Title II Projects Final Evaluation

Final Report

(Volume I)

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Acronyms

ACSI:	Amhara Credit and Saving Institution
AIDs:	Acquired Immune Deficiency Syndrome
ANC:	Antenatal Care
CBOs:	Community Based Organizations
CHA:	Community Health Agency
CRS:	Catholic Relief Service
CS:	Cooperating Sponsors
CSA:	Central Statistic Authority
DAP:	Development Activity Proposal
DHS:	Demography and Health Survey
DPPM:	Disaster Prevention and Preparedness Management
DSA:	Development Studies Associates
EARO:	Ethiopian Agriculture Research Organization
EGS:	Employment Generation Scheme
ENI:	Ethiopian Nutritional Institute
EOC:	Ethiopian Orthodox Church
EPI:	Expanded Program of Immunization
FFW:	Food for Work
FAO:	Food and Agricultural Organization
FGD:	Focus Group Discussion
FHI:	Food for Hungry International
FP:	Family Planning
FSS:	Food Security Strategies
GDP:	Gross Development Product
Ha./ha.:	Hectare
HH:	Household
IDD:	Iodine Defiency Disorders
IR:	Intermediate Result
Kg./kg.:	Kilogram
Km./km.:	Kilometer
MCH:	Mother and Child Health

NA:	Nutritional Anemia
NGO:	Non-Government Organization
PA:	Peasant Association
PRA:	Participatory Rural Appraisal
PSU:	Primary Sampling Units
PVO:	Private Voluntary Organization
REST:	Relief Society of Tigray
SCF/USA:	Save the Children Federation USA
SNNP:	Southern Nations, Nationalities and Peoples
SPO:	Strategic Project Objective
STDS:	Sexually Transmitted Diseases
TBA:	Traditional Birth Attendants
TTBA:	Training Traditional Birth Attendants
TLU:	Tropical Livestock Unit
USAID:	United States Agency for International Development
VAD:	Vitamin a Deficiency
WHO:	World Health Organization
WVI/E:	World Vision International Ethiopia

Executive Summary

Introduction

This is the final report on the final evaluation of the first cycle Title II Program in Ethiopia.

Title II Program is a multi-sectoral, food security-focused development initiative. It has urban and rural chapters. The latter, the subject of this report, operates in agriculture, natural resources, rural physical infrastructures, health and water. Geographically, it covers all the regions of the country but the Afar and Beneshangul-Gumuz Regional States. It operates a total of 39 rural projects located in 17 zones and 39 woredas. These projects reach about 78,100 rural households or about 430,000 people.

Eight international and local NGOs implement the Title II Program. They are Africare, CARE-Ethiopia, Catholic Relief Services, Ethiopian Orthodox Church, Food for the Hungry International, Relief Society of Tigray, Save the Children (US), and World Vision-Ethiopia. Seven of these NGOs are among the biggest in the NGO community in Ethiopia in terms of countrywide program scope and capacity.

USAID-Ethiopia provided the financial and food aid resources needed to run the projects.

Title II Program in Ethiopia seeks Increased Household Food Security for its beneficiaries as the strategic objective (SO). Food security is central to the Government Five-Year Development Program. Poverty Reduction Strategy is the anchor of Government Development Strategies. Thus, Title II program strategic objective and the anticipated results dovetail well with the country's development goals. Title II has also set out to attain five intermediate results': Increased agricultural production; increased household income; improved health status; natural resources-base maintained; and enhanced emergency response capacity. Quantitative indicators have been specified and agreed upon to monitor results. The implementing NGOs and the donor carried out a baseline survey in 1997 to establish benchmark values on the selected indicators.

The Title II major activity areas include rehabilitation of natural resources through physical and biological conservation measures, rural roads, irrigation, health, domestic water, agriculture (crop and livestock), income generation, and capacity building (mainly farmers' training). The importance of the activity areas in terms of budget allocation seems to follow that order.

The program is about to wind up it first cycle of operation and thus the need to carry out this end of project evaluation. The indicators selected to quantitatively determine the extent of achievement of the strategic objective and the intermediate results and the 1997 baseline values on these indicators are the bases of this evaluation exercise.

Methodology

The main findings of this evaluation are based on a dataset obtained from a household structured survey. A total of 7040 rural households were involved in the survey. A stratified two-stage cluster sample design was used.The project woredas were treated as a stratum and PAs formed the primary sampling units. The PA number was taken from the 1994 Population and Housing Census as adjusted by CSA for 2000 to accommodate changes regional governments make to the size of PAs. The sample size was based on:

- Proportion of stunted children aged 6-59 months obtained from the 1997 Title II baseline survey;
- Proportion of children aged 6-59 months per household, sourced from the 1994 Population and Housing Census;
- Confidence interval of 90%

Three PAs were selected for the survey in each project woreda. Two PAs covered in the 1997 baseline survey were automatically chosen and the third was chosen by probability proportional to size. In projects not covered in 1997 survey, three PAs were randomly selected. From a freshly prepared list of households in each sample PA, 60 households were systematically selected with a random start.

Opinions were gathered from the major stakeholders (communities key informants, government offices) using pre-prepared guide questions.

Regarding data analysis, three indices of nutritional status: height- for-age, weight- for-age and weight-for-height Z-scores of the children were computed to estimate the overall prevalence of stunting, underweight and wasting, respectively, using the WHO/CDC/NCHS reference values. A cut-off point of less than - 2 SD was considered low nutritional status and values greater than or equal to -2 SD normal. The Z- scores were calculated with the help of appropriate software packages

Cross-tabulation analysis is done to observe any association between SO indicators and selected livelihood variables.

Limitations

Several problems were encountered during the data collection stage, which could have a bearing on the quality of data. The first is that households show a lot of impatience as well as reluctance to have their children measured. Mothers tend to involuntarily interfere with the measuring instruments while attempting to quieten the crying baby. This increases the chance to misread measurements. In future DAP evaluations, it seems prudent to separate the nutrition survey from other tasks of the evaluation and also accord more time to complete the survey.

The question of manageability of the evaluation was in itself an important limitation. There are several points that make Title II Program in Ethiopia unique, so to speak. It operates more or less similar interventions using more or less same strategies or approaches in numerous places having different socio-economic backgrounds. It involves eight non-governmental

organizations not exactly embracing same approaches to development, and also not having identical policies, strategies, operating procedures, etc. It has rural and urban programs. The fact that the evaluation has not reflected this uniqueness was a limitation. This report, in the opinion of the evaluation team, would have benefited immensely from breaking the sum total of the evaluation work into some more manageable parts (examples: urban, rural; nutrition, other interventions; pastoralist, mixed farming; cereal staple, tuber staple; and/or other combinations) and contracting out the job to two or more independent evaluating teams. Such an approach could be less cost-effective. But the trade-off between cost saving and quality compromise could have been rewarding.

Title II Results

Three types of inter-related results are distinguished. The first is the extent to which the projects have accomplished the activities they planned. The second is the extent to which the projects have managed to realize the five intermediate results (IR) contained in the Development Activity Proposals (DAP). The third is the degree to which the projects have attained the strategic objective

Outputs

The main findings in this regard are:

1. There were activities planned but not implemented at all mainly because of external factors, government policy in particular. The more important of these in terms of achieving intermediate results and the strategic objective included input credit in EOC and REST projects, saving and credit programs targeting women (EOC projects for example).

2. Although there are significant, intra- and inter-sectoral and intra- and inter – CS variations, yet in most cases accomplishments exceeded targets.

3. Considering a performance level of below 80% of the plan not satisfactory, the major activities that fell into this category were:

Activity area	Where it happened
▪ Irrigation (design, construction and other pre-operation activities)	CARE (Hararghe) CRS canal construction in Kombolcha and Gulomekeda EOC canal improvement and pond construction (Wadla and Endamehoni)
▪ Livestock (feed development and provision of livestock)	FHI, EOC
▪ Biological conservation in communal areas	CARE, EOC, FHI WVI/E
▪ Physical conservation of measures	CRS, EOC, FHI, REST

Activity area	Where it happened
▪ Vegetable production/demonstration	CARE, EOC, WVI/E
▪ Micro nutrient supply, latrine construction, and health post construction	FHI
▪ EPI/mothers	SCF
▪ Water development for domestic use	CARE, SCF and WVI/E
▪ Roads	Africare, CARE, CRS (maintenance only)

4. The major problem for under-performance in the above mentioned areas as well in others was inadequate and delayed delivery of finance and commodities needed to carry out the activities.

