106.7	0.8	1.3	35.5	
District: Kapilvastu								
Mangare Kori	Sabera Samudyik Sanstha	0.0	114.0	85.8	0.9	1.2	6.6	
Bishwokarma Raidas	Sabera CO	61.7	137.3	128.6	1.3	1.5	20.2	
Sonmati Ahir	Sabera CO	20.8	107.3	90.2	1.2	1.4	3.6	
Aarati Yadav	Saraswati Mahila Bachat Samuha	0.0	31.8	-9.2	3.1	-10.8	7.2	High cost of feed
Durpati Kohar	Saraswati Mahila Bachat CO	0.0	97.6	88.5	1.0	1.1	48.7	
Sukraraj Tharu	Mahila Samudayik Sanstha	0.0	60.3	12.3	1.7	8.2	12.1	
Sabari Kori	Mahila Samudayik Sanstha	0.0	50.9	21.0	2.0	4.8	5.1	
Prabhawati Kori	Mahila Samudayik Sanstha	-31.8	15.5	-1.8	NA	NA	NA	Animal was sold at lower than higher price.

Beneficiary	Name of the COs	ROI (%)	HPR on Gross income (%)	HPR on net Income (%)	PA on gross income (Yrs.)	PA on Net Income (Yrs.)	Productivity Analysis (Rs/adult/ day)	Comments and Remarks
Sonmati Kori	Mahilwar Samudayik Sanstha	0.0	60.3	12.7	1.7	7.9	9.1	
Rajkumari Kori	Mahilwar Samudayik Sanstha	0.0	82.7	40.1	1.2	2.5	24.9	
Gan Mati Yadav	Saraswoti Mahila Bachat Samuha	100.0	158.7	117.4	NA	NA	NA	Animal was sold.

Source: RR study field survey, 2006

4.2.3 Study findings on Cow

In general the study findings evidently indicate that the cow keeping has positive return to the entrepreneurs and the contribution amounts from 225 percent to 19 percent on HPR without variable cost (gross income) and 178 percent to negative HPR with variable cost (net returns). Findings indicate similar as results is seen respect to buffalo, where negative returns relate to higher variable costs in terms of feed and human labour for keeping this animal also.

Similar findings were reached in respect to cow like in the case of buffalo. ROI was found even represented by zero or positive except in cases where the animals were sold at lower price than procured. Noted case with negative responses is recorded in the remark column of the table19 given below.

The purpose of productivity analysis is to evaluate the individual contribution of the family members to buffalo keeping and the contributions appears minimal and cases reflecting higher contributions relate to small membership in the HH. These findings indicate the facts that the labour time presented do not have much significance attached to cow keeping.

Table 19: Survey Findings on Cow

Beneficiary	Name of the COs	ROI (%)	HPR on Gross income (%)	HPR on net Income (%)	PA on gross income (Yrs.)	PA on Net Income (Yrs.)	Productivity Analysis (Rs/adult/day)	Comments and Remarks
District: Siraha								
Raniya Mahato	Himalayan Pragati Aaya Aarjan CO	42.9	124.4	59.4	1.2	6.0	15.6	
Bina Mahato	Himalayan Pragati Aaya Aarjan CO	14.3	47.3	11.5	3.0	-35.6	6.3	
Inar Devi Ram	Shree Saraswati Mahila Samuha	62.5	217.3	178.5	0.6	0.9	43.5	
Inar Devi Ram	Shree Saraswati Mahila Samuha	50.0	204.8	160.1	0.6	0.9	18.0	

Beneficiary	Name of the COs	ROI (%)	HPR on Gross income (%)	HPR on net Income (%)	PA on gross income (Yrs.)	PA on Net Income (Yrs.)	Productivity Analysis (Rs/adult/day)	Comments and Remarks
Buli Devi Sadai	Janajagaran Mahila CO	0.0	20.7	-21.5	4.8	-4.6	1.7	High cost of feed
Sadum BK	Sagarmatha Bhawani CO	12.3	203.4	189.5	0.5	0.6	45.1	
Sheela Devi	Sagarmatha Bhawani CO	0.0	18.7	-0.1	5.4	-1166.7	28.5	High cost of feed
Sanjan Sadya	Hansaraj Bansaraj Bhawani CO	107.0	192.0	127.9	1.2	4.8	16.2	
Parihar Devi Paswan	Shree Sallesh CO	15.4	39.8	-42.0	4.1	-1.7	2.2	High cost of feed
Bhupen Dhar Chaudhary	Mahila Bikash	63.6	225.2	150.2	0.6	1.2	42.2	

Source: RR study field survey, 2006

4.3 Benefit Analysis Goat

Goat keeping relates to ownership of she goat for reproduction, fattening and selling off spring. It is a common practice with rural household to generate additional income for livelihood. Besides, keeping small ruminants is seen as a major source for meeting unforeseen incidental expenses like ceremonial, medical or food shortage. Also, goat keeping is also attached to the girl child or the female member of the family and such is known as "Pewa"[17]. It may be noted that the small ruminants raising in Nepal is more of a "pet" type than a commercial venture except in the mountain district of Mugu and Siraha where it is seen semi commercial and a animal herd consists of more animals. Goat keeping follows the same pattern like other animal and raised on farm residue and left over food in the HH.

4.3.1 Sources of income and its calculation

- **Kids** given birth by the parent stock is major source of income to enterprise owners. A goat gives birth to 2 kids per pregnancy and she goat becomes pregnant two times a year. For estimation of income on this aspect, it is assumed that there **is a 50 percent chance of having she or he goat kid**. It was reported that she goat kids are sold within a year of birth to keep goat herd to manageable size. But the goat is castrated and kept for longer duration for fattening as these fetch better prices.

4.3.2 Study Findings

The study findings indicate that goat keeping has positive contributions to the entrepreneurs and 66 percent of the sample projects[18] were found successful in generating income to the beneficiaries based on ROI value additions. The HPR without variable cost ranges from 122 percent to 1 percent on gross income and 67 percent to negative on net returns. The negative returns relate to partial death in stock

[17] Pewa relates to ownership of income generated from activities like: a goat is given to a girl child as Pewa and when offspring grown and sold, the amount becomes exclusive property of the girl child or the lady owner.

[18] The calculations are based on after separating the 9 cases with the total parental loss and that has no prospect of providing any benefits to the enterprise if these are excluded, about 70% of the projects are found to be contributing positive returns.

parent loss and these scheme have possibility of recovery with longer payback period. The study also indicates the need to develop operating efficiency by reducing variable costs relating to feed and labour. However, it may be noted that the close scrutiny of the findings in table indicate that the loss is mainly due to natural calamities involving spread of diseases and Goat keeping in general is a profitable venture for the enterprises. The details of findings are given in table 20.

Table 20: Survey Findings on Benefit from Goat Enterprise

Beneficiary	Name of the COs	ROI	HPR on Gross income	HPR on net Income	PA on gross income	PA on Net Income	Comments and Remarks
District: Darchula							
Ani Ram Wood	Jagannath Aaya Aarjan CO	0.0	0.0	-63.8	NA	NA	Loss is because partial death in the parent stocks due to PPR epidemic.
Ram Jung wood	Jagannath Aaya Aarjan CO	-33.3	-33.3	-55.8	NA	NA	Loss is because partial death in the parent stocks due to PPR epidemic.
Gita Chhinal	Jagannath Aaya Aarjan CO	11.1	11.1	-79.2	9.00	-1.0	High feed and labour cost observed. More profit could be generated by minimising these costs.
Manoj Ram Humri	Jagannath Aaya Aarjan CO	-66.7	-66.7	-117.7	NA	NA	Loss is because partial death in the parent stocks due to PPR epidemic.
Mohan Ram	Jagannath Aaya Aarjan CO	122.2	122.2	10.5	0.82	9.5	
Janaki Lohar	Kailali Natho Namuna Dalit CO	40.0	40.0	-18.4	2.50	-5.4	High feed and labour cost observed. More profit could be generated by minimising these costs.
Dev Ram Tirwa	Kailali Natho Namuna Dalit CO	-40.0	-40.0	-83.2	NA	NA	Loss is because partial death in the parent stocks due to PPR

Beneficiary	Name of the COs	ROI	HPR on Gross income	HPR on net Income	PA on gross income	PA on Net Income	Comments and Remarks
							epidemic.
Balram Ram Lahai	Kailali Natho Namuna Dalit CO	5.0	5.0	-42.2	20.00	NA	High feed and labour cost observed. More profit could be generated by minimising these costs.
Chandra Ram Lohar	Kailali Natho Namuna Dalit CO	0.0	0.0	-6.8	NA	NA	Loss is because partial death in the parent stocks due to PPR epidemic.
Devi Ram Lohar	Kailali Natho Namuna Dalit CO	-44.0	-44.0	-79.7	NA	NA	Loss is because partial death in the parent stocks due to PPR epidemic.
District: Kapilvastu							
Bajrang	Shree Ram Samudyik Sanstha	0.7	0.7	-25.6	150.00	-3.9	High feed and labour cost observed. More profit could be generated by minimising these costs.
Ram Tirath Rahedan	Shree Ram Samudyik Sanstha	-35.2	-35.2	-58.0	NA	NA	Loss is because partial death in the parent stocks due to PPR epidemic.
Chhabilal Paswan	Hariyali Samuha	31.1	31.1	-66.1	3.21	-1.5	High feed and labour cost observed. More profit could be generated by minimising these costs.
Ram Achal Kalwar	Hariyali Samuha	-75.4	-75.4	-110.1	NA	NA	Loss is because partial death in the parent stocks due to PPR epidemic.
District: Mugu							

Beneficiary	Name of the COs	ROI	HPR on Gross income	HPR on net Income	PA on gross income	PA on Net Income	Comments and Remarks
Narendra BK	Garibi Niwaran Smuha	68.0	68.4	18.3	1.34	4.0	
Jilla Singh Van	Mahadev Masta	20.4	20.4	-39.1	4.91	-2.6	High feed and labour cost observed. More profit could be generated by minimising these costs.
Aaili Kola Nepali	Dalit Mahila Upabhokta Samuha	60.0	60.0	27.6	1.67	3.6	
Sarita Shahi	Rara Mahila Upabhokta Samuha	100.0	100.0	62.6	1.00	1.6	
District: Ramechhap							
Harka Lal Pakhre	Samajsewi CO	70.0	72.0	44.6	1.39	2.2	
Hem Bahadur Shrestha	Samajsewi CO	11.1	12.7	-59.9	7.89	NA	
Tej Bahadur	Samajsewi CO	7.1	8.6	-11.8	11.67	-8.5	High feed and labour cost observed. More profit could be generated by minimising these costs.
Harka Bahadur	Samajsewi CO	66.7	68.3	45.5	1.46	2.2	
Jit Bahadur Shrestha	Samajsewi CO	33.3	34.4	3.9	2.90	25.9	
Mohan Bahadur Sharki	Mankamana Samudayik Sanstha	73.6	73.8	31.6	1.35	3.2	
Tek Bahdur Sharki	Mankamana Samudayik Sanstha	90.5	92.0	-20.3	1.09	-4.9	High feed and labour cost observed. More profit could be generated by minimising these costs.
Biga Maya Sharki	Mankamana Samudayik Sanstha	150.0	150.0	66.9	0.67	1.5	
Bimala Sharki	Mankamana Samudayik Sanstha	114.3	114.3	58.4	0.88	1.7	
Badani Sharki	Mankamana Samudayik Sanstha	100.0	105.0	32.5	0.95	3.1	

Beneficiary	Name of the COs	ROI	HPR on Gross income	HPR on net Income	PA on gross income	PA on Net Income	Comments and Remarks
District: Siraha							
Sitani Devi Sadai	Dalit Mahila Bikash CO	-3.8	-3.8	-31.8	NA	NA	Loss is because partial death in the parent stocks due to PPR epidemic.
Dineshwor Br. Choudhary	Mahila Garib Utthan CO	20.0	20.0	10.5	5.00	9.5	
Sagar Devi	Dalit Mahila Bikash CO	-50.0	-50.0	-70.6	NA	NA	Loss is because partial death in the parent stocks due to PPR epidemic.
Gangabati Yadav	Himalayan Pragati Aaya Aarjan CO	64.0	64.0	44.3	1.56	2.3	
Sita BK	Himalayan Pragati Aaya Aarjan CO	28.0	29.3	6.5	3.41	15.4	
Mahawati Ram	Gyan Jyoti Bhawani CO	19.0	19.0	-20.9	5.25	-4.8	High feed and labour cost observed. More profit could be generated by minimising these costs.
Maneshwori Ram	Gyan Jyoti Bhawani CO	7.4	7.4	-6.5	13.44	-15.4	High feed and labour cost observed. More profit could be generated by minimising these costs.
Lakhan Ram	Gyan Jyoti Bhawani CO	7.8	7.8	-1.9	12.80	-52.4	
Ananda Devi Mochhi	Gyan Jyoti Bhawani CO	40.0	40.0	24.9	2.50	4.0	
Rajjo Devi	Gyan Jyoti Bhawani CO	4.0	4.0	4.0	25.20	25.2	
Punam Pokharel	Nava Suryodaya GS	-33.3	-33.3	-111.9	NA	NA	Loss is because partial death in the parent stocks due to PPR epidemic.
Bhulti Devi Choudhary	Nav Suryodaya	-14.4	-14.4	-45.8	NA	NA	As above

Beneficiary	Name of the COs	ROI	HPR on Gross income	HPR on net Income	PA on gross income	PA on Net Income	Comments and Remarks
	GS						
Devaki Pokharel	Nava Suryodaya Gram Sewa CO	-4.4	-4.4	-26.7	NA	NA	As above
Pramila Sadai	Nava Suryodaya Gram Sewa CO	16.7	16.7	-8.6	6.00	NA	As above
Shribati Sadai	Nava Suryodaya Gram Sewa CO	0.0	0.0	-7.2		NA	Animal Not matured and no income is gained
Sunaya Maya Sunuwar	Tenamore Samudayik Sanstham Fulbaria	-38.0	-38.0	-86.8	-2.63	-1.2	3 goats were sold to send people to India.
Yem Maya Thapa	Tenamur Phulbari CO	12.0	12.0	-36.8	8.33	-2.7	
Chandra Maya Thapa	Tenamur Phulbari CO	23.0	23.0	-25.2	4.35	-4.0	
Mamata Paswan	Tenamur Phulbari CO	50.0	50.0	2.2	2.00	46.5	
Man Kumari Magar	Tenamur Phulbari CO	80.0	80.0	48.2	1.25	2.1	

Source: RR study field survey, 2006

Table 21, below presents the benefit earned by the enterprises, without any interferences by the natural events like diseases etc. Based on the findings given below, it could be enumerated that goat keeping in a lucrative enterprise in normal conditions.

