

Implication of Project Intervention on Poverty Alleviation and Sustainable Livelihoods

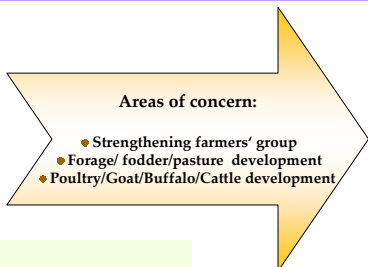
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Introduction:

Nepal is a landlocked country where agriculture and livestock are key components of the livelihoods of the rural population and vital to the national economy as agriculture contributes 39.1% to the GDP. From the economic point of view, livestock sub-sector is the second largest component of agricultural sector that contributes 31.5% to agricultural, and 18% to national GDP. Thus, livestock make a substantial contribution to household livelihoods, improve food security and nutritional status (7% of the daily Kcal requirement), draught power (>90%), and organic fertilizer for crop production (90% of the total).

From the multidimensional perspective, people are poor when their level of income does not allow them to buy the minimum amount of food required to carry out daily duties and tasks, nor to obtain a minimum level of education nor medical attention when necessary, that is, when they are not able to satisfy their basic needs.

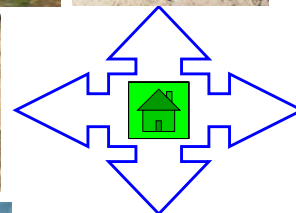
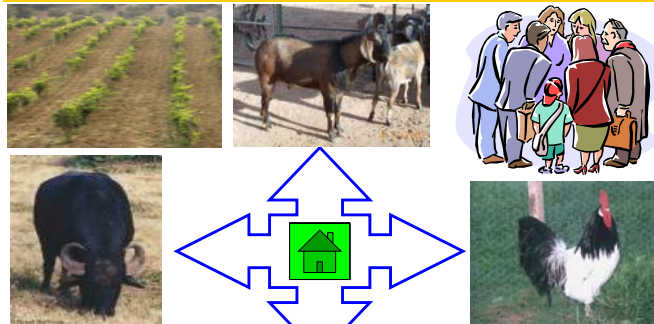
The characteristics of the poor in Nepal are too apparent and poverty remains at endemic level. The population living in poverty has been reported to 38% according to NPC, (2002) and have declined to 31% NLSS (2004). Over 90% of the poor live in rural areas. As guided by the millennium development goal, poverty alleviation is the first objective in The Tenth Development Plan (2002-2007), Nepal, and as a road map, Poverty Reduction Strategy Paper (PRSP) has also been prepared and brought into action.



Project and program activities:

IFAD, FAO and SNV the Netherlands funded „Hills Leasehold Forestry and Forage Development Project“ was implemented in 1991. It was designed to work with small farmers, belonging to below the poverty line (farmers having less than 0.5 ha arable land, and annual per capita income less than 2,500/- Nepalese rupees (US \$ 44 in 1993). The two major objectives of the project were:

- ◆ to raise the income of the farm families in the hills who were below the poverty line, and
- ◆ to improve the ecological conditions in the hills (degraded land).



Major activities/enterprise/interventions:

- ◆ Capacity building
- ◆ Institutional development/ Strengthening farmers group
- ◆ Fodder & forage development in degraded land
- ◆ Animal breed & health improvement

Analytical methodology and tools:

- ◆ Income & consumption approaches
- ◆ Participatory approach
- ◆ Logistic regression analysis