5. The provision of other inputs such as personnel (type and number), transport at the sites in particular, logistics and backstopping services was satisfactory.

6. Through Title II support a considerable number of community assets were created including:

   - Over 450 ha of land was brought under irrigation
   - About 1052 km of rural road was constructed
   - About 663 km of rural road was maintained
   - About 442 different types of water systems were constructed and made operational for domestic purpose
   - About 21,446 ha of land was enclosed for rehabilitation
   - Some 24,500 km of various types physical soil and water conservation structures were constructed.

Based on sample inspection, this evaluation found the standards (quality) of the above infrastructures satisfactory.

Intermediate results

The summary table below provides a comparison, where data available, between the baseline (1997) and 2000 of the intermediate results by indicators selected for the purpose and by CS. The table indicates:

1. Productivity of the five major cereals grown in the project areas has shown a considerable increase in 2000 compared to the base year in all CS and almost in all projects. It is believed that the conservation and irrigation initiatives of the projects made a contribution to the productivity improvement. Rainfall in 2000 was much

more favorable than in 1997 and this obviously positively impacted crop yield. It is difficult to ascertain that the productively level attained in 2000 can be sustained.

2. Percentage of households that used chemical fertilizers in 2000 increased in CARE and EOC project PA's, while it decreased in CRS, FHI and WVI/E project PA's in comparison to the base year. There are no baseline data to do a similar comparison for the rest of CS projects. The increase as well as the decline are attributed to events that took place within the fertilizer sector itself, and it is believed the projects had little, if any, role in the observed change. It should be noted that more Title II beneficiaries used fertilizer in 2000 (26.6%) over 1997 (21%).

3. Percentage of households that used improved seed in 2000 increased over 1997 in CRS and EOC projects, while decreased in CARE, FHI, and WVI/E projects. No baseline data are available for the rest of CS to monitor change. Some of the projects provided improved seeds to beneficiaries, and where there is decline, it is reasoned that it is because of non-project factors such as high price, inefficient delivery, lack of credit, etc. Here also, at the Title II level there was an increase in 2000 (12.5%) over 1997 (5.9%).

4. Percentage of farmers who adopted improved farming practices rose in FHI and WVI/E projects, while it declined in EOC projects in 2000 compared to the base year. There are no baseline data for other CS. At the Title II level, there was an increase in 2000 (48%) over 1997 (35%).

5. Livestock ownership declined in all CS but SCF in 2000 over 1997. In most cases the change was significant. The reason for decline is difficult to point at. Lack of feed and poor livestock health services could account for the change. On the other hand, the increase in SCF projects could be attributed to the improved water supply from the projects and also because of customary stock building tradition of the pastoralists following a major destocking due to natural causes like the 1998/99 drought[1]. Livestock is an important well-being indicator both for mixed farmers and pastoralists and the decline might be an indication of the lack of overall improvement in the welfare of the project communities.

6. There has not also been any significant change in terms of physical asset ownership or in the percentage of households that never consumed luxury food items (meat, fruits and the like) between the base year and 2000.

7. The values of indicators chosen to monitor progress in the health area show that overall there has been positive development since the base year. Prevalence of diarrhea decreased, children under-weight improved and water coverage increased. There was decline in the amount of water consumed per household. Although strong evidences are lacking, there are observations indicating that the reduction in the amount of water used from protected sources could be due to low awareness and unaffordable water charges.
8. Assuming that areas enclosed for treatment mean communal land reclaimed through physical and biological means, there have been impressive results at REST, EOC and

[1] SCF/US doubts the credibility of the figure. It thinks it is too high. Effort was made to further clean the data, but the result was the same.

to a lesser extent at CARE and FHI. These figures cannot be compared with the base year for lack of data.

9. It is observed that in almost all Title II project woredas there some capacity to regularly monitor the imminence of any possible disaster. Crop surveys are regularly conducted. Food and livestock prices are monitored. Title II projects have been assisting in the surveys as well as in price monitoring.

Impacts

The summary table below also provides figures on the three indicators selected to measure the achievement of the Title II strategic objective. The table reveals

- The nutritional status of children looked better in 2000 compared to 1997 in many of the Title II projects. There is reason to believe that project activities such as promotion of vegetable production, feed and other livestock programs, improved access to water, health services, and improved access to markets contributed to the improvement in the reduction of stunting prevalence. However, there are no strong evidences supporting whether the results could be sustained.

- In the overwhelming majority of the projects, the length of the period households experienced food shortage had decreased significantly in 2000 compared to 1997. The basis for the decrease might not be structural changes in the production systems or sustainable income rise from dependable sources. Rather, it could be because 2000/01 was relatively a better agricultural year. In other words, better food availability, access and the attendant reduction in food shortage in 2000 is difficult to wholly attribute to the projects, and it is not certain whether it can be sustained.

- There has not been any significant change over the life of the projects in terms of the use of severe coping strategies. In fact, the overall picture (all projects considered) the situation in 2000 worsened compared to 1997 in this regard.

Other Title II Results

1. Title II projects had a number of interventions intended to build capacity, notably at the household level. There were multi-sectoral training programs in which thousands of farmers participated. Arguably the beneficiaries are today better informed and more knowledgeable about production techniques, conservation, sanitation, water management, irrigation management, etc., than they were before Title II projects.

2. In nutrition, food shortage, use of severe coping strategies female-headed households benefited less than male-headed households

3. Women participation in FFW programs was high, especially among projects in Tigray.

4. Women hold high appreciation for the project-supported water programs in all project areas.

5. In decision making, the role women play is encouraging on such issues as what and when to sell, how to use the income from sale. Joint decision on cash crop sale is over 60% for all CS. The joint decision is equally strong (55%) on the application of revenue from cash sales.

6. Women participation in existing CBOs leaves much to be desired.

7. There is a tremendous appreciation for health care and mobile EPI programs the projects assisted. This would benefit women by bringing the facility to their locality, avoiding long distance travel.

Major Operating Constraints

1. The teamwork between government offices and Title II project in most projects leaves a lot to be desired. To a large extent this stems from the lack of legislation that clearly stipulates the roles of NGOs in development as well relief operations.

2. The Proclamation to Regulate Micro Finance issued in 1996 was not anticipated at the time of designing DAP, and that must have had implications on the first and second Intermediate Results. The attainment of these results was contingent on the provision of credit for agricultural inputs and for income generation activities focusing on women. These were not implemented because of the micro finance regulation.

3. Most of the finance of the project operation came from monetized food aid commodities. All CS's reported availing the fund has been irregular and inadequate.

4. Drought, shortage and irregularity of rainfall seriously constrained performance with ramifications for impacts almost in all project areas, but more visibly on REST, FHI, SCF/USA, East Shoa CARE/CRS/WVI/E projects.

5. With regard to community participation, there is still much to be desired. Participation did not exceed labor and material contribution, collaboration in the provision of information to monitoring and evaluating groups, and membership in various functional committees (water, health, irrigation, etc.).

Lessons Learnt

1. CS stakeholders, communities and relevant government offices alike, strongly believe that project interventions address the priority development needs and have a strong relevance to improving household food security.

2. While this evaluation is in agreement with the stakeholders' views, it is in contention that there were activities not included (flour mills, family planning services), which could have made important contributions to food utilization aspects of household food security.

3. Food availability, the crucial constituent of food security in rural Ethiopia where mixed farming system prevails, could have been more enhanced if livestock feed development, perennial crops such as fruits, private woodlots intended for the

market, irrigation, and horticultural crops were more emphasized in terms of program scope and resource allocation.

4. The main strategies the projects pursued are focus on food security, emphasis to conservation-based development and targeting the poor. While accepting the appropriateness of the strategies, it is argued that the inadequate attention given to capacity building at the local and community levels is not consistent with the strategies.

5. There are observations attesting that farmers are accepting that it is they themselves who should assume the lead role in conservation development to day more than before, and this is attributable to the role the projects have been playing to raise awareness.