Table 21: Goat keeping enterprises operating without influence of disease spread

Beneficiary	Name of the COs	ROI (%)	HPR on Gross income (%)	HPR on net Income (%)	PA on gross income (Yrs.)	PA on Net Income (Yrs.)	Comments and Remarks
District: Darchula							
Gita Chhinal	Jagannath Aaya Aarjan CO	11.1	11.1	-79.2	9.00	-1.0	High feed and labor cost.
Ani Ram Wood	Jagannath Aaya Aarjan CO	0.0	0.0	-63.8	NA	NA	
Mohan Ram	Jagannath Aaya Aarjan CO	122.2	122.2	10.5	0.82	9.5	
Janaki Lohar	Kailali Natho Namuna Dalit CO	40.0	40.0	-18.4	2.50	-5.4	High feed and labor cost.
Chandra Ram Lohar	Kailali Natho Namuna Dalit CO	0.0	0.0	-6.8	NA	NA	

Beneficiary	Name of the COs	ROI (%)	HPR on Gross income (%)	HPR on net Income (%)	PA on gross income (Yrs.)	PA on Net Income (Yrs.)	Comments and Remarks
Balram Ram Lahar	Kailali Natho Namuna Dalit CO	5.0	5.0	-42.2	20.00	NA	
District: Kapilvastu							
Bajrang	Shree Ram Samudyik Sanstha	0.7	0.7	-25.6	150.00	-3.9	High feed and labor cost.
Chhabilal Paswan	Hariyali Samuha	31.1	31.1	-66.1	3.21	-1.5	High feed and labor cost.
District: Mugu							
Narendra BK	Garibi Niwaran Smuha	68.0	68.4	18.3	1.34	4.0	
Jilla Singh Van	Mahadev Masta	20.4	20.4	-39.1	4.91	-2.6	High feed and labor cost
Aaili Kola Nepali	Dalit Mahila Upabhokta Samuha	60.0	60.0	27.6	1.67	3.6	
Sarita Shahi	Rara Mahila Upabhokta Samuha	100.0	100.0	62.6	1.00	1.6	
District: Ramechhap							
Harka Lal Pakhre	Samajsewi CO	70.0	72.0	44.6	1.39	2.2	
Hem Bahadur Shrestha	Samajsewi CO	11.1	12.7	-59.9	7.89	NA	
Tej Bahadur	Samajsewi CO	7.1	8.6	-11.8	11.67	-8.5	High feed and labor cost
Harka Bahadur	Samajsewi CO	66.7	68.3	45.5	1.46	2.2	
Jit Bahadur Shrestha	Samajsewi CO	33.3	34.4	3.9	2.90	25.9	
Mohan Bahadur Sharki	Mankamana Samudayik Sanstha	73.6	73.8	31.6	1.35	3.2	
Tek Bahdur Sharki	Mankamana Samudayik Sanstha	90.5	92.0	-20.3	1.09	-4.9	High feed and labor cost
Biga Maya Sharki	Mankamana Samudayik Sanstha	150.0	150.0	66.9	0.67	1.5	
Bimala Sharki	Mankamana Samudayik Sanstha	114.3	114.3	58.4	0.88	1.7	
Badani Sharki	Mankamana Samudayik Sanstha	100.0	105.0	32.5	0.95	3.1	
District: Siraha							
Dineshwor Br. Choudhary	Mahila Garib Utthan CO	20.0	20.0	10.5	5.00	9.5	Sold all animals after maturity

Beneficiary	Name of the COs	ROI (%)	HPR on Gross income (%)	HPR on net Income (%)	PA on gross income (Yrs.)	PA on Net Income (Yrs.)	Comments and Remarks
Pramila Sadai	Nava Suryodaya Gram Sewa CO	16.7	16.7	-8.6	6.00	NA	
Gangabati Yadav	Himalayan Pragati Aaya Aarjan CO	64.0	64.0	44.3	1.56	2.3	
Sita BK	Himalayan Pragati Aaya Aarjan CO	28.0	29.3	6.5	3.41	15.4	
Mahawati Ram	Gyan Jyoti Bhawani CO	19.0	19.0	-20.9	5.25	-4.8	High feed and labor cost
Maneshwori Ram	Gyan Jyoti Bhawani CO	7.4	7.4	-6.5	13.44	-15.4	High feed and labor cost
Lakhan Ram	Gyan Jyoti Bhawani CO	7.8	7.8	-1.9	12.80	-52.4	
Ananda Devi Mochhi	Gyan Jyoti Bhawani CO	40.0	40.0	24.9	2.50	4.0	
Rajjo Devi	Gyan Jyoti Bhawani CO	4.0	4.0	4.0	25.20	25.2	
Shribati Sadai	Nava Suryodaya Gram Sewa CO	0.0	0.0	-7.2		NA	Animal Not matured no income gained
Sunaya Maya Sunuwar	Tenamore Samudayik Sanstham Fulbaria	-38.0	-38.0	-86.8	-2.63	-1.2	3 goats were sold to send people to India.
Yem Maya Thapa	Tenamur Phulbari CO	12.0	12.0	-36.8	8.33	-2.7	
Chandra Maya Thapa	Tenamur Phulbari CO	23.0	23.0	-25.2	4.35	-4.0	
Mamata Paswan	Tenamur Phulbari CO	50.0	50.0	2.2	2.00	46.5	
Man Kumari Magar	Tenamur Phulbari CO	80.0	80.0	48.2	1.25	2.1	

Source: RR study field survey, 2006

4.4 Benefit Analysis OX Keeping

Oxen are major draught power to the farming community in the country. A pair of ox is a must for an agriculturist, whether a landless or a land owner. It is more important to land less as the oxen ownership provides opportunity for accruing land for share cropping or wage earning[19]. Furthermore, having a pair of bull pave way for owning a bullock cart and engage in transportation business. Farm residue constitutes a major source of fodder to animal and it is topped by feed when used as draught power. Income generation from oxen is thru its use as draught animal in field tillage and transportation.

[19] It is found that wage with a pair of bull ranges from Rs 250 – 300, however, without bull is Rs 50 per day.

4.4.1 Sources of income and its calculation basis

- **Draught** bull is for tilling personal land and rented for tillage during cropping seasons and major income is derived from conducting these activities.
- **Manures** constitute major source of farm nutrient and approximate value is determined by the quantity produced and its value as declared by the entrepreneur.
- **Bull dung cakes** is another important by products made from animal waste and its use as cooking fuel is a common practice in rural area of Terai. Entrepreneurs were not able to estimate the value of cow dung cakes.

4.4.2 Study Findings

The study findings evidently indicate that Ox keeping has positive contributions to the entrepreneurs and 85 percent of the sample projects[20] are found successful in generating income to the beneficiaries based on ROI. The contribution amounts from 22.7 percent to 145 percent on HPR without variable cost and 90 percent to negative on net returns. The negative contributions relates to the operating efficiency and to estimation on feed cost by farmers. The findings indicate sufficient evidences that Ox keeping is a profitable venture for the enterprises with financial gain as well as by expanding opportunity for farming on leased land. The findings indicate encouraging response and based on this fact it could be enumerated that to a large extent PAF support scheme has positive contributions to uplift the poor sector of the community. However, like in other cases of animal keeping high labour cost and feed cost was reported in bull keeping and immediate intervention sis seen essential for generating better income out of this scheme. The details of findings are given in table 22.

Table 22: Survey Findings on Oxen

Beneficiary	Name of the COs	ROI (%)	HPR on Gross income (%)	HPR on net Income (%)	PA on gross income (Yrs.)	PA on Net Income (Yrs.)	Productivity Analysis (Rs/day /adult)	Comments and Remarks
District: Siraha								
Dalari Ram	Fulbari Mahila CO	42.0	93.2	76.5	1.07	1.3	8.2	
Sumita Ram	Fulbari Mahila CO	31.3	91.9	75.8	1.09	1.3	8.2	
Gulaha devi	Fulbari Mahila CO	0.0	22.7	10.7	4.40	9.3	4.1	
Kagati Devi Paswan	Gaun Garibi Samuha	0.0	150.0	94.9	0.67	1.1	41.1	
Ram Krishna Mandal	Pashupati Swabalamban CO	0.0	25.0	-21.3	4.00	-3.9	4.1	Beneficiary was provided with 1 bull having limited use so the benefit is low.

[20] The calculations are based on after separating the 9 cases with the total parental loss and that has no prospect of providing any benefits to the enterprise if these are excluded, about 70% of the projects are found to be contributing positive returns.

Beneficiary	Name of the COs	ROI (%)	HPR on Gross income (%)	HPR on net Income (%)	PA on gross income (Yrs.)	PA on Net Income (Yrs.)	Productivity Analysis (Rs/day /adult)	Comments and Remarks
Ram Prasad Paswan	Pashupati Swabalamban CO	0.0	41.7	13.5	2.40	7.4	5.5	
Smait D Mandal	Pashupati Swabalamban CO	0.0	25.0	-30.2	4.00	-3.3	2.7	Beneficiary was provided with 1 bull having limited use so the derived benefit is limited.

Source: RR study field survey, 2006

4.5 Benefit Analysis from Pig Keeping

Traditionally, pigs were grown as scavenging animal left loose and feed only by kitchen leftover[21] or the farm residue. During interview with the farmers it was revealed that farmers go to restaurants and tea shop to collect food discard for feeding pig raised in the HH. Boar and sow were kept by the HH, boar was kept fattened and sold for income generation, and however piglets given birth by sows were sold.

4.5.1 Sources of income and its calculation basis

- **Pork** meat selling constitutes the major source of income to farmers from keeping pigs.
- **Piglets** given birth by the parent stock is major source of income to enterprise owners. A Sow gives birth to 10 to 15 piglets per pregnancy and sow becomes pregnant three times a year. Pig farmers normally tend to sell piglets within 1 week three month of age whether he or she.

4.5.2 Study Findings

The study findings evidently indicate that Pig keeping has positive contributions to the entrepreneurs with 100 successful sample projects[22] generating income to the beneficiaries. The contribution amounts from 0 percent to 400 percent on gross income and negative to 319 on net returns. The negative contributions relates to the operating efficiency and to estimation on feed cost by farmers. The findings indicate sufficient evidences that pig keeping is a profitable venture for the enterprises with financial gain as well as by expanding opportunity for farming on leased land.

The labour cost reported was found very high and based on the expert opinion of the study team, the time devoted to this activity has been separated between various activities taken during this period as mentioned above in other animal keeping schemes and recorded accordingly. Feed cost reported is another important variable

[21] It may be noted that the kitchen leftovers in rural household is limited as each family constrained food consumption.

[22] It may be noted that pigs are kept for fattening and sold, however it is seen more beneficial if they are raised for multiplication and selling piglets..

which has been reported erratically. However, during interview with the farmers it was reported that pigs are fed with the leftovers discards collected from the restaurants operating in the vicinity. These feeds have no cost other than the collection time and time taken to bring these leftovers to the cages where the pigs are kept. This fact indicates the need to evaluate the situation using appropriate specialist to identify the hygiene value of the feeds supplied to animal. The details of findings are given in table 23.

Table 23: Survey Findings on Pigs

Beneficiary	Name of the COs	ROI (%)	HPR on Gross income (%)	HPR on net Income (%)	PA on gross income (Yrs.)	PA on Net Income (Yrs.)	Productivity Analysis (Rs/day /adult)	Comments and Remarks
District: Kapilvastu								
Hunara Chamar	Shree Laxmi CO	153.0	153.0	93.3	0.65	1.1	1.5	
Sufal Chamar	Shree Laxmi CO	102.5	102.5	97.5	0.98	1.0	2.2	All (1) animal sold
Tirbany Chamar	Shree Laxmi CO	38.5	38.5	-3.5	2.60	-28.9	0.0	
Hiramati chamar	Shree Laxmi CO	143.9	143.9	107.1	0.69	0.9	2.5	
Mahabir BK	Bhumeshwori CO	175.0	175.0	69.1	0.57	1.4	6.0	All animals sold after maturity brought new
Jaya Bahadur BK	Bhumeshwori CO	525.0	525.0	319.1	0.19	0.3	2.2	
Suk Raj Kasai	Bhumeshwori CO	400.0	400.0	194.1	0.25	0.5	3.8	
China Maya Sharki	Mankamana Samudayik Sanstha	117.4	117.4	39.1	0.85	2.6	0.0	
District: Siraha								
Tilia Sedai	Rajaji Aaya Aarjan CO	24.3	24.3	1.8	4.11	56.9	3.2	
Ram Bari Sedai	Rajaji Aaya Aarjan CO	37.5	37.5	2.5	2.67	40.0	1.8	
Satiya Sedai	Rajaji Aaya Aarjan CO	60.9	60.9	28.3	1.64	3.5	3.8	
Inner Devi Sadai	Jai Ma Laxmi	0.0	0.0	-55.0	#DIV/0!	-1.8	2.1	
Mantaria Devi Sadai	Jai Ma Laxmi	0.0	0.0	-21.7	#DIV/0!	-4.6	5.5	
Chhotni Devi Sadai	Jai Ma Laxmi CO	25.0	25.0	4.8	4.00	21.1	0.9	
Sarita Devi Mallik	Mahila Garib Utthan CO	37.5	37.5	32.5	2.67	3.8	10.0	Sold all animals after maturity

Source: RR study field survey, 2006

4.6 Benefit Analysis from Poultry Keeping

Chicken keeping is common phenomenon with the rural household and constitutes a major source of protein to rural population and a source of cash generating activity in general. Consumption of chicken product is limited to food security situation of the HH. The consumption of chicken and chicken product is rapidly growing in the country and based on this fact poultry keeping is transferring from scavenging type to backward farming to small scale commercial venture in rural Terai area.