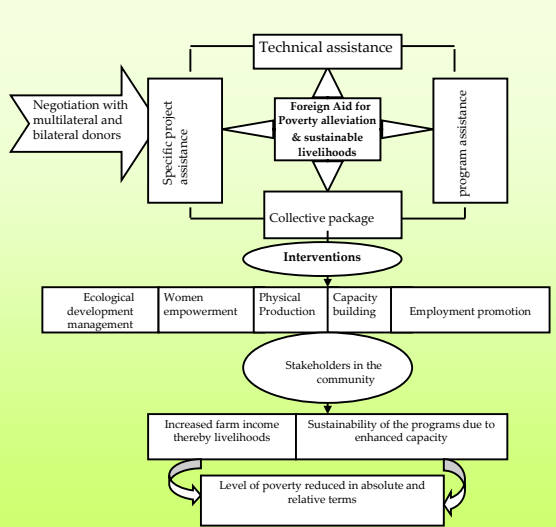


Figure 1: Conceptual framework of the study



Determinants of Poverty:

$$P(Y=1) = \frac{1}{1 + e^{-Z_i}} \quad \rightarrow \quad Z_i = \alpha_0 + \delta_j \sum (X_{ji}) + \alpha_n \sum (Z_{ni}) + \beta_k \sum (K_{ki}) + \mu_i$$

α_0 = intercept, δ_j , α_n and β_k = parameters to be estimated, Z_i is the linear combination of explanatory variables: X_{ji} = vector of demographic factors (major occupation of the household head, family size, farming experience), Z_{ni} = vector of socio-economic factors (land holding size, total farm income, livestock unit, access to credit), K_{ki} = vector of human capital factors (literacy, skill promoting trainings, extension service), μ_i = stochastic error term.

Determinants of household income in subsistence farming:

$$\Pi = \gamma_0 + \beta_1 Ledu + \beta_2 Lhol + \beta_3 Tlvu + \beta_4 Nwfl + \beta_5 Nmkt + \beta_6 Offi + \omega_i$$

Where, Π =total income of the farm (NRs), $Ledu$ =level of education of the head, $Lhol$ =land holding size, $Tlvu$ =total livestock unit, $Nwfl$ =number of family labor working on the farm, $Nmkt$ = access to local market, $Offi$ =non-farm activities, ω_i =error term

Results and interpretation:

Household characteristics and resource endowments :

- ◆ Family size: 8.4, Literacy rate: 62%, Women literacy rate: 44%
- ◆ Average land holding: 0.508 ha (82% crop production, 9% kitchen gardening, 9% forage cultivation)
- ◆ Average livestock unit: 2.75 (1 LU=0.8 cattle, 1 buffalo, 0.1 goat, 0.01 poultry)

Table 1: Factors influencing poverty

Variables	Coefficients	Wald Statistics	Significance
Constant	7.680	7.654	0.006
Total income	0.000***	10.312	0.001
Main occupation of the household head	-5.236***	6.124	0.013
Alphabetisation of the household head	2.007***	4.193	0.041
Farm size	0.097	2.451	0.117
Total livestock unit at the farm	0.421***	6.177	0.013
Chi square (df-5)	41.4		
Accuracy of prediction overall (%)	86.7		
Nagelkerke R ²	67.1		

** Significance at 1% level

Table 2: Farmers' preferences to the interventions

Preferred activities	(N=60)		Reasoning
	N count	%	
Promotion of poultry farming	60	100	- low initial investment, low risk
Promotion of goat farming	56	93	- low initial investment, low risk, widely accepted
Free distribution of improved-male animals	50	83	- to upgrade local animals, increase production & productivity
Increase forage production	40	67	- to save time, increase production, secure fire wood, maintain environment
Promotion of buffalo farming	32	53	- increase milk and manure
Promotion of cattle farming	14	23	- draft, milk and cultural value

Table 3: Determinants of household income in subsistence farming

Variables	Coefficients	t value
Total livestock unit at the farm	0.269**	2.211
Level of education of the hh	-0.103	-0.843
Land holding size	0.026	0.203
Farm labor working on the farm	-0.255**	-2.120
Access to local markets	0.105	0.820
Nonfarm activities	0.295**	2.192
Constant	0.218	1.910
Adjusted R ²	0.487	
No. of observations	60	

** Significance at 5% level

Policy Recommendations:

- ◆ Income-promoting interventions: (plausible impact on people's livelihood, to undertake eco-centric considerations), Localize interventions (Area specificity in interventions, Epicenter on capacity building, Ownership transfer)