A summary of SO and IR results of Title II projects by CS

IR# 2 Increased Household Income	Unit	Africare		CARE		ORS		EOC		FHI		REST		SCF		WVI		All CS	
		1997	2000	1997	2000	1997	2000	1997	2000	1997	2000	1997	2000	1997	2000	1997	2000	1997	2000
1. Strategic Objective																			
Stunting*	%	NA	**18.6**	52.2	**43.7**	56.8	**34.3**	66.6	**54.5**	85.9	**56.5**	71.9	**46.1**	45.4	**40.5**	65.9	**39.6**	61.1	**39.5**
Use of severe coping strategies	WAI 1997-2000	-	-	-	**124.6**	-	**118.5**	-	**78.1**	-	**80.0**	-	**96.9**	-	**58.3**	-	**90.4**		**99.4**
Length of period households had food shortage	Month	NA	**5.7**	5.6	**5.1**	5.2	**4.6**	5.5	**5.7**	8.8	**5.3**	4.1	**3.6**	2.2	**1.4**	5.5	**4.3**	5.6	**4.7**
2. IR1-Increased Agricultural Production																			
Barely yield	Kg/ha		**NA**	NA	**532**	690.9	**942.7**	390.25	**923**	386	**885**	532	**668.8**	NA	**872.7**	201.3	**747.1**	366.74	**796**
Wheat "	"		**NA**	NA	**8.67**	630	**825.7**	437.7	**884**	416	**923.9**	532	**8.47.3**	NA	**584**	222.4	**542**	447.62	**782**
Teff "	"		**766.6**	5.53	**612.7**	636	**651.6**	322.5	**674.2**	263.7	**793.4**	532	**797**	NA	**693**	165	**591.5**	320.8	**698**
Maize "	"		**581.5**	6.10	**601.9**	332.7	**988.6**	274.25	**758.7**	206	**946.3**	532	**998.6**	NA	**322.3**	238	**647.8**	365.5	**836.5**
Sorghum "	"		**512.2**	8.55	**639.6**	354.5	**1051**	248.7	**628.7**	-	**833.7**	532	**788.8**	NA	**148.4**	72	**743.4**	412.4	**763.7**
Overall cereal production	Kg/hh	NA	**581**	NA	**522**	NA	**446**	NA	**516**	NA	**361**	NA	**345**	NA	**329**	NA	**427**	NA	**435**
Household used fertilizers	%	NA	**1.3**	16.5	**31.6**	29.8	**25.5**	13.25	**22**	22.6	**6.7**	-	**42.5**	-	**16.1**	40.7	**40.1**	21	**26.6**
Household used improved seed	%	NA	**0.6**	38.5	**22.9**	3	**7.9**	2.9	**7.3**	17.8	**0.82**	-	**12.2**	-	**1.65**	7.2	**21.5**	5.9	**12.5**
Used improved farming practices	%	NA	**21.1**	-	**44.2**	NA	**44.1**	53.4	**47.8**	29	**53.3**	NA	**44.4**	NA	**16.7**	21.3	**83.1**	35	**48.0**
Irrigated area	Ha.	NA	-	-	**145.48**	-	**3.3**	55.3	**229**	5.1	**9.7**	NA	**1.75**	NA	**0.75**	-	**8.4**	60.4	**398.4**
3. IR2 – Increased																			
Livestock ownership	TLU	-	-	2.63	**1.60**	2.73	**1.49**	2.82	**1.94**	1.81	**1.40**	3.98	**2.14**	2.61	**6.09**	2.83	**1.80**	2.66	**2.17**
Physical asset ownership of HH																			
Radio	No.	-	**0.05**	0.08	**0.19**	0.2	**0.18**	0.04	**0.16**	0.01	**0.02**	0.11	**0.26**	0.33	**0.40**	0.05	**0.20**	0.12	**0.18**

* Stunting figures are as it June 2001

IR# 2, Increased Household Income	Unit	Africare		CARE		CRS		EOC		FHI		REST		SCF		WVI		All CS	
		1997	2000	1997	2000	1997	2000	1997	2000	1997	2000	1997	2000	1997	2000	1997	2000	1997	2000
Table	"	-	0.08	0.03	0.08	0.12	0.10	0	0.08	0.01	0.07	0.02	0.14	0.50	1.01	0.03	0.27	0.08	0.16
Wooden framed bed	"	-	0.01	0.01	0.06	0.07	0.07	0.19	0.17	0.01	0.26	0	0.04	0.35	0.70	0.25	0.55	0.11	0.24
Cart	"	-	-	0.01	0.00	0.01	0.07	0	0	0.01	0	0	0.28	0.01	0.04	0.01	0.01	0.01	0.05
Plough	"	-	0.62	1.42	0.83	1.06	0.42	0.83	0.79	0.69	0.52	1	1.17	0.12	0.97	0.79	1.14	0.99	0.80
Watches	"	-	0.05	0.11	0.25	0.25	0.15	0.05	0.08	0.02	0.03	0.14	0.21	0.35	1.79	0.13	0.49	0.18	0.38
Blankets	"	-	0.17	0.84	0.48	0.39	0.51	0.33	0.34	0.11	0.08	0.46	0.71	0.63	0.80	0.79	0.67	0.54	0.48
HH that didn't add any luxury food items	%	NA	8.0	64.4	62	62.5	62.0	82.2	80.5	98.2	91.8	65.6	61.7	47.3	43.7	72.8	72.5	69.6	67.7
4. IR3 -Improved Health Status																			
Prevalence of diarrhea occurrence among children 0-59 months old	%	NA	NA	13	7.7	14	4.8	8.8	6.2	17.7	4.2	1.2	6.6	24.1	6.7	9	11.9	12.7	5.3
Children under weight	"	NA	NA	42.7	44.9	41.7	24.2	47.7	50.8	63.9	38.4	57.9	51	33.2	44.9	48.1	37.9	45.4	41.1
Households using protected water source	"	NA	NA	77.44	30.8	42.32	42.5	50.7	81.9	24.94	26.1	29.79	58.3	35.67	36.1	33.18	60.6	36.3	44.2
Deliveries attended by TTBAs	"	NA	NA	-	36.7	-	61.8	-	31.6	-	50	-	39.5	-	69.45	-	32.1	NA	40
HH that visited health posts twice in last six months	"	NA	NA	-	27.2	-	21.9	-	18.2	-	17.8	-	25	-	26.35	-	27.6	NA	20.5
Amount of water used	Lit/day/ hh	NA	NA	44.42	45.8	41.51	34.8	36.29	31.2	32.19	27.2	39.62	39	55.42	38.5	37.54	34	40.63	35.7
5. IR4 –Natural Resource Based maintained																			
1. Communal land reclaimed through physical and biological means	Ha.	-	-	-	-	NA	150	NA	160	NA	32	NA	21,446	-	-	-	-	-	-
2. Soil deposited behind check dam		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3. Soil deposited behind hillside		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

IR#2 Increased Household Income	Unit	AfricaCare		CARE		CRS		EOC		FHI		REST		SCF		WVI		ADCS	
		1997	2000	1997	2000	1997	2000	1997	2000	1997	2000	1997	2000	1997	2000	1997	2000	1997	2000
terrace																			
6. IR5 – Emergency Response Capacity Enhanced																			
1. Appreciate updated disaster plan in place		NA	Yes	NA	Yes	NA	Yes	NA	Yes	NA	Yes	NA	Yes	NA	Yes	NA	Yes	NA	Yes
2. Access to early warning		NA	Yes	NA	Yes	NA	Yes	NA	Yes	NA	Yes	NA	Yes	NA	Yes	NA	Yes	NA	Yes

Source: Baseline survey 1997 and Evaluation Survey

Recommendations

1. Land degradation is perhaps the single most important development problems in Ethiopia. There are reliable sources that claim that economic livelihood based on agricultural production may cease to exist over the next 50 years in most project areas unless the process of degradation is reduced and eventually halted. There is strong rationale to continue placing the focus of attention both in terms of scope and resource allocation on rehabilitation of natural resources.

2. Conservation-based development in Ethiopia requires a structural change. Land use and farming practices that aggravate land degradation need to be controlled through appropriate measures, mostly action programs and policy, especially in the highlands of the Amhara and Tigray Regional States. This would require a huge investment in road infrastructure, incentives to move from annual to perennial crop economy, long term investment credit targeting livestock feed and breed development, a shift to hoe culture with the attendant change in crop program once again away from field crops to root crops, etc. The DAP programs in North Wello, South Gonder, Tigray and similar other places should be designed in this spirit.