4.6.1 Sources of income and its calculation basis

- **Chicken** meat selling constitutes the major source of income to farmers from keeping poultry's.
- **Eggs** constitute another source of income.

4.6.2 Study Findings

The study findings evidently indicate that Poultry keeping has positive contributions to the entrepreneurs and 100 of the sample projects[23] are successful in generating income to the beneficiaries. The HPR contribution amounts from 169 percent to 34 percent on gross income and 69 percent to negative net returns. The negative contributions relates to the operating efficiency and to estimation on feed cost by farmers. The findings indicate sufficient evidences that poultry keeping is a profitable venture for the enterprises with financial gain as well as by expanding opportunity for farming on leased land. The details of findings are given in table 24.

Table 24: Survey Findings on Poultry

Beneficiary	Name of COs	HPR on Gross income (%)	HPR on net Income (%)	PA on gross income (Yrs.)	PA on Net Income (Yrs.)	Comments and Remarks
District: Siraha						
Rashida K Lathun	Ishwari Jana Srijan	145.1	45.1	0.1	0.4	
District: Kapilvastu						
Pujan Raida	Shree Tulsi Samha CO	142.5	42.5	0.7	2.2	
Abdul Kulam	Shree Tulsi Samuha CO	81.2	-18.8	1.8	-7.5	Losses are high due to high death rate in birds.
District: Mugu						
Hari Bahadur Rawal	Chhaya Chhetra CO	169.4	69.4	0.8	1.9	
Puse Kulal	Siutaro CO	34.9	-65.1	2.0	-1.1	Losses are high due to high death rate in birds.

Source: RR study field survey, 2006

[23] The calculations are based on Poultry in mountains, hills and Terai area.

4.7 Benefit Analysis Yak keeping

The nature of yak keeping varies from other animal and the purpose is multiplying offspring's, mature them and sell for high mountain transportation. Besides, the animal produces a minimum quantity of milk which is consumed by the house hold and other products include manures and potential for cheese production should milk is available in abundance.

4.7.1 Sources of income and its calculation basis

- **Calf** in case the offspring is a yak and this is a major source of income to the entrepreneurs or otherwise the entrepreneurs decide to operate a transportation business when the yak matures. The estimation of cost calculation is based on the cost declared by the enterprise owner.
- **Manures** constitute major source of farm nutrient and approximate value is determined by the quantity produced and its value as declared by the entrepreneur.

4.7.2 Study findings on Yak[24]

During interview with the beneficiaries it was revealed that the income from yak start generating from the fourth year onwards when they mature as such the reported benefit indicate the appreciate value of animal as presented by the entrepreneurs. The findings given below evidently indicate that the yak keeping has been profitable so far and the respondent expressed the opinion that this income activity was profitable to them. The details of findings are given in table 25.

Table 25: Survey Findings on Yak in Darchula

Beneficiary	Name of COs	ROI (%)	HPR on Gross income (%)	HPR on net Income (%)	PA on gross income (Yrs.)	PA on Net Income (Yrs.)	Productivity Analysis (Rs/day/adult)
Gajay Singh Budathoki	Thin Yak Samuha	12.0	12.0	-60.7	8.33	-1.4	0.0

Source: RR study field survey, 2006

4.8 Benefit Analysis from Vegetable Farming

PAF have supported this vegetable farming with provisioning of Dhikki pump and hand pump for irrigation facilitation. The production conditions to vegetable farming in rural Nepal, in general relates to low technological know-how with the farmers besides limited market accessibility. Vegetable growing is a new culture in the remote area is a new crop and farmers are not familiar with the production technology of varieties of crops.

4.8.1 Sources of income and its calculation basis

- **Green and seasonal vegetables** are main source of income to farmers.

[24] Majority of yaks keeping projects were based in the area called Bayas in the high hills of Darchula and it was reported that the people living in these area migrate to low lands during winter. As such it was not possible to conduct more interviews and the findings presented in the report is based on the information provided by a Yak keeper who was also the chairman of the CO keeping yak in Khalanga, the head quarters of Darchula district.

4.8.2 Study Findings

The study findings evidently indicate that vegetable farming has positive contributions to the entrepreneurs and 79 percent of the sample projects[25] are successful in generating income to the beneficiaries. The HPR contribution amounts from 700 percent to 15 percent on gross income and 360 percent to negative net returns amongst the profit making enterprises. The negative contributions relates to the operating efficiency and to estimation on labour cost estimated by farmers. However, the findings indicate sufficient evidences that vegetable farming is profitable venture for the enterprises with financial gain. The input output ratio representing the cost of farming and the revenue generated form the vegetable farming indicate ratio of .7 minimum to 20 maximum. The details of findings are given in table 26.

Table 26: Survey Findings on Vegetable Farming

Beneficiary	Name of COs	HPR on Gross income (%)	HPR on net Income (%)	PA on gross income (Yrs.)	PA on Net Income (Yrs.)	Output Input Ratio (Gross Income)	Output Input Ratio (Net Income)
District: Siraha							
Bangalala Kumar	Janabhawana Gaubari CO	82.4	35.5	1.21	2.82	0.8	0.4
Satya Narayan Raya	Janakalyan CO	396.8	304.1	0.25	0.33	4.0	3.0
District: Kapilvastu							
Taj Bunisha Musalman	Janakalyan CO	494.1	290.8	0.20	0.34	4.9	2.9
Mohammad Ali Muslman	Janakalyan Community Organization	595.0	393.3	0.17	0.25	5.9	3.9
Kaphiya Musalman	Janakalyan CO	595.0	387.9	0.17	0.26	5.9	3.9
Aashiya Khaton Musalman	Janakalyan CO	695.8	491.5	0.14	0.20	7.0	4.9
Sitaram Murai	Bajrang Samudayik Sanstha	347.2	37.2	0.29	2.69	3.5	0.4
Phula Yadav	Luxmi Samudayik Sanstha	812.7	436.7	0.12	0.23	8.1	4.4
Chhangur Pasi	As above	485.5	332.2	0.21	0.30	4.9	3.3
Ram Krishna Kurmi	As above	246.7	5.6	0.41	18.00	2.5	0.1
Mahandra Pasi	As above	20.0	-31.1	5.00	-3.21	0.2	-0.3
District: Mugu							
DB Malla	Siutaro CO	28.5	17.3	3.51	5.78	0.3	0.2
Dil Malla	Suitaro CO	115.7	-89.3	0.86	-1.12	1.2	-0.9
Ram Sara Buda	Garibi Niwaran Sanstha CO	253.3	8.0	0.39	12.50	2.5	0.1

[25] The calculations are based on mountains, hills and terai.

Beneficiary	Name of COs	HPR on Gross income (%)	HPR on net Income (%)	PA on gross income (Yrs.)	PA on Net Income (Yrs.)	Output Input Ratio (Gross Income)	Output Input Ratio (Net Income)
Gokarna B. BK	As above	197.3	60.0	0.51	1.67	2.0	0.6
Distirct: Ramechhap							
Karan Bahadur Tamang	Kavre Samudayik CO	145.7	113.6	0.69	0.88	1.5	1.1
Man Bahadur Magar	Kavre Samudayik CO	17.4	9.9	5.73	10.06	0.2	0.1
Min Bahadur Magar	Kavre Samudayik CO	283.8	171.9	0.35	0.58	2.8	1.7
Amar Bahadur Tamang	Kalika CO	60.0	45.6	1.67	2.19	0.6	0.5

Source: RR study field survey, 2006

4.9 Benefit Analysis on Rickshaw

PAF have supported this IG sub-project by provisioning a cycle rickshaw for running a self employed venture in Terai area. The income earning conditions from paddling rickshaw is round the year.

4.9.1 Sources of income and its calculation basis

- **Fare** charged for transportation.

4.9.2 Study Findings

The study findings evidently indicate that rickshaw pulling has positive contributions to the entrepreneurs and 100 percent of the sample projects[26] are successful in generating income. The HPR contribution amounts from 128 percent to 350 percent on gross income and 190 percent to 36 percent in net returns The lower contributions relates to the operating efficiency and location of plying area like it city or the rural area. Besides, it was reported that some rickshaw owners have opted of renting rickshaw and income from rental is Rs. 25.00 per day and when paddled by self income ranged from Rs. 200 to Rs. 250. The findings indicate sufficient evidences that rickshaw pulling is a profitable venture for the enterprises with sufficient financial gain. The details of findings are given in table 27.

[26] The calculations are based on rickshaw plying in Terai.

Table 27: Survey Findings on Rickshaw

Beneficiary	Name of COs	HPR on Gross income (%)	HPR on net Income (%)	PA on gross income (Yrs.)	PA on Net Income (Yrs.)	Remarks
District: Siraha						
Jagwa Saday	Srija Community Development Center	350.0	171.7	0.22	0.49	Self operating
Ram Baran Saday	Srija Community Development Center	264.6	101.3	0.27	0.79	Self operating
Jun Jun Sadi	Gram sewa, Govindapur	325.0	135.0	0.24	0.54	Self operating
Chandeshewori Sadai	Bhapawali	127.7	36.5	0.44	1.43	Partial renting
Kishun Sadai	Garam Seva, Govindpur	225.0	58.3	0.31	0.92	Partial renting
Md. Atabul Skekha	Srijana Community Development Center	280.2	190.6	0.26	0.44	Self operating
Md. Mohid	Islami Jama, Baluwa	204.2	86.3	0.33	0.78	Self operating

Source: RR study field survey, 2006

4.10 Benefit Analysis from Animal Business

PAF have supported this IG sub-project by provisioning a running capital to conduct a self employed venture in Terai area. The income earning conditions from animal business is round the year. These constitute local traders roaming around the surrounding villages buying and selling animal besides visiting animal haat[27] bazaars.

4.10.1 Sources of income and its calculation basis

- **Selling and buying** prices differences.

4.10.2 Study Findings

The study findings evidently indicate that animal business has positive contributions to the entrepreneurs and 100 percent of the sample projects[28] are successful in generating income. The HPR contribution amounts from 266 percent to 9 percent on gross income and 239 percent to negative returns based on net returns and the lower contributions in net return relates to the operating efficiency of the entrepreneurs. The details of findings are given in table 28.

Table 28: Survey Findings on Animal Business in Siraha

Beneficiary	Name of COs	HPR on Gross income (%)	HPR on net Income (%)	PA on gross income (Yrs.)	PA on Net Income (Yrs.)	Productivity Analysis (Rs/day/adult)
Purna Devi Ram	Goth Tole Mahila CO	66.7	-14.7	1.50	-6.82	13.7
Hila Bati Ram	As above	266.7	232.0	0.38	0.43	27.4
Kumari Devi Ram	As above	200.0	165.3	0.50	0.60	16.4
Mahabati Devi Ram	As above	90.9	43.6	1.10	2.29	9.1

[27] Haat is a traditional weekly market for buying and selling farm produces and consumer products.
[28] The calculations are based on animal business operating in Siraha.

Beneficiary	Name of COs	HPR on Gross income (%)	HPR on net Income (%)	PA on gross income (Yrs.)	PA on Net Income (Yrs.)	Productivity Analysis (Rs/day/adult)
Kali Devi Ram	As above	233.3	198.7	0.43	0.50	47.9
Sunita Mahato	Mahila Bikash Sewa, Kalabazar	86.4	59.7	1.16	1.67	26.0
Raj Lal Chaudhary	Mahila Bikash Sewa, Kalabazar	9.1	-17.5	11.00	-5.70	1.4
Ram Kumari Mahato	Mahila Bikash Sewa, Kalabazar	45.0	16.0	2.22	6.25	12.3
Pramila B.K.	Mahila Bikash Sewa, Kalabazar	86.4	59.7	1.16	1.67	7.4

Source: RR study field survey, 2006

4.11 Benefit Analysis from Retail Business

PAF have supported this IG sub-project by provisioning a running capital to conduct a self employed venture. The income earning conditions from retail business is round the year. These constitute two types of traders, firstly the entrepreneurs operating from the residential house in the community, and secondly the local traders roaming around the surrounding villages buying and selling consumer items visiting haat bazaars.

4.11.1 Sources of income and its calculation basis

- **Selling and buying** prices differences.

4.11.2 Study Findings

The study findings evidently indicate that animal business has positive contributions to the entrepreneurs and 100 percent of the sample projects are successful in generating income. The HPR contribution amounts from 400 percent to 40 percent on gross income and 296 percent to negative returns based on net returns. The lower contributions in net return relates to the operating efficiency of the entrepreneurs relating to days claimed for operation of the shops. In the strict economic sense the operation cost requires calculating the days required to run the shop by the enterprise, however the shops in the rural setting running is more of an extra curricular activity of family member who so ever are free in the HH and tagging cost to this activity have resulted in lower net profits. The details of findings are given in table 29.

