Community development and livestock promotion in rural Nepal: effect on child health and growth

Theory of Change: Categories of Impact Measures

Factors contributing to poverty and hunger:
- Inequality, gender discrimination, lack of access to resources and services, lack of diversified livelihood opportunities, vulnerability, low income, and environmental degradation

Goal: Improved global sustainable livelihoods

Categories of Impact:
- Increase in Income and Assets
- Food Security and Nutrition
- Environment
- Women Empowerment
- Social Capital

Dimensions:
- Income
- Assets
- Availability
- Accessibility
- Utilization
- Agro-ecological Production
- Natural Resources Management
- Waste Management
- Agency
- Structure
- Relations
- Structural
- Cognitive

Criteria Indicators:
- Percent of income increase
- Productive assets inventory
- Housing and consumer durables
- Increase in productivity
- Number of meals per day
- Dietary Diversity Score
- Months of Adequate Household Food Provision
- Participation at community level
- Control
- Decision making power
- Enable environment
- Implementation of Agro-ecological production practices
- Participation in community organization
- Participation in informal community networks
- Belonging to groups
- Equal access to utilities and services
- Trust
- Solidarity and Cooperation
- Fair perception
- Fair commitments
What is the effect of Heifer activities on the health and nutritional status of children?

Study Design

- Prospective
- Randomized Controlled Trial

- 2 years
Information Collected

- Land
- Animals (FAO)
- SES (DHS)
- Income
- Food variety (WHO)
- Child Growth
- Child Health

Study Design Project 1

Similar communities selected to work with Heifer

Intervention Group (Heifer inputs)
- Baseline survey
- 6 month survey
- 12 month survey
- 18 month survey
- 24 month survey

Control Group (no inputs)
- Baseline Survey
- 6 month survey
- 12 month survey
- 18 month survey
- 24 month survey
Similar communities selected to work with Heifer

Baseline survey
6 month survey
12 month survey
18 month survey
24 month survey

Study Design

Baseline survey
6 month survey
12 month survey
18 month survey
24 month survey

18 mo survey=6 mo H
24 month survey=12 mo H

RESULTS

Nuwakot

Intervention Group (Heifer inputs)
Evaluation Group (no inputs)

Baseline survey
6 month survey
12 month survey
18 month survey
24 month survey

Chitwan

Intervention Group (Heifer inputs)
Evaluation Group (no inputs)

Baseline survey
6 month survey
12 month survey
18 month survey
24 month survey

Nawalparasi

Intervention Group (Heifer inputs)
Evaluation Group (no inputs)

Baseline survey
6 month survey
12 month survey
18 month survey
24 month survey

24 month survey=12 mo H
Basic Demographics

Enrolled subjects

2,994 individuals  
M=F 415 households  
Av HH # members: 6.7
No difference in land ownership at all times

SES improved more in INT than CON (even more in Terai than Hills)
Income per HH member increased more in INT, Terai only

**Dietary Diversity***

Improved MORE in INT children
- Especially in Hills (vs. Terai)
- Especially during Hungry season (vs. Harvest)

*ate from at least 3 food groups in past 24 hrs.*
Child Nutrition Results

Children in project areas are malnourished

Baseline

6-60 mo
% of children with malnutrition (z<-2)

CHANGES IN GROWTH: Terai only

HAZ

WAZ

Baseline 6 mo 12 mo 18 mo 24 mo

p=0.05

p=0.04

p=0.02

p=0.02

p=0.02

p=0.05
Change in growth for children <60 mo

Children < 60 months with \(\Delta Z\) score >1 (B-24)
HEALTH PRACTICES

Toilet in home more likely in INT families by 12 months

p=0.004
INT families more likely to treat water to improve safety by 12 months

INT families were more likely to use soap (after toilet) by 12 months
INT families were more likely to use iodized salt by 12 months

CONCLUSIONS (1)

• Families participating in Heifer activities the longest had
  – Greater increase in SES
  – Greater increase in income per HH member
CONCLUSIONS (2)

• Children in these families had better growth
  – Improvement was robust even accounting for other factors
• Children and adults in these families had improved dietary diversity

CONCLUSIONS (3)

• No striking differences were found in child health but INTERVENTION families had more improvements in health practices
  – Improved toilet & water facilities
  – Use of iodized salt
  – Use of soap
CONCLUSIONS (4)

- INTERVENTION families were more likely to sell produce from their kitchen gardens

questions??

- What is the time frame for improving outcomes?

- What HH characteristics correspond to specific outcomes?
  - Child health & growth
  - Improved economic well-being

- What can be done to facilitate better outcomes for families?

- How important is a holistic approach?
Next directions
Extend present study to collect data at 48 months
New study
– evaluate effect of focused nutrition curriculum
– disaggregate social capital/ women’s empowerment

Nutrition Training
• What is the effect of including nutrition training on child growth and health?
• Is a holistic approach more effective than training alone?
Effect of integrated community development and nutrition training on child growth and health

- 24 months
- Randomized Clusters
- HH Surveys
- Anthropometrics

Community development & social capital
Livestock & nutrition training
Livestock & nutrition training
Control

Acknowledgments

- CRSP