3. An element of vital importance for sustainable irrigation is the training of farmers in various techniques of irrigation water management including proper timing and methods of application, amount required, supply schedule, water budgeting, and choice of crops and agronomic techniques. Although the degree varies, sloppiness was observed in projects where there are operating irrigation schemes. Capacity building of CBOs is critically important in such schemes, and this needs to be focused in future programs.

4. There are signals indicating that communities are not making good use of protected water sources. One such signal is the lack of association between stunting prevalence and use of protected water sources. The same is true with households reporting vegetable production. This calls for intensified health education that any future programs need to duly note.

5. Project sustainability is a function of (1) active and authentic community participation and (2) the existence of close relationship and coordination with other agencies, including government, implementing programs similar to that of the projects. Both areas require increased attention. In the case of the first, the measures involve training, frequent follow-on training programs, leadership training, experience sharing visits, technical assistance, putting in place systems and procedures, etc. In the second it is largely having the will, determination and commitment to develop good working relation. There should be willingness on the part of the project staff to assume the lead role. Having regularly held forums to discuss common problems, seek joint solutions and draw follow-on action plans could help.

6. Construction of soil bund on grazing land that has little or no erosion problem was observed in some projects. Since it practically serves no purpose, such practice should be discouraged.

7. Indicators specified to measure project results pertaining to the IR4 are not practical and therefore not applicable. It is suggested that the following indicators should be opted for in the future DAP.

    - Percentage of trees planted that established well in the communal woodlots;
    - Vegetation cover attained;
    - Native species of trees regenerated in the enclosed areas; and
    - Depth of soil trapped inside checkdams

I. Introduction

1.1 Background to Title II Program

This is a report on the final evaluation of USAID-assisted Development Activity Proposals (DAP) in Ethiopia[2]. The assistance known as Title II Program focuses on food security with special attention to nutrition. The bulk of Title II assistance comes through local monetization of food aid resources obtained from the Agricultural Development and Trade Act of the US Government.

Title II Program started operation in Ethiopia in 1997/98. Eight international and local NGOs (cooperating sponsors) currently run 52 urban and rural Title II projects in 22 zones, seven regional states, and two city administrations (Addis Ababa and Dire Dawa)[3]. Except Afar and Beneshangul Gumuz the rest of the regions are Title II Program beneficiaries. It reaches a total of some 78,100 rural households or an estimated number of 430,000 persons. The projects seek the objective of enhanced household food security.

The rural activities aim at:

- Raising agricultural production and productivity (crops and livestock);
- Increasing household income through income generation initiatives;
- Improving health services in which water and nutrition feature prominently;
- Conserving soils and water through physical and biological measures; and
- Improving community and local capacity to more effectively respond to emergency.

The urban projects place the focus on:

- The provision of food to targeted households;
- Physical infrastructures specially roads;
- Creation of opportunities for income generation;
- Skills upgrading and acquisition of new skills;
- Improvement of environmental hygiene; and
- Provision of sanitation facilities.

Both rural and urban projects target vulnerable households. This report is on the rural part of the program.

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[2] The evaluation was carried out by a team of experts involving a nutritionist, an agronomist, a livestock expert, a conservationist, a health specialist, a gender expert, an economist, and a statistician.

[3] The project holding NGOs are Africare, CARE-Ethiopia, Catholic Relief Services (CRS), Ethiopian Orthodox Church (EOC), Food for the Hungry International (FHI), Relief Society of Tigray (REST), Save the Children /USA (SC/USA), and World Vision Ethiopia (WVE).

1.2 Purpose of the Evaluation

The first cycle of project funding is nearing completion. Accordingly, the Cooperating Sponsors (CS) or the project holders agreed to carry out a final evaluation, which constitutes the basis of this report.

As stipulated in the TOR, the final evaluation has two main objectives. The first is to determine the extent to which the projects have achieved the strategic objective (SO), "***Enhanced Household Food Security***". The second is to recommend practical and specific measures to better design and implement future DAPs based on the lessons learnt to date. The report is expected to contribute to the next cycle of Title II Program funding.

1.3 Food Security at the Country Level

It seems in order to provide a backdrop of food security situation in Ethiopia in order to understand the contextual perspective of Title II Program interventions.

The problem of food security, its magnitude, seriousness and severity is relatively well documented in Ethiopia. So are its causes and effects. Many reasons are given for the pervasive and worrisome nature of food insecurity for the large majority of urban and rural communities. Results of literature review the evaluation team has made and based on empirical experiences of members of the evaluation team, among an array of causes six seem to dwarf others. The first four are accountable for the chronic food insecurity that exists in most, if not all, parts of the country, obviously the extent of it varying from one place to another. The last two are the principal causes of transitory food insecurity that particularly affects relatively more marginalized areas. About 50 percent of the population is believed to be living in these areas (Food Security Strategy, 1996). The first of these causes is **urban and rural unemployment**. Data on unemployment are scanty in Ethiopia. But it is common knowledge that it is huge. A study carried out in 1999 in two woredas in Addis Ababa (Propride, an indigenous NGO) reveals that unemployment at the time was over 30 percent. Rural unemployment could be lower, but it is reasoned that it is a major cause of household food insecurity. The Propride survey further indicates that the communities believe that unemployment is the single most important cause of urban poverty and thus food insecurity.

Secondly, abusive use of natural resources, especially land, has been undermining agricultural productivity. Erosion and degradation-induced loss of soil fertility is one of the main reasons for exceedingly low crops and livestock productivity. EARO sources indicate that some 40 percent of productive soil is already lost due to degradation and unless it is considerably reduced, production could not be possible at all in the next 40 to 50 years in about 50 percent of the drought-prone and degraded areas of the country. The third factor is the long history of the country that has been characterized by the absence of good governance. The lack

of democratic tradition did not allow authentic participation of urban and rural communities in development matters[4].

Fourth, there has been lack of people-centered development policies and the attendant failure to emancipate the overwhelming majority of rural households from the shackle of using primitive means and methods of production. Over 70 percent of farms are more than a half day walk from all weather road limiting access to markets immensely. Road density in 1996 was estimated to be 0.40 km per 1000 population and the situation has not changed much since then. Education, health and water coverages in rural Ethiopia remain disappointingly low. Although the use of chemical fertilizer has become a necessity due to loss of soil fertility almost everywhere in the country, yet a large portion of farmers located in less accessible areas do not use fertilizers for lack of defensible price support.

Another major concern of food security is the ever increasing variability and unpredictability of weather, particularly rainfall. It is common knowledge that there is considerable variability and diversity in the amount of rainfall within the country. The analysis of rainfall record in the period 1961-87 shows that variability was highest in Tigray where the coefficient of variation was 29 while the lowest was 10 in Gojam (Food Security Strategy, 1996). The variability is worsening, area experiencing rainfall shortage is ever widening, and distribution of rains is changing almost yearly. In the traditionally drought-prone areas of the country, rainfall annually received and its distribution is not adequate to sustain the most drought-tolerant crops currently available. Rainfall shortage is establishing permanency in the usually drought-prone areas of the country.

Finally, lack of security in the country has been an important food security factor. Wars, especially civil war, have been a major development problem in Ethiopia. The long-drawn civil war during the Derg regime and the more recent Ethio-Eriteran conflict disrupted development and caused a huge loss of productive resources with immense implications for food security.

These and other related factors led to the prevalence of severe and pervasive food insecurity in the country. Available data indicate that stunting and other deficiencies are rampant and serious in the country. The 1992 national rural nutrition survey indicates that country-wise some 64 percent of the children under five years of age were stunted at the time, with considerable regional variability. More than 30 percent of children experienced significant illness by their first anniversary. There were, on average, 4-5 episodes of diarrhea annually among children. Only 25 percent of the relevant population had been immunized against measles. Rural water coverage was under 10 percent, and access to health and sanitation facilities was significantly lower than water coverage.

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[4] It should be noted that there have been some positive changes since government change in 1991. Among those of significance to household food security include: (1) relatively more regional autonomy; (2) Deregulation of grain and input markets; (3) enhanced commitment to population policy and family planning; (4) the existence of market-responsive foreign-exchange management; and (5) strengthening of human resources at the regional level and below.