Table 29: Survey Findings on Retail Business

Beneficiary	Name of COs	HPR on Gross income (%)	HPR on net Income (%)	PA on gross income (Yrs.)	PA on Net Income (Yrs.)	Productivity Analysis (Rs/day/adult)
District: Siraha						
Kumari Ram	Sungabha Mahila CO	194.7	85.3	0.51	1.17	40.0
Shubati Ram	Sungabha Mahila CO	182.5	48.8	0.55	2.05	30.0
Arahula Devi Mandal	Jagriti Chhimeki Mahila CO	40.0	-112.0	2.50	-0.89	5.5
Ram Prasad Mahto	Srijana Community Development Center	136.9	53.4	0.73	1.87	37.5
Panchi Devi Pandit	Aatma Nirva Chhimeki Mahila Co	40.0	-63.3	2.50	-1.58	8.2
Domm Devi Shah	Aatma Nirva Chhimeki Mahila Co	400.0	296.7	0.25	0.34	18.3
Lalita Chaudhari	Aatma Nirva Chhimeki Mahila Co	133.3	30.0	0.75	3.33	13.7

Dev Simda Devi Pandit	Aatma Nirva Chhimeki Mahila Co	133.3	30.0	0.75	3.33	27.4
Ram Batti Chaudhary	Bajranga Bhawani Community Organization	146.7	42.0	0.68	2.38	20.1
Pralhad Lal Chaudhary	As above	133.3	28.7	0.75	3.49	27.4
Bulni Chaudhary	As above	133.3	30.7	0.75	3.26	18.3
Siyabati Chaudhary	As above	66.7	-30.7	1.50	-3.26	13.7
Sukhari Chaudhary	As above	66.7	-30.7	1.50	-3.26	9.1
Jibsi Devi Pandit	B As above	190.0	154.8	0.53	0.65	130.1
Janaki	Jana Jagaran Community Organization	133.3	34.0	0.75	2.94	11.0
Panu Devi Raye	As above	150.0	-34.5	0.67	-2.90	16.4
Ram Piyari Shah	Mahila Bikash Sewa, Kalabazar	200.0	102.7	0.50	0.97	41.1
Ram Kumari Kamati	Jana Jagaran Community Organization	212.5	30.0	0.47	3.33	23.3
Ram Su…..Dev Singh	Jana Jagaran Community Organization	272.7	138.0	0.37	0.72	41.1
Jamased Shekha	Srijana Community Development Center	164.3	16.1	0.61	6.21	22.5
Prakash Bahadur Pokharel	Bhagawati Co, Gram Sewa, Taragaun	142.6	48.5	0.70	2.06	37.5
Dukhani Chauhan	Gram Sewa, Tarangaun	173.8	115.4	0.58	0.87	66.7
Bindeshwor Sadaia	Gram Sewa, Tarangaun	262.5	213.7	0.38	0.47	17.3
Budur Kamti	Srija Community Development Center	42.1	-41.0	2.37	-2.44	10.0
District: Kapilvastu						
Sabriti Sunar	Khushialy Samudaiak Sanstha, Udayapur-5	46.6	-52.7	2.15	-1.90	3.1
Gulha Kumi	Khushialy Samudaiak Sanstha, Udayapur-5	148.1	5.3	0.68	18.80	18.3
BishowN. Gupta	Sahara	65.7	-73.8	1.52	-1.36	7.5
District: Ramechhap						
Bimal Shrestha	Jana Jagriti Co	112.5	3.5	0.89	28.58	30.8
Subash Sharki	Seti Dev Co	100.0	26.0	1.00	3.85	27.4

Source: RR study field survey, 2006

4.12 Benefit Analysis from running a Tailoring Shop

PAF have supported this IG sub-project by provisioning a running capital to conduct a self employed venture. The income earning conditions from tailoring is round the year. These constitute operating from the residential house in the community, and secondly the in the market area. The entrepreneurs relating to tailoring were provided with sewing machine and ancillary products like buttons, needles, scissors etc required for dress making, besides these entrepreneurs were found maintain small quantities of the dressing raw material for selling from the shops.

4.12.1 Sources of income and its calculation basis

- **Stitching charges** obtained from dress making with or without materials.

4.12.2 Study Findings

The study findings evidently indicate that animal business has positive contributions to the entrepreneurs and 100 percent of the sample projects are successful in generating income. The HPR contribution amounts from 160 percent to 70 percent on gross income and 14 percent to negative returns based on net returns while considering variable cost. The lower contributions in net return relates to the operating efficiency of the entrepreneurs relating to days claimed for operation of the shops like in the case of running a retail shop. In the strict economic sense the operation cost requires calculating the days required to run the shop by the enterprise, however the tailoring shops in the rural setting running is more of an extra curricular activity of family member who so ever are free in the HH and tagging cost to this activity have resulted in lower net profits. The details of findings are given in table 30.

Table 30: Survey Findings on Tailoring

Beneficiary	Name of COs	HPR on Gross income (%)	HPR on net Income (%)	PA on gross (Yrs.
District: Siraha				
Rekha Pariyar	Mahila Ekta Chhimekee Samstha	133.3	-26.0	0.75
Maiya Pariyar	As above	100.0	-59.3	1.00
Anju Pariyar, President	As above	133.3	-12.7	0.75
Anita Pariyar	As above	160.0	14.0	0.63
District: Ramechhap				
Hasta Maya Nepali	Jana Jagriti CO	71.4	-24.6	1.40

Source: RR study field survey, 2006

4.13 Benefit analysis from installation of Dhikki Pump and Hand Pump

4.13.1 Dhikki Pump

The income generation of Dhikki Pump relates to irrigation and vegetable farming. All schemes relating to this IG activity relates positive contribution to income of the household. The findings are given in table 31 below.

Table 31: Survey Findings on Dhikki Pump

Beneficiary	Name of COs	HPR on Gross income (%)	HPR on net Income (%)	PA on gross income (Yrs.)	PA on Net Income (Yrs.)
District: Kapilvastu					
Jit Bahadur Kanhar	Shree Siddhartha Community Organization	50.6	3.6	1.98	28.04
District: Siraha					
Darapati Devi Chudhary	Naba Jana Kalyan Community Organization	66.7	-5.8	1.50	-17.14
Tej Narayan Chudahary	AS above	The Dhikki pump is not installed yet.			
Surat Lal Chudahary	AS above	272.7	116.8	0.37	0.86

4.13.2 Hand Pump

The hand pump was found basically supplying drinking water and no remarkable income generation was reported. The only possible way keeping a hand pump would be through field irrigation for agricultural purpose; however, no such practice was reported. As such, the need is seen to access whether keeping a hand pump should be seen as an income generating activity.

4.14 List of IGs with total loss of animals purchased from PAF findings and changed IG.

The inventory of total parent loss is given in table 32 below. These schemes do not have any scope for cost recovery and no activities taken and no information was made available to study team on these entrepreneurs taking any other activities by the beneficiary.

Table 32: Stock Parent Loss in Goat and Pig

Beneficiary	Name of COs	IG Activity
District: Siraha		
Lila Devi Sadai	Dalit Mahila Bikash CO	Goat Raising
Lagan Malik	Mahila Garib Utthan CO	Pig Raising
Urmila Devi Sadai	Mahila Garib Utthan CO	Pig Raising
District: Kailvastu		

Beneficiary	Name of COs	IG Activity
Ganga Raidam	Shree Ram Samudyik Sanstha	Goat Raising
Basmati BK	Shree Tulsi Samudayik CO	Goat Raising
Dasharath Raida	Shree Tulsi Samudayik CO	Goat Raising
Nanda Lal Badai	Shree Tulsi Samudayik CO	Goat Raising
Katelai Burma	Shree Tulsi Samudayik CO	Goat Raising
Pabitra Raida	Shree Tulsi Samudayik CO	Goat Raising
Ram Prasad	Hariyali Samuha	Goat Raising
Sunner Pasi	Hariyali Samuha	Goat Raising

Source: RR study field survey, 2006

Table 33, presents the list of enterprises that have changed the income generating activities. Loan taken for the original activities and the current use of loan is given in the table below. These beneficiaries were asked the reasons for changing the activities and this effect, to major reasons mentioned are presented as remarks in the table below. In respect of changes to furniture and furnish, relates to skill possessed by the entrepreneurs. These finding indicates the need to monitor grant assistance used on continuous basis to avoid misuse of funds.

Table 33: List of the households who changed their IG activities

Beneficiary	Name of COs	Previous Activity	New Adopted Activity	Remarks
District: Siraha				
Lal Bahadur	Dalit Mahila Bikash CO	Goat Raising	Cow Raising	Goat was sold due to spread of disease and activity was changed to cow. Decision to this effect was taken at CO.
Sunita Sadai	Dalit Mahila Bikash CO	Goat Raising	Cow Raising	Goat was sold due to spread of disease and activity was changed to cow. Decision to this effect was taken at CO.
Ful Kumari Mahato	Himalayan Pragati Aaya Aarjan CO	Cow Raising	Buffalo Raising	Money was taken from PAF to buy cow but added some money to buy Buffalo
Pramila Devi Ram	Shree Saraswati Mahila Samuha	Cow Raising	Furniture	Sold the cow and started a furniture factory
Amta Sandhya	Hansaraj Bansaraj Bhawani CO	Cow Raising	Buffalo Raising	Sold cow to buy buffalo
Raj Kumar BK	Mahila - Kalabanzar	Cow Raising	Furnace	Started Furnace to conduct black smith profession

Source: RR study field survey, 2006

4.15 Benefit analysis of Community Infrastructure Projects

4.14.1 Road in Siraha - A Case[29]:

The community: It is reported that about 50 percent members living in the community owned less than 5 Kattha of land, 25 percent members owned 5 to 10 katttha, 15 percentage members possessed 10 to 20 kattha, and about 10 percent members owned more than a bigha. The major source of livelihood to community member is from selling labor in the local area and going to cities in Nepal and India. It is found that 35 percent of the community hemembers depended on agriculture and 65 percent of the population mainly banked on wage earning for their livelihood and borrowing short term loan from neighbours to meet individual expenses was common for poor household. During PRA with the community it was reported Ashad to Mangshir were to best month as employment was available in abundance due to paddy planting and harvesting season and Bhadra represented the worst month in the year. Majority of participants mentioned that earning in a year was more or less sufficient to meet the daily expenses. The annual saving was found to be limited or none. The livestock ownership pattern in the community was about 40 percent HH owned cow, 70 percent bull, 45 percent buffalo, 30 percent goat and about 3 percent pig.

Based on the findings 65 percent of the living in the community is classified as hardcore and middle poor having sufficient food production for up to six months, 20 percent poor having food sufficient for up to nine months, 15 percent having food production sufficient for a year. 74 percent of the household possessed a thatch house costing Rs 25,000 to Rs. 75,000, 25 percent had brick house on mud mortar costing Rs 75,000 to 100,000 and only 1 percent houses were cemented costing above Rs 125,000. The literacy level is about 70 percent, however it was reported that all children go to school as the community made it mandatory for its member to send all children to school. Perception on Gender in the community appeared positive and about 95 percent of the participants mentioned that the decisions were made jointly by the senior male and female members of the household. However, the property ownership in the HH is largely retained by the male and reported that only five percent female owned land.

The Road: The Pragati Sadak Nirman CO had initiated a proposal to build a rural road connecting four village developments committees of Gauntari, Rampur Berta, Malhaniyakhori and Karjanha with the east-west highway. The PAf provided a financial assistance of Rs 2,944,266 and locals contributed of Rs 576,645 in kinds i.e., voluntary labour. The total length of road is about 3 km and it serves 510 households living in community involving the total population of 3134. It is an elevated gravel road and provides scope for movement of vehicle round the year. This road besides other shortens distance in traveling and provides easy access to the east-west high way connecting the community with the rest of the country. The RR of the project is 17.04% and the detailed benefit analysis is presented hereunder.

[29] This estimation is based on the PRA conducted with the office bearers and 26 beneficiaries of the CO. Name of the participants include: 1 Mr. Jagdish Banchar; 2 Mr. Sobit Paswan; 3 Mr. Bansalal Kunwar; 4 Mrs. Deepika Ghale; 5 Mr. Suraj Kunwar; 6 Mr. Kishan Kunwar; 7 Mr. Dev Kunwar; 8 Mr. Laddu Paswan; 9 Mr. Bhola Kunwar; 10 Mr. Juja Paswan; 11 Mr. Shivnarayan Adhikari; 12 Mr. Asharam Kunwar; 13 Mr. Nathuni Paswan; 14 Mr. Prameshwor Paswan; 15 Mr. Subudh Miraha; 16 Mr. Bishun Kunwar; 17 Mr. Pradip Paswan; 18 Mr. parmeshor Paswan; 19 Satyanarayan Rai; 20 Mr. Bishun Kumar; 21 Rambharos Adhikari; 22 Mr. Upendra Mahato; 23 Mr. Ramjiwan Paswan; 24 Mr. Mahomad Taslim; 25 Mr. Mahomad Janif Miyan; 26 Mr. Kali Das,besides the COs and the POs.