A rural nutrition survey Addis Ababa University had carried out in collaboration with Oxford University in 1996 indicates that one-third of the children in the surveyed areas were severely stunted. The prevalence of wasting was reported in 10-14% of the children. The 1996 CSA study reveals that 65% (urban 68%, rural 50%) of children were stunted. Boys were more affected than girls. The most recent Demography and Health Survey (DHS, 2000) of CSA indicates that chronic malnutrition among children is very high; about one in two children stunted and one in four severely. The same survey reveals that wasting among children aged 5-59 months was 11% (1% severely) and underweight was 47% (16% severely).

Among nutritional problems, the most important ones in Ethiopia are protein-energy malnutrition, micronutrient deficiency disorders, namely, Vitamin A deficiency (VAD), nutritional anemia (NA), and iodine deficiency disorders (IDD). Because of this and the prevalence of other deficiencies, the majority of children show various degrees of growth retardation. A nutrition surveillance covering rural and urban areas, carried out in 1995 by the Ethiopian Nutrition Institute (ENI) indicates that 39% of the rural and 25.5% of urban children suffered from various forms of protein-energy malnutrition.

Evidently, nutritional problems are critical and pose an important development challenge for Ethiopia. What has been going on up to now to contain food security problems and nutritional deficiencies? What have been the results? Looking at the programs designed to address food security issues, it becomes evident that starting from the mid-1990's the major development program to reduce rural food insecurity at the macro and micro levels has been the agricultural extension initiative embracing almost all parts of the agricultural sector. According to the Extension Department of the Ministry of Agriculture, currently there are eight main and over 70 sub-packages promoting appropriate technologies to small farmers. They cover all farming systems in almost all parts of rural Ethiopia. All aim at increasing productivity. The ultimate goal is to significantly raise household income, the principal determinant of household food security in different farming systems.

There are two principal farming systems in Ethiopia – **mixed farming and pastoral.** The former dominates in terms of population and contribution to the national income. Population-wise it had over 92 percent share in 2000. While agriculture contributes over 50 percent to the GDP, the contribution of livestock to agricultural GDP might not exceed 20-25 percent. Of this, the share of livestock in the pastoral system is not known but it may not be bigger than that of the mixed farming system. It must be because of this that the extension initiative has been focusing on crop production, notably raising cereal yield per unit of area. According to information obtained from the Extension Department of the Ministry of Agriculture, the result to date has been mixed. In the early stage of the extension initiative remarkable cereal yield increases were reported, in some cases yield figures mentioned were staggering (maize up to 120 qt/ha, wheat 47 qt/ha). Reviews carried out more recently indicate that productivity has started declining because (1) the extension personnel, development agents in particular, have been engaged (60 percent of their time) in the marketing functions of fertilizer (outside their main responsibility) and (2) the package prescription has not been strictly observed. Highest maize yield dropped to 47 qt/ha and wheat to 29 qt/ha. This

implies that not only the system is failing to sustain the gain; it also appears that the development momentum is being arrested. This is bad news for food security.

On the other side, the aggregate per capita food production has not been encouraging. CSA sources reveal that per capita grain production (cereals, pulses and oil seeds) in 1996/97, a very good production year, was only 170 kg (some 6.0 percent lower than food poverty line requirement of 180 kg/person/year). In 2000/01, another very good production year, the per capita grain availability from domestic production was only 174 kg, still below the food poverty line. Neither has there been any dramatic change in cereal productivity at the national level between 1996/97 and 2000/01. Since own food production is the underpinning of household food security, in the mixed farming zones it is argued that food insecurity in terms of magnitude and seriousness is at present at the same level as it was when the extension program was launched in 1996.

In spite of this, nutritional surveillance reports (Save the Children/UK, 1999-2000) and CSA Demography and Health Survey Results of 2000 indicate that there have been some positive developments since 1992 as shown below:

		National Level Values	
Indicators	**Unit**	**1992**	**2000**
1. Stunting in children under 5 years of age	%	64	51.4
2. Children suffering from diarrhea	No. of episodes	4.5	4.0
3. Immunization against measles	%	20.6	90.0
4. Rural water coverage	%	10.0	14.3
5. Potential health coverage	%	48	52.4
6. Sanitation coverage (access to waste disposal facilities)	%	7.0	9.0
7. Introduction to solid food after weaning	Months	8.0	Not available but assumed to be about the same

The changes could be attributed to improved access to credit mainly through regional micro-finance institutions, enhanced role of women in household decision making as judged from empirical observations, and improved access to clean water supply and health facilities.

1.4 Food Security in Title II Program Areas

The rural Title II Program operates in 17 zones of the Tigray, Amhara, Oromiya, Somalie, SNNP and Gambella Regional States. This is shown in a tabular form below.

Tigray	Amhara	Oromiya	SNNP	Gambella	Somalie
▪ *Eastern* ▪ *Central* ▪ *South*	▪ *South Gonder* ▪ *North Wello* ▪ *South Wello*	▪ *Borena* ▪ *East Hararghe* ▪ *West Hararghe* ▪ *East Shoa* ▪ *West Shoa*	▪ *Guraghe* ▪ *Hadiya* ▪ ▪ *Welayeta*	▪ *Gog Woreda* ▪ *(Zone 1 ?)*	▪ *Liben*
Population of the three zones 2.8 million (CSA, 2000)	3.6 million (CSA, 2000)	7.6 million (CSA, 2000)	6.3 million (CSA, 2000)	0.15 million (Region, 2001)	0.018 million (Region, 2001)
▪ There are eight Title II Projects in the zones	▪ There are six Title II Projects in the zones	▪ There are twenty Title II Projects in the zones	▪ There are three Title II Projects in the areas	▪ There is one Title II Project in the woreda	▪ There is one Title II Projects in the zone

In addition to these, there are Title II activities in the rural part of Dire Dawa and Harari. Title II urban programs are mainly in Addis Ababa.

There are empirical experiences suggesting that food security problems in the Title II areas are more serious in the country since most of the zones are located in drier parts of the country. However, according to the assessment the evaluation team has made the major causes of food insecurity and the attendant results are similar to the national situation discussed above. In spite of the fact that the drier parts like Title II project areas are relatively less endowed, government development programs designed to address food security problems have been favoring rainfall reliable areas. Despite the bias, an attempt the evaluation team made to analyze grain production, productivity and per capita grain production in the Title II zones in the period 1999/00 – 01 reveals that food availability from own production is not significantly lower than the national average in most cases. The results are presented below.

Per capita grain production (Kg)
(National average: 1999/00 – 144
2000/01 – 174)

Tigray

- Eastern: 117 (65%)
  119 (66%)
- Central: 188 (104%)
  157 (87%)
- Southern: 144 80%)
  149 (83%)

Amhara

- South Gonder: 137 (76%)
  153 (85%)
- North Wello: 140 (78%)
  153 (85%)

Oromia

- Borena : 45 (25%)
  66 (37%)
- East Hararghe: 109 (61%)
  136 (76%)
- West " : 180 (103%)
  210 (117%)
- East Shoa : 223 (124%)
  273 (152%)
- West Shoa: 203 (113%)
  249 (138%)

SNNP

- Guraghe: 93 (52%)
  127 (70%)
- Hadiya: 81 (45%)
  148 (82%)
- Wolayeta: 63 (35%)
  105 (58%)

Gambela

- Gog Woreda: 236 (131%)

Somalie

- Liben: 6 (3%)
  12 (7%)

N.B

1. The first figure across each zone is per capita grain production for 1999/00 and the second for 2000/01
2. Figures in brackets are per capita grain production expressed as percent of the threshold (survival need) of 180 kg/person/year.
3. Except in the case of Gog (Gambella) and Liben (Somalie), the sources are CSA 1999/00 and 2000/01 Agricultural Surveys and Population Projections contained in the 1994 Population Census. The Gog and Liben figures are extrapolated from data the Woreda Agricultural Office provided to the evaluation team.
4. The figures in SNNP zones are low because grain crops are not as dominant as in others zones where mixed farming system is practiced.

Literature review results also indicate that labor and land productivity in the Title II zones is not significantly inferior either to the regional or to the national figures. The 2000/01 CSA cereal productivity figures reveal that maize and sorghum yields (two crops more widely grown in most project areas) are close to or at par with the regional and national values. For example, based on the CSA survey:

- Yields of teff and sorghum accounting for 44% of crop area in the Central Zone of Tigray were at about the same level as the national average. Barley and wheat (62% of crop area) yields were in fact slightly better.