Unquantifiable benefits:

- Traditionally, the people had to walk through the field exposed to threat of snake bite[30] and lacking connectivity death in transit while going to hospital;
- Scope for marketing of fresh product as the road connects with the east west highway connecting the major consumption area of Nepal;
- Road has expanded scope for business for the villager as the village is connected with north south feeder road;
- Road is providing scope for movement of goods in larger quantity expanding scope for quantity selling and better bargaining capacity;

Quantifiable benefits derived by the road include:

- Direct income generated from the road is kept as road maintenance fund and the sources include: i) every paid labour working in the project had to deposit Rs. 5.00 per working day as; ii) regular vehicle plying are required to pay one time contribution of Rs. 1000.00. Total amount collected so far amounts to Rs. 30000.00. This amount is further invested as loan to users' group member charging two percent interest per month and the CO estimates to generate about Rs. 6000.00 annually.
- Time saving in travel from Gauntari and Malhaniyakhori is one hour, and 45 minutes from Rampur Berta and Karjanha.
- A noticed expansion in vegetable production area as vegetable production is extended to 15 hectares of land increasing income of the people living in the surrounding. The expansion in area is mainly due to easy access to market connected by road. The details of estimated monetary benefit are given in table 34.

[30] Snake bite is most common threat in walking through the field in Terai area of Nepal and this is more pronounced in Siraha district.

Table 34: Estimated time saving with new approach road

Particulars	Villages		Total Estimated benefit
	Gauntari and Malhaniyakhori	Rampur Berta and Karjanha	
1. Direct Income from the road.			Rs. 36,000
2. Time saving in a year: Estimation based on about 25 % of CO members using road daily. Monetary value of time saving estimated at Rs. 60 prevalent daily wage for a year.	3250.78 man days equivalent to Rs. 195,046.9	2438.09 man days equivalent to Rs. 146,285.2	Rs 341332.03
3. Additional income generated by expansion in vegetable production area by 5 hectares[31].			Rs. 124,552
Total benefit from the Road			Rs. 50,1884.031
RR of the project			**17.04**

Source: RR study field survey, 2006

4.14.2 Mugu Roads in Mugu - A Case:

The community: This road of the Mugu district relates to expansion of the width of mountain trails connecting the airport with Rowa, Shreenagar, Pina and Karkibada VDCs of Mugu district. The direct beneficiary of this project includes 69 households and the people living in the rural VDCs. The Trishakti Samudayik Sanstha had initiated a proposal to build a rural road. The PAf provided a financial assistance of Rs 265,000 and locals contributed of Rs 41,000 in the form of voluntary labour. The total length of road is about 2 km and it serves 69 households living.

The major source of livelihood to community member is from agriculture, wage labor in agriculture and movement of cargo from the Airport[32] to the district headquarters. Besides, people going to India in search of employment is a common phenomenon with majority of households, and major source to the people living in the district, and borrowing loan for unforeseen incidental expenses is a yet another common phenomenon. Also, livestock keeping constituted a major source of cash income to the HH, besides keeping a pair of bull and a cow was common with majority of the households.

Most of the houses were found built on stones with mud mortar having soil roofs costing around Rs. 30,000 to 50,000. During PRA, it was revealed that the major decision in the household was made by male. Likewise, ownership of the property also rested with the male family member of the household. The literacy level is found to be very low in the parents but the awareness in sending the children to the school has been on the rise.

Bhadra is reportedly the best month as employment was available in abundance and Jestha represented the worst month in the year. Majority of participants mentioned that earning in a year was more or less sufficient to meet the daily expenses. The annual surplus saving was not reported in majority of the household living in the community.

[31] Gross income generated from field crops like paddy, wheat and maize is respectively Rs. 7142, 12410 and 3052 respectively. However, gross income from vegetable ranges from Rs. 60000.00 to Rs. 131503. These indicate minimum 9 fold increase in income to farmers shifting to vegetable, the value in the cell indicate the incremental increase in income form vegetable production in 15 hectares.

[32] The airport is served by Royal Nepal Airlines once a week and unscheduled chartered flights.

Benefits: The major benefit derived from expansion is reflected in increased ability to moving balky cargo on human bag as well as mule driving. The convenience in movement for human and animal is major benefit derived from construction of this project. No quantifiable benefit could be determined.

Road is providing scope for movement of goods from airport to the district head quarters once a week to the people living in the surrounding area. However, such employment opportunity was limited mainly because helicopter services operated from the district head quarters.

4.14.3 Culvert Kapilvastu - A Case:

The community: It is reported that majority of people living in the area are poor and own less than 5 Kattha of land. The major source of livelihood to community member is from selling labor in the local area and going to cities in Nepal and India, and livestock keeping bull, goat and Buffalo. The main source of income is agriculture on share cropping and wage earning besides; taking short term loan from neighbours to meet individual expenses was common with the poor household. During PRA with the community it was reported Kartik and Mangshir to the best and Ashad represented to be the worst month in the year. Majority of participants mentioned that earning in a year was more or less sufficient to meet the daily expenses and no savings were retained. The livestock ownership pattern with the community household was about 20 percent owned cow, 70 percent bull, 30 percent buffalo, 60 percent goat. Based on the findings 50 percent of the household living in the community is classified as hardcore and 30 middle poor having sufficient food production for up to six months and 10 percent poor and 5 percent poor and about 5 percent better-off. 60 percent of the household in the community possessed a thatch house costing Rs 15,000 to Rs. 25,000, 40 percent had brick house on mud mortar costing Rs 45,000 to 60.

The literacy level is about 80 percent, however it was reported that all children go to school. Since the community is inhabited by the poorer section of the population the male dominated the family decision making process and only 10 percent of the respondent mentioned that the decision is made jointly. The property ownership with the HH is largely remained with the male.

The Culvert: The Bajrang Samudaiak Sanstha initiated a proposal to build a culvert on the traditional irrigation canal crossing the village and the village road connecting Agigara Vilmi, and Valmin. The PAf provided a financial contribution of Rs 500,000 and locals contributed of Rs 87,000 in kinds in the form of a voluntary labor. The total length of the culvert is about 15 feet by 12 feet. The direct benefit relates to 15 house hold member of the community for plying between farming field and the house. Other beneficiaries include the numerous people living in the other villages mentioned above. It was reported that about 60 vehicles including carts and bicycles cross the culvert daily. After building the culvert, the villagers have easy access to school, market etc. This culvert besides other shortens distance in traveling and easy access to the major feeder road connecting the high way. The RR of the project is 6.3% and the detailed benefit analysis is presented hereunder.

Unquantifiable benefits:

- Traditionally, the people had to take a risk of crossing the canal in the rainy season, when water flow were very high and it was very difficult to commute the farming field and to other villages in search of job.

- The construction of culvert has increased scope to grow vegetable as it has paved the way to the market in the consumption area.
- The culvert has expanded scope for business for the villager as the village is connected with north south feeder road.
- It has made easy access to school especially during summer; otherwise waiting for flood to go down or there was no solution other then skipping school.

Quantifiable benefits derived by the road include:

- Some expansion is observed in vegetable production area and during PRA with the respondent; it was revealed that the new are coverage has increased by about 1 hectare. The details of estimated monetary benefit are given in table 35.

Table 35: Estimated time saving with new approach road

Particulars	Total Estimated benefit
1. Additional income generated by expansion in vegetable production area by 1 hectare[33].	Rs. 37396
RR of the project	**6.3%**

Source: RR study field survey, 2006

4.14.4 Darchula Irrigation Project - A Case:

The Micro Irrigation: The Jhusku Chetansil Chetabsuk Samudayik Sanstha with 59 members had initiated a proposal to build a micro irrigation project with command area of 1500 Ropani. The PAf provided a financial contribution of Rs 10, 89,000 and the locals contributed Rs 4, 02,494 in the form of a voluntary labour. The total cost of project amounting to Rs. 14, 91,494. Benefits derived from the irrigation project both quantifiable and unquantifiable are discussed hereunder.

Unquantifiable benefits:

- The water available through the canal is potable as such it was reported that number of villagers are collecting water from discharge point and using for household purposes.

Quantifiable benefits derived by the road include:

The benefits derived from the irrigation project are summarized below in table 36.

[33] Gross income generated from field crops like paddy, wheat and maize is respectively Rs. 7142, 12410 and 3052 respectively. However, gross income from vegetable ranges from Rs. 60000.00 to Rs. 131503. These indicate minimum 9 fold increase in income to farmers shifting to vegetable, the value in the cell indicate the incremental increase in income form vegetable production in 15 hectares.

Table 36: Quantifiable Benefits and ROI from the Irrigation Project.

S.No.	Particulars	Findings of the Study
1	Total Beneficiary HHs (Nos.)	59
2	Total Project Cost (PAF + Self Contribution) (Rs.)	1,491,494
3	Total irrigated area in 8 Sample HHs (Ropani)	42
4	Average irrigated area per sample HH (Ropani)	5.25
5	Average increase in income per sample HH (Rs.)	2200
6	**Total increase in income due to irrigation system in Sample HHs (Rs.)**	**17,600**
Extrapolated information for Total Population of 59 HHs		
7	Increase in irrigated area = Av. Sample irrigated area * total population (Ropani)	309.75
8	**Total increase in income due to irrigation system in Population 59 HHs (Rs.)**	**129800**
9	**RR of the project.**	**8.7 %**
10	Potential Total Benefit that can be accrued from irrigation canal based on the information provided that command area constitutes 1500 Ropani.	628,571.4
11	**Potential RR of the project.**	**42.14%**

Source: RR study field survey, 2006
Notes: 1 Ropani = 0.05087 ha

4.14.5 Drinking Water in Mugu - A Case:

The community: It is reported that about 50 percentage members living in the community owned less than 10 Ropani and rest had more than 11 Ropani, however most land is non-irrigated and situated on slopes. Productivity was found low and most land produced 1 crop a year, cropping pattern was dominated by buck wheat, finger millet and varieties of beans. Currently, vegetable production was growing due to program launched by various NGOs. The major source of livelihood to community member is from selling labor in the local area and going to cities in Nepal and India. During interview with the stakeholders it was reported that local production was sufficient to meet food requirement for three to six months for majority of the HH. During PRA with the community it was reported Baisakh to Ashad were to be the best month as employment was available in abundance due to cropping season and Push and Falgun represented the worst month in the year due to cold. The annual saving was found to be limited or none with the household living in the community reported carry over to next year. The livestock ownership pattern reported high goat keeping with a herd consisting more than 12, followed by cow for milk and ghee production, and bull in all HH for agriculture draught power.

Based on the findings it could be enumerated that about 80 percent of the household living in the community could be classified as hardcore and middle poor. 100 percent of the household in the community were made from stone on mud mortar costing up to Rs. 100,000, and the HH also owned a work house/animal shed to keep farm animal costing up to Rs. 20,000. The literacy level was found high with limited writing and reading skills equivalent to middle school. Gender perceptive with the community appeared relatively low and it was reported that the most decision in the family was taken by head man of the family and property ownership remained with them.

Drinking Water Project: The Murma Khanepani CO was initiated a proposal to build a drinking project covering 62 HH. The PAF provided a financial contribution of Rs 855,000 and locals contributed equivalent to Rs 345,000 in kinds and in the form of a voluntary labour. The drinking water projects were sufficient to meet the water

requirement of the total HH. This project had reduced the travel time to fetch drinking water commuting about 3 Kilometres going down hill and scaling up steep hills taking up to 2 hours for each commuting and requiring about 6 hours to meet the required quantity of water for HH consumption. The benefits derive are presented hereunder.

Unquantifiable benefits:

- Improvement in the hygiene status of the people living in the area, traditionally due to limited access to water, consumption pattern was limited with a very low consideration for cleanliness;
- It was reported that access to water had reduced exposure to water borne diseases like diarrhoea in the community;
- A noticed expansion in vegetable production in the area is observed and most of the production was consumed by HH supplementing dietary requirements of the HH.

Quantifiable benefits derived by the drinking water project include:

- ***Time saving:*** Approximate reduced in travel time saving from the village to traditional water source is reported from four to eight hours and based on the interview it is estimated that each HH required about 6 hours in average. This time saving is found to be the direct benefit accrued by the beneficiaries. It is assumed that the available extra time is used in other productive uses like traditional and vegetable farming. Thus the derived benefit is quantified in monetary terms as given below. The estimated benefit is presented hereunder in table 37.

Table 37: Estimated time saving with new approach drinking water project

Particulars	Average Time Saving (hour/hh/day)	Average Wage Rate (Rs/Women)	No. of Beneficiary HHS from the project	Annual Estimated Benefit[34]	Annual Estimated Benefit[35]
Time savings from water haulage	6	80	62	Rs. 339,450	Rs. 135,780
RR of the project				**28.29**	**11.32**

Source: RR study field survey, 2006

Attempt was made to evaluate the opportunity cost of time saved but it could not be determined because the information on the opportunities available in Mugu was limited.

4.14.6 Culvert in Kapilvastu[36]

The culvert surveyed was just started to construct few days before the interview. However, the meetings were organised with the beneficiaries by the POs from three CO's Naba Prabhat, Pragatisil and Siddhartha with the people listed in the foot notes.

[34] Estimation based on (Rs.) when 25% of time gained from the project is assumed as a potential time for employment.

[35] Estimation based on (Rs.) when 10% of time gained from the project is assumed as a potential time for employment

[36] PRA was conducted with the following members of Mijar Samudayak Sanstha at Fulbaria, Siraha: Ms. Mitthu Maya, Ms. Bina Mijar, Ms. Shrimaya Mijar, Ms Devmaya Mijar and Phul Kumari Mijar.

Thus meetings were conducted with the beneficiaries. The beneficiaries presented following benefits expected from the project when completed:

4.14.7 Drinking Water Project in Siraha[37]

The community: It is reported that majority of the people living in the community is land less and the settlement is ailani land. However, the community members owned .5 ha to 1 ha of the unirrigated marginal land with very low productivity was found low. The cropping pattern was dominated by maize, millet and varieties of beans. The major source of livelihood to community member is from selling labor in the local area. During interview with the stakeholders it was reported that local production was sufficient to meet food requirement for three to six months for majority of the HH. The annual saving was found to be limited or none with the household living in the community reported carry over to next year. Each HH reported of having some like a pair of bull, a cow or buffalo and few goats. Based on the findings it could be enumerated that about 80 percent of the household living in the community could be classified as hardcore and middle poor. All houses in the community was thatch house costing less than 15,000 The literacy level was found very low, except for who had limited writing and reading skills.

Drinking Water Project: The Mijar Samudayak Sanstha at Fulbaria, Siraha had initiated a proposal to build a drinking project covering 23 HH. The PAF provided a financial contribution of Rs 184,000 and locals contributed equivalent to Rs 46,000 in kinds and in the form of a voluntary labour. The drinking water projects were sufficient to meet the water requirement of the total HH. This project had reduced the travel time to fetch drinking water commuting about 1.5, a walking distance of about 1 hour. The benefits derive are presented hereunder.

Unquantifiable benefits:

- Improvement in the hygiene status of the people living in the area, traditionally due to limited access to water, consumption pattern was limited with a very low consideration for cleanliness;
- It was reported that access to water had reduced exposure to water borne diseases like diarrhoea in the community;

Quantifiable benefits derived by the drinking water project include:

- ***Time saving:*** Approximate reduced in travel time saving from the village to traditional water source is reported to be about one hour and based on the interview it is estimated that each HH required about 3 hours in average, estimated based on requirement of 3 buckets a day. This time saving is found to be the direct benefit accrued by the beneficiaries. It is assumed that the available extra time is used in other productive uses, as such the derived benefit is quantified in monetary terms as given below. The estimated benefit is presented hereunder in table 38.

[37] Ailani land is a government land possessed by people illegally.

Table 38: Estimated time saving with new approach drinking water project

Particulars	Average Time Saving (hour/hh/day)	Average Wage Rate (Rs/Women)	No. of Beneficiary HHS from the project	Annual Estimated Benefit[38]
Time savings from water haulage	3	50	23	Rs. 39,351.56
RR of the project				0.14

Source: RR study field survey, 2006

Attempt was made to evaluate the opportunity cost of time saved but it could not be determined because the information on the opportunities available in Mugu was limited.

[38] Estimation based on (Rs.) when 25% of time gained from the project is assumed as a potential time for employment

Chapter V: The Context – Poverty in Nepal

This chapter presents glimpse of poverty situation in Nepal, followed by the GONs poverty alleviation priorities and strategy for poverty reduction. PAF's programs, strategy and implementation are briefly discussed. The chapter also presents the targeted programs of the some of the ministries of the GON having relevance to PAF. The purpose of this chapter is to understand how different agencies are dealing with the issue of poverty alleviation in Nepal and identify appropriate successful cases for replication by PAF.

5.1 Introduction

Poverty and Social Exclusion are many verbosely discussed axioms in the present day development paradigm in Nepal. Poverty in simple terms is lack of people's access to resources or lack of resources to fulfill their basic needs. The income approach to poverty employs poverty line to measure it and households having income below this line are regarded poor. It is rather difficult to precisely list the causes of poverty as some argue that poverty is the outcome of insufficient resources, may it be land, food etc while others perceive it as redistributive problem.

However, within debate between consumption and income approach to the measurement of poverty vis-à-vis human development or well being approach; there does exist some fundamental accord on the fact that;

- Poverty is multifaceted and hence requires multi-sectoral approach to address it.
- Poverty is a cause as well as an effect in itself.
- Poverty is the consequence of both economic as well as socio -institutional structure.

5.2 Poverty –A Situation Analysis

Agriculture with a share of 40 percent in Gross Domestic Production GDP and 80 percent in labor force plays a key role in the overall economy and Nepalese society. Most agriculture in Nepal is characterized by low productivity and less commercialization. In Nepal poverty is widespread, and is mostly concentrated in rural areas. As agriculture is the main source of income in rural areas, the link between poverty and low productivity of agriculture has positive correlation. However, the agriculture development has simply failed to keep pace with the population growth in provisioning livelihood to people that depend on agriculture. Concurring to this fact Mr. D Chheri [39] iterates that a large section of the Nepalese nation remains a poor agrarian society characterized by under employment and low labor productivity… The heavy dependency of a rural economy on agriculture and the poor performance of the agricultural sector have aggravated rural poverty. Similarly Mr. B Bajracharya[40] asserts that feeble and annually fluctuating economic growth and rapid population increase are two main reasons for continuing poverty in Nepal.

The first Nepal Living Standard Survey (NLSS) was conducted in Nepal by the government in F.Y. 1995/96 and during that time, the population below the poverty

[39] Devendra Chhetry: Asia and Pacific Forum on Poverty: Reforming Policies and Institutions for Poverty Reduction, Manila, 5-9 February 2001.

[40] Bhuban B. Bajracharya: Poverty Reduction - National Strategies for Sustainable Development: National Consultative Workshop (Jan. 30, 2001)

line was estimated approximately at 42 percent. NLSS II conducted in 2003/04 estimates about 31 percent of population below the poverty line (2003/04). A comparison of poverty level between the rural and the urban areas reveals that 10 percent in the urban areas and 35 percent in the rural areas of the population remain below the poverty line. This was 22 percent and 43 percent in the urban and rural areas respectively in the first survey of 1995/96. The NLSS study enumerates that the proportion of population living below the poverty line has decreased by 12 percentage points in the urban areas and 8 percentage points in the rural areas over the period of eight years.

In between the two survey periods, the average household income has gone up by more than 80 percent. Accordingly, the per capita average income over the period has gone up to Rs. 15,162 from Rs. 7,690. Over the period of eight years, a significant change is clearly visible in the composition of income sources. During this period, the proportion of income from agricultural sector has gone down to 48 percent from 61 percent, while proportion of income from non-agricultural sector has gone up to 28 percent from 22 percent, and the proportion of other income including remittance income has gone up to 25 percent from 16 percent. In the NLSS of 1995/96, the share of agriculture sector in the income from daily wages was 53 percent, which has gone down to 37 percent in the 2003/04 survey. Similarly, in the agricultural sector, average increase in daily wages is 88 percent whereas in the non-agricultural sector it is 80 percent only. Between the two survey periods the percentage of households involved in non-agricultural businesses has gone up to 28 percent from 24 percent.

NLSS over the period of eight years indicate that a significant improvement in all categories of consumption as revealed by the personal expenditure statistics collected from personal interviews.

Poverty is chronic in Nepal, particularly in rural areas and remote hills of the country people simply have not been able to benefit from opportunities available and income has remained low with rural populace in Nepal. Thus the blend of lack of skills and poor health results low productivity and low income and thereby perpetuating poverty in Nepal. Thus, it could be enumerated that the poverty in Nepal is not only lack of means but also lack of opportunities, motivation, aspiration and enthusiasm to fight social exploitation. In context of Nepal Dr. D. R Pandey[41] enumerates (i) unsatisfactory growth in aggregate output, (ii) historical effect of unequal distribution of assets (particularly land) and social and economic status among different groups of citizens including the caste-related and gender-related biases, and (iii) inequities born of recent development efforts that have generated further iniquitous income and assets distribution, as some of the major causes of poverty.

Viewed from above perspective the 5 sample districts of Mugu, Darchula, Ramechhap, Kapilvastu and Siraha under review do not offer very promising picture. From the national standpoint consumption and income indicators reveal moderate gains.

Despite the noticed increase in income in two NLSS studies, the lowest strata of the populace still remains at a much lower level compared to national average. It is this bracket that consists of Dalits and occupational castes. Furthermore, the share of the poorest 20% of population in the total consumption is only 6% while the same for the top 20% of population is 53%. Thus the rich one-fifth of the population draws off more than half of the total consumption of the country.

[41] Devendra R. Pandey : Nepal's Failed Development; Kathmandu (1999).

Four most important elements for the income generating activities in Nepal relates to access to land, market access for the produce, social exclusion and social institutional barriers, and these are briefly discussed here under.

Access to Land: The study of these facts are important mainly because the target group of the PAF consists of ultra poor and they are wrongly understood as agriculturist as they are living in the rural areas. However, these are landless people and their exposure to agricultural practice is limited and to them livelihood largely depends on selling labour.

Market access for produce: The findings indicate that the general condition and environment for income generating activities is more conducive in the Terai districts than hills and the mountains.

Social Exclusion: Social Exclusion (SE) refers to the relationship between citizens and the state.[42] Simply put social exclusion therefore is social injustice triggered by reasons of gender, ethnicity, caste and poverty. There is visibly a corresponding relationship between poverty and social exclusion.

Social Institutional Barriers: Socio–culturally the DAG of Nepal districts reside in clusters. So in most of the villages a poverty cluster is formed and the DAG somehow identify with the cluster. In early days specific caste groups were settled in particular locations. The DAG i.e. specific caste groups have been analogous to filthy people living in an unclean environment. Therefore regardless of their caste or untouchable label, people hesitate to buy / accept their produce in view of their association with refuse. In number of Terai districts the poor and landless work on the farm of landowners, such labourers reside in the property of their land owners i.e. the agricultural labours and their entire time is devoted to look after the agricultural activities in the farm. So these people have low self esteem and simply cannot comprehend that even they could be a target of developmental activities. Consequently the programs are either led or captured by the "aware few". Moreover in several poor communities and caste groups living in poverty has become a custom or tradition and it is quite difficult to abandon this tradition.

5.3 Government Strategy for Poverty Alleviation

The Tenth Plan (2003-07) has as an overriding commitment of poverty reduction from about 38 percent of the population to 30 percent by the end of the Plan period, and for this path to further reduce the poverty to 10 percent in about 15 years time[43]. Its overall goal is to improve the human development indicators by about 10 percent through the achievement of social goals and GDP growth targets as follows:

- Social and infrastructure goals: Using 2001/02 as a base, to increase literacy rates from 49 to 63 percent, reduce the infant mortality rate from 64 to 45 percent, increase in life expectancy from 62 to 65 years, increase access to drinking water from 72 to 85 percent, access to electricity from 40 to 55 percent and telephone from 1,761 to the all VDCs.

[42] Dr. Emma Hoper, Review of Social Exclusion in Selected Countries in DFID Asia Region November 2003 www.magarstudiescentre.org

[43] NPC (2003) Tenth Five Year Plan (2003 -2007). Note that the NLSS 1995/96 estimated the incidence of poverty as 42 percent. There is no confirmation that poverty has actually declined to 38 percent as stated in the Tenth Plan. It can be verified only after the results of NLSS 2003 are available. In the following chapters of this report poverty is accepted as being 42 percent.

- Economic growth: GDP growth rate 6.2 percent/ year and agriculture-GDP growth rate 4.1 percent/year

The Tenth Plan together with the supporting Poverty Reduction Strategy Paper (PRSP), prepared by the National Planning Commission (NPC) states that the poverty reduction strategy consists of four pillars (i) broad based economic growth, (ii) social development, (iii) targeted programs for ultra-poor, vulnerable and deprived groups (who may not adequately benefit from the first two pillars), and (iv) good governance. The Plan also emphasizes cross-cutting approaches like: (a) redefining the role of public interventions, (b) developing private sector and involving NGO, International Non Government Organisation (INGO), Community Based Organisation (CBO) in implementation of key activities, (c) promoting community participation and management of activities at the local levels, and (d) accelerating the decentralization process.

5.4 Institutional Strategy and Place of Non Government Organizations (NGO) and Community Based Organizations (CBOs)

The Tenth Plan's institutional strategy/ framework emphasize complementary, non-overlapping roles amongst major stakeholders (i) the Government, (ii) local bodies, (iii) private sector and (iv) non-governmental/ community-based organizations. The paragraphs below provide an outline of the function of the first three sets of stakeholders and then reviews the role of NGO/CBOs at some length. Government's role is seen in creating an environment that is necessary to obtain co-operation from other agencies. However, the government would perform a leading role in providing peace and security and improve standards of service, and work as a regulator. Besides it will: i) provide a long-term vision, establish plans and policies, develop human resources and make requisite infrastructures; ii) lead the process of poverty reduction and mainstreaming of soft population like ethnic/ indigenous/dalit communities, women, children and the integration of backward regions/hinterlands; iii) facilitate private sector in industry and trading activities; iv) based on local self-Governance Act (LSGA) 1999, devolve power to local bodies on matters of program planning, resource mobilization, implementation, monitoring and evaluation; and v) encourage NGOs/ CBOs to work as partner with local bodies and Government, motivate them to monitor and to work as pressure group; and vi) coordinate programs, conduct Monitoring and Evaluation, ensure that common people obtain benefits of development and protect environment.

The special feature of implementation plan of the tenth plan is to involve civil societies as partners in rural development initiatives. It is seen that their involvement generally improves effectiveness, reduces costs, promotes equity and empowers the people. Civil societies include community base organizations (CBOs), self-help organizations (SHO), non-governmental organizations (NGOs). The total number of NGOs and CBOs add-up to over 50,000 (provisionally).Such organizations provide a huge potential pool of manpower, networks, funds and services at the grass-roots level. The NGOs working in the area of community development (covering rural development, agriculture, microfinance etc ;) number over 7,000, followed by those in youth and women development activities.