- In South Gonder and North Wello cereal yields (except sorghum) were lower by 26-32 percent than the regional average in 2000/01. Sorghum yield (an important crop in North Wello) was higher by over 10 percent compared to the regional and national averages.

- In the Oromiya zones, cereals yields were higher or at par with the regional figures. Even in Borena, barley (a major crop) was not any worse than the national average.

- In the Guraghe and Hadiya Zones of SNNP, cereal yields were considerably higher than either the regional or national yield figures. The opposite was true in the case of Welayita.

Yield figures in 1996/97 and 1999/01 showed the same trend. It is likely that higher family size and lower land holding account for relatively lower per capita grain production in the Title II zones, and not the significantly inferior productivity.

Zonal level data on food indicators are not available. If the evidences pertaining to production and productivity discussed above are anything to go by, it is possible that the magnitude of food problem in the Title II Program zones is not considerably inferior compared to the national situation. Still, the lower per capita food production coupled with persisting rainfall shortage their selection for Title II interventions seems justified.

The rational for selection of Title II woredas could even be stronger. It is true that the food security situation at the zonal level might not represent the realities in the Title II woredas. Food security and nutrition data at the woreda level are even scantier, if there are any at all. But empirical observations abound that the overwhelming majority of the Title II woredas are hugely marginalized where rainfall shortage is relatively more serious and frequent, land degradation is relatively more severe, non-farm income generating opportunities are punier, social infrastructures like health facilities and schools are less provided with, road density is lower, etc. Because of this, the anticipation is that food insecurity in the woredas is relatively wider and more severe compared to the zones. There are empirical results confirming the anticipation. Data assembled from some woreda agricultural offices during the evaluation indicate that per capita grain production in the woredas is lower by 17 –35 percent compared to the respective zonal level figures.

Because of the precarious food situation that characterizes the Title II woredas, they might benefit more from safety net programs and NGO development efforts as well as relief operations. It cannot, however, be ascertained whether such incremental benefit offsets the production loss due to disadvantages households face in these woredas. Whichever way the argument goes, there is reason to believe that the objective conditions prevailing in the Title II woredas deserve household food security enhancing development projects like those of Title II.

1.5 Title II Program in the Context of National Food Security Strategy

Ethiopia has region-specific and national food security strategies (FSS). The strategies seek the attainment of sustained household food security through increased productivity and production and improved opportunities to raise income.

The strategies place the focus on resource-poor, drought-prone and marginalized areas in each region. Moreover, the strategies advocate sustainable, conservation-based and environmentally friendly development approach in all development efforts directed at achieving the food security objective. The preparation of Participatory Poverty Reduction Strategy is underway at the national level. Since solutions to poverty and food insecurity are coterminous, the Poverty Reduction Strategy is bound to re-enforce the food security strategy.

These strategies invite public and private sectors, PVOs and NGOs to actively participate in the designing and implementation of development programs consistent with the FSS.

Title II projects, strongly subscribe to the goals and objectives of the strategies. They underpin disadvantaged areas. They underline conservation-based, sustainable development. They seek authentic community participation as an objective in all aspects of their operation.

II. Methodology

Data needed for the evaluation were obtained through (1) household questionnaire survey; (2) participatory semi-structured surveys; (3) secondary sources including project documents; and (4) personal observations of members of the evaluation teams. Each is briefly outlined below.

2.1 Household Questionnaire Survey

(a) Rural

2.1.1 Sampling Frame

The list of peasant associations (PA) in each woreda was obtained from the 1994 Population and Housing Census of Ethiopia. It is used for the selection of Primary Sampling Units (PSU)[5]. To select the ultimate sampling units (households), a fresh list of households was prepared by the enumerators in the sampled PAs using a prescribed listing instruction.

2.1.2 Sample Design

To meet the objectives and requirements of the survey, a stratified two-stage cluster sample design was used for the selection of ultimate sampling units. The project woredas were treated as a stratum and peasant associations formed the primary sampling units. The secondary (ultimate) sampling units were households for which the survey questionnaire was administered.

2.1.3 Determination of Sample Size

To determine the sample size required for each stratum (woreda) the following cases were taken into consideration:

1. The proportion of stunted children aged 6-59 months was obtained from the 1997 Title II Special Objective-Food Security and Nutrition Baseline Survey.
2. The proportion of children aged 6-59 months and average household size were obtained from the 1994 Population and Housing Census.
3. The Confidence interval of 90% is considered adequate.
4. The design effect, intra-cluster correlation coefficient, response rate and coverage rate were computed from different surveys carried out by CSA, namely the 1996 and 1998 Welfare Monitoring Surveys, the 1998 Health and Nutrition Survey and the 1999 Labour Force Survey.

[5] CSA updates annually changes in the constitution of PAs and woredas that has been taking place from time to time, and the 2000 adjusted frame was used in the selection.

From these cases the following results were taken as input for the calculation of the sample size:

1. The estimate of the proportion of stunted children aged 6-59 months = 0.61
2. Average household size + 4.8
3. The desired precision or acceptable error = 0.1 (assumed)
4. The two-tailed value of the standardized normal deviation associated with the 90% confidence level = 1.645 ($\alpha = 0.10$)

The required sample size (children) for the estimation of proportion of stunted children is:

$$n = \frac{(0.61)\,(0.39)\,(1.645)^2}{(0.1)^2} = 64$$

From the 1994 Population and Housing Census, the proportion of children aged 6-59 months out of the rural population was 0.17387. Hence, the expected number of children in the age group 6-59 months per household was equal to 0.8346 (0.17387 x 4.8). Accordingly, the required sample size was 77 households.

As indicated above, the design was not a stratified random sample but rather a stratified cluster sample, thus the sample size required for cluster design would be smaller or larger depending on whether the cluster design was more or less efficient than the random sample design.

Assuming the design effect being equal to 2, the adjusted sample size became 77 x 2 = 154 households. From the national sample surveys CSA conducted between years 1996-1999, the overall response rate was 90 – 99% and the coverage rate 95%. From these results, it is known that the response rate was 90% and coverage rate 95%. By adjusting the required sample size for both non-response and non-coverage rates, the final sample size was fixed at 180 households (154/0.9 x 0.95). Therefore, a sample size of 180 households was required for each woreda to obtain a reliable estimate for the given precision level.

For the 1997 Title II Special Objective-Food Security and Nutrition Baseline Survey, pair selection of PAs was made for each woreda to make the design cost-effective. From similar surveys CSA conducted, the intra-cluster coefficient was 0.35. This indicates that households within any PSU has similar characteristics or there was much more variability between the PSUs than from within. Therefore, it was decided to select three peasant associations in each woreda to make the design more efficient than the pair selection option. Thus, the coverage was 60 households per PA.

2.1.4 Selection of Primary Sampling Units

Two PA's covered in the 1997 Base Line Survey were automatically chosen for the survey, while the third PA was selected by probability proportional to size,

size being total number of households obtained from the 1994 Population and Housing Census.

In the case of projects not covered in the 1997 survey, three PA's were randomly selected.

2.1.5 Fresh Listing of Households and Selection of Households for Interview

In each sampled peasant association, a fresh listing of households was carried out by going from house to house numbering them serially. From the list 60 households were selected systematically with a random start. The sampling interval for each PA was determined by dividing the total number of households by 60. The systematic random sampling technique was employed here because its application is simple and flexible, and it can easily yield a proportionate sample.

(b) Urban

The 2001 Title II Project Final Evaluation Survey was designed to provide data on relevant characteristics for Addis Ababa.

2.1.1 Sampling Frame

The list of kebeles, which was provided by CARE – Ethiopia, was used for the selection of Primary Sampling Units (PSU). For the selection of ultimate sampling units (households), a fresh list of households was prepared by the enumerators in the sample kebeles using a prescribed listing instructions.

2.1.2 Sample Design

To meet the objectives and requirements of the survey, unstratified two-stage cluster sample design was used for the selection of ultimate sampling units. The primary sampling units and the secondary (ultimate) sampling units were kebeles and households, respectively.

2.1.3 Determination of Sample Size

To determine the sample size required for Addis Ababa the following steps were used.

1. Since similar surveys were not done before and the proportion or standard deviation of the attribute of interest was not known, the sample households required was calculated as follows:

$$n = \frac{(404783)(1.96)^2 * 0.25}{(0.05)^2\,(404782)(1.96)^2 * 0.25} = 384 \text{ households}$$

where.