5.5 Poverty Alleviation Fund

PAF is geared to support third pillar mentioned in the Tenth Plan and in achieving the following national objectives and to reduce the level of poverty by 10 percent in 20 years in pursuant with the long-term goal of the Government of Nepal; and to reduce

poverty by half by the year 2015 as per the millennium development goals. So the main issues before PAF are:

- reaching out to the poor and excluded communities (poor women,dalits and indigenous people), and
- plan and implement demand driven programme to improve access to income generation and community infrastructure for the group that have been excluded by reasons of gender, ethnicity and caste as well as for the poorest group in rural communities through their own organization, and finance directly to community organization on cost sharing basis to implement and manage their programs by the poor themselves.

The PAF Project aims to support the third pillar of the PRSP most directly, while indirectly contributing to the other three. The overall objective of PAF is to enable the poor, women and vulnerable groups to gain access to resources for their productive self-employment to encourage them to undertake income-generating activities for poverty alleviation and improved quality of life. The PAF is aimed to achieve the above broad goal through its four project components:

- Social Mobilization
- Capacity Building/Empowerment
- Income and Employment Generation
- Community Infrastructure Project

The concept of PAF Project is based on the principles that appropriate income generation activities based on integrated approach; small-scale infrastructure development and capacity building programs improve the livelihoods of the rural poor and socially excluded groups in rural communities of Nepal. COs and POs are the proponents and have been identified as major stakeholders of the project. One of the important objectives of the PAF is to strengthen institutional capacities of its Partner Organizations (POs) and communities to undertake and sustain poverty alleviation efforts. POs will be selected amongst CBOs, NGOs, Private Sector Organizations, Local Government Organizations like VDCs/DDCs and district level line agencies. These POs will act as a bridge between the PAF and the community and will help communities prepare project proposals to receive assistance from the Fund. The proposals should cover areas such as social infrastructure, economic infrastructure, income generating, skill enhancement, common service related infrastructure, common physical infrastructure and other innovative technical proposals. These proposals should also be target related, technically sound, financially appropriate and environmentally sustainable. The POs with a support from PAF manages the planning, implementation and operation of the project components focusing particularly on community awareness, planning and training aspects.

The Partner Organisations (POs) selection, social mobilization, targeting and the first lot of agreement with the COs were completed during the period of April-July 2005[44]. PAF focuses on assuring benefits to the vulnerable through income generation, improved physical and social infrastructure, and training and skills development

[44] The CO members are targeted using a mix of targeting methodologies (indicator based geographical, participatory social assessment/wealth ranking). The eligibility conditions include a set of inclusion and exclusion indicators. Once the CO is registered in PAF , CO are provided fund support as grand to implement CO sub-project proposals approved. POs are responsible for social mobilization; provide facilitation and technical support to COs including monitoring.

support. The broader organizational effort of the PAF supports demand driven community projects and expanding credit base to the rural populace.

5.6 Targeted Programs

Some of the relevant targeted program having relevance in sharing experience is briefly discussed hereunder:

Rural Community Infrastructure Works Program (RCIW) of the at Ministry of Local Development (MLD)

RCIW aims to improve short and long-term food security of the poorest and most food-insecure families living in selected highly food-deficit districts of Nepal by (a) directly increasing the availability of food in the program districts and (b) ensuring poorer peoples' access to food.[45] It aspires to enhance the self-help capacity of targeted poor communities by improving physical access in remote rural areas and developing productive assets and associated agricultural production. Under RCIW programs, food grains are offered to poor households as payment to their labor on food-for-work projects.

Program Modality: The program has adopted the integrated approach to development of food security. Under the program, food grains are provided as temporary assistance to poor households in exchange for their labor on Food-for-Work projects. The program also provides the local User Committee (UC) managing the project with construction materials, farm inputs, tools, technical and managerial expertise, and training to enhance the capacity of the communities.

The UGs, consisting of workers and their chosen representatives in the user committees (UCs) are responsible for all project management activities, project identification, food distribution, resource management and record-keeping, while the VDCs and DDCs are responsible for project implementation through District Project Management Committees (DPMC) and District Project Support Units (DPSU), and MLD assumes the overall national-level implementation responsibility.[46] The program accords high priority to women and *Dalit.* Further, it also mandates 30 percent of all micro-projects (two per district) to be managed by women only.

Monitoring System: The RCIW programs are monitored both by the government as well as the donors (GTZ and WFP). According to the program's fifth annual report and summary report of the first phase[47], monitoring system devised for RCIW programs comprises the following five main components:

- Information routinely produced by the analysis of fact sheets
- Findings from self-evaluation exercises by UGs and partner organizations
- Audits carried out by independent organizations
- Findings revealed by special studies (e.g., impact assessment studies)
- Observations of RCIW staff members during field and project visits (travel reports).

[45] RCIW Agriculture Promotion Strategy - Increasing Food Production and Income for Sustainable Food Security, May 2003.
[46] Country Program – Nepal (2002-2006), World Food Program, April 2001.
[47] RCIW - Fifth Annual Report (August 1999 to July 2000) and Summary of Phase I (1995 to 2000), Ministry of Local Development, GONN, GTZ and WFP, December 2000.

The need for monitoring and supervision of program activities has been visualized to ensure appropriate use of food-grains and fund received under the program. Monitoring under the program focuses in program progress and accomplishments. Very importantly, the guideline has spelled out the processes involved at various stages of project implementation.

5.7 Targeted Programs at MOAC

Department of Livestock Services (DOLS) has commercial goat raising, poultry farming etc., programs geared for self employment promotion, food security and poverty Alleviation. These programs follow groups approach for project implementation and group formation is prerequisite for getting any assistance under this project. The program focus on the poor, marginal and women farmers presumably would lend these activities the status of targeted programs.

Program Modality*:* DOLS convincingly implements the program under a partnership approach. The beneficiaries are required to form users' groups. Groups are formed of a minimum of 10 households and each group member is given two She goats. Thus each group is entitled to 20 she goats with one breeding goat. Likewise grass and fodder seeds are distributed to the groups and appropriate technology transferred. The beneficiary farmers on their part are required to turn in or reimburse six months old kid (goat) in the same number as received, within two years. And this is forwarded or lent to another group. Goats are purchased by either DLSO itself, or through contractors. Beneficiaries are also involved during the procurement of goats.

Monitoring System: The monitoring process starts with initial concurrence on annual program by NPC. The Annual Program consists of primary information regarding a program/project like awarding of contract, land acquirement, consultants' hiring and projected outputs. The information pertains to activities, costs, targets & budget annual as well as trimester, weight and progress annually.

Aside from the regular reporting system, the program has also devised independent monitoring system that attends to its requirements. In this process yearly monitoring / evaluation formats have been developed that include Name of responsible staff and details pertaining to program beneficiaries and services delivered. It lists farmers' name with gender, name of groups, location, distributed seed services (goats / chickens) in number, production, mortality, reimbursements and income through the sale of output.

Similarly the program uses a detailed format for bi-monthly monitoring. Special provision relating to monitoring livestock promoting program relate to gathering information on fodder and feeds pertains to accessibility to and coordination with lease hold forest, fodder packages program and total area under grass cultivation, germination rate, production per squire meter, fodder tree distribution, survival rate and production, distance of pasture land and time taken in grazing the animals. Detailed information is gathered on the management of He/she goat, their kids, fodder and feed requirement, grazing per day, and price of goats, both purchase and sales. The income side of information relates to production status, numbers and capacity to manage the kids, categorization by gender, and weight at birth and mortality.

Problems: The major problem cited is the need for program reformulation after the budget is allocated in the red book and their re - approval. One practice being adopted at DLSO is to adjust program / projects based on priority and cut back the less priority programs once the budgetary allocations are curtailed. Such adjustments normally have impacts on the Livestock - Farm level activities instead of program / projects.

The second major problem faced by the goat program pertains to the rules that service delivery has to be procured through the contractors.

5.8 Women Awareness & Income Generation Program, Targeted Program under MOWCSW

Women Awareness and Income Generation Program is an all-inclusive culmination of programs and projects like Production Credit for Rural Women (PCRW) and Micro Credit Project for Women (MCPW). The program assimilates the successful practices of PCRW and MCPW. Built on the basic premise of women empowerment, the program aims to "uplift socio-economic status and increase political awareness of women". Started in 1999/2000 as a central level program in 954 VDCs, the program aims to cover the 205 parliamentary constituencies.

The programs are implemented in succession by Department of Women Development through WDO, local NGOs, commercial banks and saving and Credit Cooperatives (SCC). The program / projects had group formation and training of beneficiaries and provision of credit to women as their main focus. The first component aimed at increasing the awareness level of women beneficiaries and enhancing their economic and managerial capabilities. The second element addressed to the need for strengthening women groups to undertake micro-finance activities by establishing linkage between target groups (TG) and commercial banks so that the former can have easy access to institutional credit facilities for carrying out viable income generating activities. Training activities constituted a major part of both the programs.

Program Modality: Social mobilization, group formation and saving and credit activities within groups are the major attributes of the program. The program implementation includes a series of steps, by and large carried out in succession. The process takes off with identification of program areas. This is largely done in close collaboration with DDC, district level line agencies, financial institutions like banks, local NGOs etc. The demand for program has to be submitted through the DDC Council. The basic criteria used are the proximity of the VDC to the service providers like district line agencies, banks, NGOs etc. A next step involves information dissemination and identification of the Target Groups, households below poverty line, with the help of household survey. In the process, the facilitator who is normally a Woman Worker immerses in the community and rapport and trust building is developed. Subsequently, the process of organizing women in cohesive groups of 7 members starts.

Monitoring System: The monitoring practice is limited to measuring progress in physical and financial terms and the progress is perceived in relation to cost and time spent. Monitoring of other programs / projects is done as per the stipulations of NPC and follows the same route as other line ministries. The present practice includes:

- Trimester / 4 monthly progress report based on format developed by NPC.
- Monthly report of core / priority projects (P-1) implemented at local level.
- Bi-monthly reporting to NADC
- Use of Self-developed Formats

It is however fascinating to note that the monitoring indicators used by DWD vary in comparison to other ministries and have great leanings on groups and committee formation. The pro forma under use makes meticulous efforts to include indicators like;

- Total number of groups, committees and organizations formed and their respective membership.
- Number of groups, committees and organizations and the Amount saved respectively.
- Total Savings and Lending and the area of investment.
- Status of Revolving Fund (RF), number of organizations, members receiving Revolving fund.
- Source of seed money
- Amount received and Area of investment

Problems: Unlike progress monitoring which echoes the quantitative aspect of a program the process monitoring has qualitative dimension as its main feature. It weighs up the critical attributes of a program / project and the quality of such interventions. So the need is to continuously observe and identify key project processes and record them qualitatively as well as quantitatively.

Summery of other targeted program, district coverage, funding agency, program modalities and the status/output is given in Annex I.

Chapter VI: Conclusions and Recommendations

The World Bank (WB) funded PAF's activity is designed to reduce poverty and empower poor. The report provides an understanding of the trends on rate of return on its investments in the income generating and Community Infrastructure Sub-Projects to individual beneficiaries.

Firstly, while conducting the benefit analysis, one of the focuses of study has been to evolve appropriate methodology suitable for benefit computation of the vast projects involving investment in varieties of income generating activities which have a large or funtional variation in income generating schemes. This objective has been successfully attained by the study and an applicable methodology has been devised during implementation of the study. Besides, appropriate assumptions have been identified and elaborately defined. These findings are seen instrumental in future studies to be conducted by PAF. The present analysis is first effort taken in this direction and the continuation of such initiatives is strongly recommended in years to come. It is seen essential that these initiatives should originate from the PAF itself, as PAF is the only institution by its name in the country providing assistance in poverty alleviation in totality. It is envisaged that in these efforts, the donor community assists PAF on the one hand, and PAF takes initiatives in seeking and complimenting efforts taken by allied agencies involved in this Herculean task.

Secondly, the objective of the study was to evaluate the benefits derived by the beneficiaries from the income generating activity undertaken by them. The findings indicate that the schemes are successful in generating income by and large except in cases where losses have been mainly due to external causes like disease and natural calamities. Besides, other causes for losses relates to inefficiencies relating to investment in the form of variable costs like, feed and labour.

This required close of scrutiny of the PAF beneficiaries in terms of skills possessed by them to undertake income generating activities. The findings in this regards are summarised below:

- All people living in the rural area are seen as agriculturalist, however the PAFs beneficiaries largely constitute land less are based on marginal land and depending on wage earning for livelihood. These vulnerable groups are not exposed to appropriate agricultural technology. As such, an establishment of strong unit providing technical back stopping to the enterprise is seen essential with an immediate effect to make schemes ensure income generation in general.

- High labour cost and feed cost was reported in all most all category of investment and this indicates a need to evaluate whether the cost incurred is economically feasible or not. As such, a need is seen to undertake diagnostic study identify to identify the cost incurred is appropriate or not. Based on the findings the technical backstopping suggested above should provide appropriate technology to stakeholders.

- A number of skills based enterprises like a tailoring shop are supported under PAF. In such enterprises, there a need is to provide skills enhancement training as that could put the enterprise in creating a better competitive edge in provisioning better services to the client.

- The current practice with the PAF has been on provisioning the financing to demand driven projects initiated by the COs/beneficiaries. However, a need is

to establish mechanism to provide assistance with continuous technical backstopping to enterprises. This is seen instrumental in making income generating projects successful. This recommendation does not suggest imposition but to compliment technically. For example, like in pig raising whether fattening animal and selling is more profitable or keeping her animal and selling piglets is a better business.

- The income generating projects require understanding of accounting as essential feature. However, PAF beneficiaries largely consist of illiterate and this fact calls for a need to providing basic accounting skills to stakeholder to operate enterprise in business like manners.

- Cases of distress selling of animal not matured were observed and when asked for the reason, the common answer related to repayment of monthly instalments to CO. In this regards there is a need to revisit repayment schedule imposed by the COs and take necessary measures to avoid the distress selling situation of products not matured.

Thirdly, the operation modality of PAF assistance banks on POs for monitoring the activities of COs, However in view of PAF's investment being of a long term nature, a need is seen to establish a mechanism for constant monitoring the fund utilisation by COs in short as well as the long term. These relate to:

- PAF is following a strategy to expand program through NGO's and CBO's. In this regard it is necessary to develop the capacity of local NGO's for program implementation. Besides establishing a mechanism to monitoring their activities by conducting ex-ante and ex-post impacts evaluation in achieving the goal of the PAF is also equally essential.

- Carry out studying on growth and changes in distribution of income and calculate the rate of pro-poor growth/decline after the implementation of PAF project in the district/areas. Based on the findings develop a strategic action plan and implement the program in the districts accordingly.

- The community having limited knowledge on managements of varied projects that are supported by PAF. Particularly infrastructure projects that are managed by the community a mechanism has to be established a mechanism to assist in maintenance of supported projects.

- The suggested mechanism should also keep track of fund utilisations as these would provide cumulative benefits to the community as envisaged.

Fourthly, the findings of the study indicate the PAF has been largely successful in combating the social exclusion existing in Nepal. This fact was well reflected in the meetings participated by varieties of people representing different section of ethnic groups in the community. These findings indicate a positive contribution of PAF in correcting social and institutional barriers existing in Nepalese society. Based on these successes, it is envisaged that achieving the economic up-lift of ultra poor is not a distance mirage. However, a need is seen to keep proper prospective in operation modalities as mentioned above. Besides, developing a device or a policy to cover the risk of loss of income due to unforeseen situation like; poor harvests, death of the parental livestock, or declines in real wages because of their involvement in PAF program is also required.

Fifthly, it is seen that the PAF selection of beneficiaries focuses on principal of social inclusion, based on ethnicity and gender prospective. However, it is seen that rural

Nepal constitutes hard core poor, beyond the definition of category falling on this principal. In order to extend service to and encompass rural poor, it is eminent to go beyond this philosophy to assimilate the needy. Thus, within the program framework, it is seen essential to develop a comprehensive mechanism to provide blanket coverage to all and achieve the noble cause of poverty alleviation.

Lastly, PAF's has a mandate to take a lead in conducting poverty reduction programs in Nepal. Thus, it is recommended PAF to expand its role in assuming a lead role while embracing all developmental agencies involved in poverty alleviation in Nepal.

ANNEXES

Annex I: Targeted Programs/Project for Poverty Alleviation Status

S. No.	Project/Program	Coverage Districts	Funding	Modality	Status/Output
1.	Rural Community Infrastructure Development Program	45	WFP	Infrastructure development	• 2634 km rural road construction • 1517 km trial road construction • 279 km irrigation canal • 156 km river training / river protection • 148 ha agro-forest extension
2.	Western High Hill Region Poverty Alleviation Project	11	IFAD	Social mobilization	• One orientation seminar
3.	Rural Access Program	6	DFID	Infrastructure development	• 196 km rural road study survey • 55.33 percentage of construction materials and apparatus purchased • 274 km rural road construction • 192 km construction supervision
4.	Poverty Alleviation Fund	42	GON	Social mobilization	• Program coverage in 942 VDCs • CO formation • Saving credit
5.	Informal Education and National Literacy Campaign	115		Direct teaching	• Educational materials distributed: • For adult – 8,895 sets • For children – 2,451 sets • For literate – 210 sets
6.	Women Education Program	Nationwide		Gender awareness & education incentives	• Gender awareness training to 123 primary teachers • Visit program to 16 feeder hostel warden
7.	Free of Cost Text Book Program	Nationwide			• Free of cost text book distributed from class 1 to 5 in all public schools (ongoing)
8.	Primary School Nutrition Diet Program	21 districts	WFP	Snacks distribution at the school	
9.	Basic and	Nationwide	• EU		• Orientation

S. No.	Project/Program	Coverage Districts	Funding	Modality	Status/Output
	Primary Education Program		• NORAD • WB • DANIDA • Finland		training to 235 persons • 20,000 copies of poster pamphlets • 668 copies of books for special education
10.	Community Forest Development Program (Central Level)	Nationwide	DANIDA		• 2,100,000 saplings (plants) produced and distributed • 340,000 information materials distributed • 36 times audiovisual transmissions
11.	Community Forest Development Program (District Level)	38 hilly	DANIDA	• Social mobilization • Forest management	• 2,092 forest user groups formation • 1,592 forest action plans prepared and transferred • 17,178 community forests supervised • 2,014 forest action plan reviewed
12.	Livelihoods Forestry Program		DFID	• Social mobilization • Community forest management	• 189 user committees formed • 187 forest action plans prepared and transferred • 282 community forest management training conducted
13.	Hill Leasehold Forest and Pasture Development Project	10	IFAD	• Social mobilization • Forest and pasture management	• 1,773 leasehold forest groups formed • 7,457.36 ha forest transferred to the focus • 1,269.95 km forest demarcation
14.	National and Leasehold Forestry Program	16		Production oriented	• 193 leasehold forest groups formed • Involved 1,312 families in the group • 13.44 ha forest transferred to the groups • 131.5 km forest demarcation
15.	Churia Forest Development Project		GTZ	Forest management	• 52 CFUGs formed • 55 forest action plans prepared and transferred • 4,415 persons

S. No.	Project/Program	Coverage Districts	Funding	Modality	Status/Output
					trained on community forest management
16.	Herbal Promotion Project			Community mobilization	• Germplasm protection and management in 30 places • Data collection and survey in 3 development regions • Research and analysis of 3 species of herbs • 10 herbal nurseries management
17.	Abolished Kamaiya Rehabilitation and Career Development Program	Nationwide	ILO	• Land distribution • Fund distribution • Skill training	• 2,360-12-5 Bighas of land distributed • 1,504 groups reorganized • 30 skill development training and conducted program • Expenditure Rs. 117,078,000
18.	Karnali Zone Animal Service Program	5 of Karnali Zone	IDA	Production oriented program	• 598 hybrid (improved) livestock distributed • 40 onetime agriculture census • 1,570 grass packets distributed • 147 service center level training conducted • 212,500 livestock treatment services done • Livestock immunization – 71,970 livestock
19.	Poverty Alleviation Commercialized Goat Farming Project	22 districts		• Skill oriented • Production oriented	• 28,381 goats purchased and distributed • 7 days goat farming training to 3,700 people • 4,600 manuals published
20.	Poverty Alleviation and Employment Oriented Poultry Farming Program	18 VDCs of 9 districts		• Provision of feed for chicken • Provision of treatment	• 19,700 chicken purchased and distributed • 470 mt feed purchased and distributed • 2,288 people

S. No.	Project/Program	Coverage Districts	Funding	Modality	Status/Output
					trained about poultry farming
21.	Women Self-help and Rehabilitation Program	Nationwide		Skill oriented program	• Reproductive health and women's legal right training conducted in 12 districts
22.	Women Skill Development Center	Nationwide		Skill oriented program	• 10 times handicraft expos organized • 7,260 pieces of handicraft produced • Sewing/cutting training to 172 persons conducted
23.	Social Welfare and Treatment Program (including senior citizens)	Nationwide	GON	Welfare Trust Fund	• Senior citizen fund • Senior citizen treatment started • Senior citizen directives formulated
24.	Family Planning and Maternal Child Welfare Program	Nationwide		• Contraceptives distribution • Throughout the Kingdom	• 1,200 copies of safe motherhood program package printed and distributed • ID card/bag distributed to 1,999 women • 1,672,982 people using contraceptives
25.	Nutrition Program			Treatment and prevention	• 290,174 children's growth monitored • 234,715 tablets distributed to cure parasites • 4,700,000 Vitamin A capsules distributed to 1,248,724 persons
26.	Skill Development Training Centers	14 Skills development centers of the country		• Self-employment • Alternative employment generation	• 3,924 persons trained, general mechanics, electricity and connection plumbing, hair cutting, sewing and knitting, and press compose
27.	LGP/PDDP Program	60	UNDP	• Social mobilization • VDP	• 16,400 COs formed • Saving Rs 344,600,000 • Credit flow Rs 821,700,000 • Program extended

S. No.	Project/Program	Coverage Districts	Funding	Modality	Status/Output
					to 662 VDCs • Settlement covered 10,953
28.	Productive Credit for Rural Women (PCRW)	10 municipalities of 12 districts	IFAD	Productive credit distribution	• 25,023 female COs formed • Skill development training to 74,222 women
29.	Western Terai Poverty Alleviation Program	8 districts of Western Terai	IFAD	• HRD • Agriculture sector development	• Social mobilization in 80 VDCs • 4,270 improved toilets • Shelter grant to 7,226 HH • Plantation 83.8 ha
30.	Rural Urban Partnership Program	17 municipalities and 33 rural market centers	UNDP	• Institution development • HRD • Credit capital	• 100% HH mobilized in the community development program
31.	Sustainable Community Development Program	Surkhet, Kailali, Dang, Okhaldhunga, Humla, Myagdi 6	UNDP	• Social mobilization • Credit mobilization	• 1,355 COs formed • Rs 23,048,082 savings collected • Program extended to 64 VDCs
32.	Rural Self-help Fund	40		Micro credit	• 6,800 creditors • Rs. 4,320,000,000 loan mobilized
33.	Bishweshwor Among the Poor Program	205 election constituencies		• Social mobilization • Micro credit	• Program extended to 386 VDCs/NCs • Skill development training in 156 constituencies • Seed money obtained in 199 constituencies • 386 social mobilizes mobilized
34.	Special Area Development Program	25 remote districts	GON	Rural infrastructure development	• Herbs production training to 56 persons • 6 rural electrification • 19 suspension bridges • Drinking water/irrigation project – 4 each in all 25 districts
35.	Program for Nationalities and Ethnic Community Development	Dhading, Makwanpur, Chitwan and Gorkha	SNV	Social mobilization	• Skill development training • Clothes distribution • Drinking water project
36.	Program for	Nationwide		• Scholarship	• High level

S. No.	Project/Program	Coverage Districts	Funding	Modality	Status/Output
	Minorities			• Awareness	education scholarship to 150 persons • Scholarship for Dalit students – 2,300 • Radio program produced – 52 • Drinking water project completed – 24 • Students awarded – 9
37.	Women Awareness and Income Generation Program	Nationwide		• CO formation • Micro credit • Income generation	• 105,242 women affiliated in COs • Rs. 72,521,000 savings mobilized • Training to 5,734 women

Source: Poverty Monitoring Support to PRSP, National Planning Commission, data as of July 15, 2003.

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Annex II: List of persons contacted

1. Mr. Raj Babu Shrestha, Executive Director, PAF
2. Dr. Madan Pariyar, Chief, Program Co-ordination and Communication Unit PAF
3. Mr. Atul Pokharel, Economist, World Bank, New Delhi
4. Mr. Manoj Chipalu, Financial Analyst, Accounts and Administration PAF
5. Mr. Jhanka Narayan Shrestha, Monitoring and Evaluation Expert, PAF
6. Mr. Kanchan Lama, Research and Development Officer, PAF
7. Mr. Buddhi Tamang, Account Officer, PAF
8. Ms. Sunita Shakya, MIS Officer, PAF
9. Ms. Sunita Malla, District Portfolio Manager, Siraha
10. Mr. Akilesh Chandra Dash, District Portfolio Manager, Kapilvastu
11. Mr. Om Prasad Poudel, District Portfolio Manager, Mugu
12. Mr. Jayaraj Pant, District Portfolio Manager, Darchula
13. Mr. Nirmal Pant, District Portfolio Manager, Ramechhap
14. A host of the officials of all the Partner Organizations visited by the study team.
15. IG Beneficiaries in the study districts, list of persons is mentioned in the report.

Annex III: List of References and bibliography

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Annex IV: Schedule of Field visit of Consultants

Date	Uttam Dulal	Rajendra Singh	Subarna Bajracharaya	Remarks
4/11/2006	Nepal Gunj			Uttam departed KTM for Nepalgunj to Mugu, Darchula, Kapilvastu, Siraha
5/11/2006	Mugu	Nepal Gunj		Rajendra departed KTM for Nepalgunj to Mugu, Darchula, Kapilvastu, Siraha
6/11/2006	Mugu	Mugu		
7/11/2006	Mugu	Mugu		
8/11/2006	Nepal Gunj	Nepal Gunj		
	M'Nagar	M'Nagar		
9/11/2006	Pithaura Garh	Pithaura Garh		
10/11/2006	Darchula	Darcchula		
11/11/2006	Darchula			
12/11/2006	Darchula		Kapilvastu	Subarna departed KTM for Bhairahawa to Kapilvastu, Siraha
13/11/2006	M'Nagar	M'Nagar	Kapilvastu	
14/11/2006	Kapilvastu	Kapilvastu	Kapilvastu	
15/11/2006	Kapilvastu	Kapilvastu	Kapilvastu	
16/11/2006	Kapilvastu	Kapilvastu	Kapilvastu	
17/11/2006	Siraha	Siraha	Siraha	
18/11/2006	Siraha	Siraha	Siraha	
19/11/2006	Siraha	Siraha	Biratnagar	Uttam returned to Kathmandu by bus
20/11/2006		Siraha		Subarna returned to Kathmandu via Biratnagar by Air
21/11/2006		Siraha		Rajendra returned to Kathmandu via Biratnagar

Date	Uttam Dulal	Rajendra Singh	Subarna Bajracharaya	Remarks
				by Air
25/11/2006	Raemchhap			Uttam departed KTM for Ramechhap
26/11/2006	Raemchhap			
27/11/2006	Raemchhap			Uttam returned KTM from Ramechhap