404783 is the total household size as obtained from the 1994 population census.
1.96 is the number of standard deviation units of the sampling distribution corresponding to the 95% confidence level.
0.05 is the design precision level
0.25 is a constant (p=q=0.5).

2. The assumed design effect (as estimated from the 1998 Welfare Monitoring Survey, CSA) is 3, and the adjusted sample is 384 x 3 = 1152 households.

3. Adjusting the sample size for the 20% non-response rate and 10% non-coverage rate the sample households required for the survey is 1600. By considering the intra-cluster correlation coefficient obtained from the household surveys conducted by the CSA, the number of households interviewed per kebele for the survey was 80. Hence, 20 kebeles were covered and the selection of kebeles from a list provided by CARE was done using probability proportional to size, size being the total number of households obtained from the 1994 population census.

2.1.4 Sample Selection of Primary Sampling Units

The selection of kebeles was done by probability proportional to size, size being total number of households obtained from the 1994 population and housing census. The proportional allocation method was used to allocate sample kebeles to each wereda. The weredas are those in which the CSs have been operating).

2.1.5 Fresh Listing of Households and Selection of Households for Interview

In each sampled kebeles, a fresh listing of households was carried out by visiting each housing unit. Following the preparation of a complete list of households the households were serially numbered. From the list 80 households were selected systematically with a random start. The sampling interval for each kebele was determined by dividing the total number of households by 80.

The systematic random sampling technique was employed here because of its simplicity in application and flexibility, since it can easily yield a proportionate sample.

2.2 Participatory Semi-Structured Surveys

The first of such surveys was focus group discussions with three groups of beneficiaries: (1) mixed persons with age, sex, and wealth/social status considerations; (2) resource poor; and (3) women only. The plan was to have 12, (at least 5 women) 9 and 6 persons in the first, second and third groups, respectively. The application was to hold one discussion of each type per project. Numerically 40 discussions were to be held of each type in all the rural projects. That is, a total of 1080 persons (480 mixed, 360 resource poor, and 240 women

only) were scheduled to participate in the discussions. The discussion points were pre-prepared. They centered around relevance and appropriateness of project interventions, community participation, institution capacity building, gender, and sustainability. The turn out was as planned in all cases but one. In the mixed group discussions, the percentage of women who participated was 25%, much less than the anticipated (42%).

The second semi-structured survey was interviews with key informants. The survey involved all sampled PA's. The plan was to interview four reputed, elderly persons (two from each sex) in each sample PA. The persons did not need to be direct beneficiaries. The criteria for the selection were knowledge of socio-economic realities in the particular community and a certain level of familiarity with the projects' interventions. The guide questions for the interview were again pre-prepared. The particular interest in the survey was to capture trends or changes in food availability, access, income, the state of natural resources over time. The plan was to hold 160 interviews in all the projects. The turnout was 100%.

The third semi-structured survey involved agriculture and health offices and councils in the project woredas. The purpose was to monitor coordination between the project and relevant line offices, information flow and feedback procedures, opinions about project performance and results, sustainability, etc. Once again, the points to be raised with the woreda offices were prepared in advance. Except in a few projects, the planned interviews were held mostly with health and water officers.

2.3 Secondary Sources

The 1997 Baseline Survey, together with DAP documents the CS furnished, was the principal reference to the:

- Preparation of the survey instruments, notably the questionnaire;
- Chapter that presents the project results.

2.4 Data Analysis

2.4.1 Anthropometric Measurements

All the children between 6-59 months in the sample households were included in the anthropometric measurement. Weight was measured by using hand-operated weighing scale of 130 kg capacity to the nearest 0.1 kg, and height was measured using a Harpender Stadiometer to the nearest 0.1 cm. Length board was used for infants and children who were not able to stand. The three indices of nutritional status: height- for-age, weight- for-age and weight-for-height Z-scores of the children were computed to estimate the overall prevalence of stunting, underweight and wasting, respectively, using the WHO/CDC/NCHS reference values. A cut-off point of less than - 2 SD was considered low nutritional status and values greater than or equal to -2 SD normal.

The Z- scores were calculated with the help of appropriate software packages (dBase, EPI-INFO and SPSS Programs) developed by WHO and the National Center for Health Statistics (NCHS) (5-8). Waterlow's classification (9) are applied in the analysis.

a. Normal (ZWH> - 2.00 and ZHA >-2 .00) for normal;
b. Stunted, ZWH >-2.00 and ZHA < -2.00 for stunting;
c. Wasted, ZWH< -2.00 and ZHA>-2.00 for wasting; and
d. Wasted and stunted, ZWH<-2.00 and ZHA<-2.00 which is for underweight children.

Height and weight of biological parents were not measured, since the requirement for the analysis was focused on children of ≤ 5 years. P- value of less than five percent (<5%) was considered statistically significant.

2.4.2 Comparative Analysis

In 1997 the CS's carried out a baseline survey covering most Title II assisted projects. The main purpose of the survey was to provide a database needed to monitor the progress of project activities and measure their impacts. Accordingly, the survey established base-year or benchmark values for indicators the CS's and the donor agreed upon to measure performance and impacts. The indicators are shown below by the Special Objective and Intermediate Results.

Special Objective: Enhanced Household Food Security in Target Areas

Indicators:

(a) Improved nutritional status of children
(b) Decreased time household does not have sufficient food to eat
(c) Decreased use of adverse coping strategies

Intermediate Result No. 1: Increased Agricultural Production

Indicators:

(a) Yield increase (barley, wheat, teff, maize and sorghum)
(b) Overall production increase (barley, wheat, teff, maize and sorghum)
(c) Percentage of households that used chemical fertilizers (barley, wheat, teff, maize and sorghum)
(d) Percentage of households that used improved seeds (barley, wheat, teff, maize and sorghum)

Intermediate Result No. 2: Increased Household Income

Indicators:

(a) Percentage change in the number of livestock ownership in TLU
(b) Improvement in physical asset ownership of household
(c) Change in income from cash crop
(d) Percentage of household that added luxury food items in their diet

Intermediate Result No. 3: Improved Health Status

Indicators:

(a) Reduced prevalence of diarrhea diseases
(b) Percentage of children underweight
(c) Increase in access to potable water or protected water sources
(d) Percentage of deliveries attended by trained TBAs
(e) Percentage of households that visited health posts twice in the last six months
(f) Percentage of households having a vegetable garden for own consumption
(g) Change in the amount of the household used per day

Intermediate Result No. 4: Natural Resource Base Maintained

Indicators:

(a) Change in the size of communal land reclaimed with physical and biological means
(b) Change in the amount soil deposited behind check dams
(c) Change in the amount of soil deposited behind terraces
(d) Percentage of project interventions maintained

Intermediate Result No. 5: Emergence Response Capacity Enhanced

Indicators:

(a) Whether there is an approved disaster management plan in place
(b) Access to local early warning information for the target areas

The special objective, intermediate results and indicators mentioned above are primarily for the rural-based projects. The quantitative analysis plan of this evaluation is almost entirely based on the above framework. That is, the variables in the framework for which the 1997 baseline survey provides benchmark figures constitute the components of the quantitative analysis of this report.

Quantitative results of the evaluation survey are compared with the 1997 baseline values for all indicators, where data are available, to record changes attributable to Title II interventions. Moreover, attempt is made to cross-tabulate the indicators

with selected livelihood and other related variables. That is, simple regression analysis is made between SO indicators and selected variables[6].

The variables used for the cross-tabulation include:

- Sex of the head of household
- Family size
- Episode of illness
- Water source
- Vaccination status
- Age supplementary feed started
- Age breastfeeding stopped
- Maternal education
- Practicing horticulture production
- Land holding
- Livestock ownership
- Ox ownership
- Income from all sources
- Physical assets
- Food availability from all sources
- Consumption of livestock product (the proxy was meat consumption)
- Amount of water consumed
- Use of pit latrine
- Morbidity

These livelihood variables were selected because it is hypothesized that the provision or access to social infrastructures like health services, education, family planning, etc., and ownership of productive assets like land, livestock oxen, etc, are important determinants of well-being. Accordingly the knowledge or nature of the association between these variables and SO indicators, it is hoped, could provide useful tools to the designing of subsequent Development Activities Proposals.

This means that nutrition and other SO indicators have been expressed as a function of:

(1) Household head characteristics (selected)
(2) Asset ownership (mainly physical)
(3) Food availability
(4) Income
(5) Access to clean water
(6) Morbidity

Percentage reduction in the use of severe coping strategies is one of the three indicators chosen to measure the achievement of SO. This report, consistent with the 1997 baseline survey, assumed that the following variables constitute severe coping strategies:

1. Reducing amount of meals
2. Eating wild food
3. Selling ox or cow
4. Selling camel
5. Selling non-livestock productive assets
6. Withdrawing children from school
7. Distress migration

[6] In the meeting held between CS and the evaluation team on September 17, 2001, it was agreed to run a multiple regression analysis to see relations between the SO results and selected livelihood variables. The client in the meantime has assigned this task to another group and this report still contains only cross-tabulation results.

2.5 Limitations

Several problems were encountered during the data collection stage, which could have a bearing on the quality of data. The first is that households show a lot of impatience as well as reluctance to have their children measured. Mothers tend to involuntarily interfere with the measuring instruments while attempting to quieten the crying baby. This increases the chance to misread measurements. In future DAP evaluations, it seems prudent to separate the nutrition survey from other tasks of the evaluation and also accord more time to complete the survey.

Another issue is that households have demonstrated a lot of caution to provide information pertaining to agricultural production. Although it was not often openly expressed, yet there was concern that providing data on production could result in the reduction of food aid, including FFW. To supplement the information that households provide with visual observations, it could be tactical to coincide data collection time with harvest, meher harvest in particular, in the future similar evaluation.

Another important limitation was that figures the project staffs provided on plan and actual results or outputs did not always tally with those given at the head office level. Where efforts made to reconcile the difference failed, the data furnished at the project sites have been taken.

The question of manageability of the evaluation was in itself an important limitation. There are several points that make Title II Program in Ethiopia unique, so to speak. It operates more or less similar interventions using more or less same strategies or approaches in numerous places having different socio-economic backgrounds. It involves eight non-governmental organizations not exactly embracing same approaches to development, and also not having identical policies, strategies, operating procedures, etc. It has rural and urban programs. The fact that the evaluation has not reflected this uniqueness was a limitation. This report, in the opinion of the evaluation team, would have benefited immensely from breaking the sum total of the evaluation work into some more manageable parts (examples: urban, rural; nutrition, other interventions; pastoralist, mixed farming; cereal staple, tuber staple; and/or other combinations) and contracting out the job to two or more independent evaluating teams. Such an approach could be less cost-effective. But the trade-off between cost saving and quality compromise could have been rewarding.

III. Title II Program Results

3.1 Introduction

This chapter deals with the major Title II results and issues that have been influencing the performance of the projects. The results come in three forms or categories: ***Outputs, Effects and Impacts***. **Outputs** refer to the physical accomplishments from the various Title II activities over the project period. The outputs are compared to targets and wherever information is available differences between targets and achievements are explained. **Effects** in this case refer to the five intermediate results agreed upon by and between the project holders and the donor. Progress or the lack of it is discussed using indicators specified for the purpose. Indicator values come mainly from the 1997 baseline and 2001 household surveys. The intermediate results and their respective indicators are reiterated below for convenience.

(1) **Intermediate Result One** – *Increased Agricultural Production*

The six indicators under IR1 are:

- Increase in yield for five major cereals (kg/ha)
- Increase in household grain production (kg/ha)
- Households that adopted the use of chemical fertilizers (percent)
- Households that use improved seeds (percent)
- Increase of area under irrigation (percent)
- Households that practice improved cultural practices (percent)

(2) **Intermediate Result Two** - *Increased household Income*

The four indicators under IR2 are:

- Change in livestock ownership (TLU)
- Improvement in physical asset ownership of households (percent)
- Change in income from cash crops (percent)
- Eating luxury food (percent)

(3) **Intermediate Result Three** - *Improved Health Status*

The seven indicators under IR3 are:

- Reduced prevalence of diarrhea diseases
- Percentage of children underweight
- Increase in access to potable water or protected water sources
- Percentage of deliveries attended by trained TBAs
- Percentage of households that visited health posts twice in the last six months
- Percentage of households having a vegetable garden for own consumption

- Change in the amount of the household used per day

(4) **Intermediate Result Four** - *Natural Resource Maintained*

The four indicators under IR4 are:

- Change in the size of communal land reclaimed with physical and biological means
- Change in the amount of soil deposited behind check dams
- Change in the amount of soil deposited behind terraces
- Percentage of project interventions maintained

(5) **Intermediate Result Five** - *Emergency Response Capacity Enhanced*

The two indicators under IR5 are:

- Whether there is an approved disaster management plan in place
- Access to local early warning information for the target areas

Finally, **Impacts**, the third category of results, refer to Title II achievements in respect to the **Strategic Objective (SO)**. The agreed SO is **Enhanced Household Food Security**, and the three indicators selected to measure the extent of SO achievements are:

- Reduction of child stunting
- Reduction of food shortage
- Reduction in the use of severe coping strategies

To the extent possible effect and impact results are presented by project, CS and Title II (national). It is a comparative analysis between base year (1997) and end of the first DAP cycle (2001).

CHAPTER 3
SECTION 1
PHYSICAL OUTPUTS

3.2 Project Outputs: A Review of Actual Performance Compared to Targets

Title II activities subsumed under crop production, livestock, natural resources, rural infrastructures, health, water, and nutrition. There are outputs in the first six. Nutrition results come under the impact section. Before presenting the outputs, a few observations relating to irrigation development and FFW that are common to all CS are made.

3.2.1 Crop, Livestock and Natural Resources Outputs

Africare

Crop Production

Effort to enhance increased crop production through the supply of improved and local seeds has been accomplished as planned for the two major crops – maize and sorghum (Table 3.1). The project has also been promoting the production and consumption of vegetable seeds, including seeds production.

DAP provides for demonstrations to minimize post-harvest losses through improved harvesting, threshing and construction of family grain stores. The project has started addressing the post-harvest component in FY 2000 with the construction of 38 granaries all provided with rat protection guards. Preparation is underway to build 750 demonstration granaries in FY 2001.

Table 3.1: Crop production-related activities of Africare

Description of Activities	Unit	Year 1997/99 – 2000/01 Gog		
		Plan	Actual	% change
(1) Input distribution:				
▪ Quantity of maize seed	Kg.	6000	6000	100
▪ No. of farmers who received maize seed	HH	404	313	77.5
▪ Quantity of sorghum seed	Kg.	4000	4070	101.8
▪ No. of farmers who received sorghum seed	HH	534	414	77.5
▪ Supply of vegt. Seeds	Kg.	12	9.9	82.5
▪ Supply of Oxen	No.	24	24	100
▪ Accessories (Granary)	M^2	400	38	9.5
▪ Accessories (Plow)	Sets	25	25	100
▪ Supply of small farm tools	No.	3265	1856	56.8
(2)Training:				
▪ Woreda staff	No.	26	26	100
▪ Farmers	No.	47	47	100

Source: Project field office

CARE

Crop Production

The general trend in food production is that crop yield is declining mainly due to rainfall irregularity, increasing land degradation due to soil erosion, fertility depletion and expansion of chat. Land area for crop production is declining consistently as more of the cultivated land is planted to chat. Land is also lost because of worsening degradation.

Chat expansion is due to its high economic return. It is a low cost crop since it does not require inputs such as fertilizers and pesticides. It is relatively more tolerant to poor climatic conditions. Chat is the most commonly and frequently used stimulant, and on average a family spends about 10 Birr per day for home consumption. Because of this, and due to reliable demand and organized chat delivery system chat has no market problem.

The project has been attempting to bring about attitudinal change, and it has been encouraging farmers to plant vegetables and fruit trees in areas where irrigation development is taking place, but to no avail to date. It is not surprising that this was so. Chat is a dependable and competitive cash crop. It is likely that farmers will carry on allocating more land to chat as long as its competitiveness lasts, and any external initiative to contain chat area expansion in favor of food crops will not succeed unless, return to chat declines for some reasons.

CARE – West Hararghe had virtually no crop production – related activity save training of farmers on improved farm management practices (Table 3.2). Farmers' training that the projects have carried out was immensely larger (ten-fold) than planned. The situation in East Hararghe was different. Training scope was wider. It included extension training (in line with government extension package). Performance in this regard was more than two-fold bigger than plan. There was also an irrigation initiative where progress was slow, although the beginning looks encouraging.

At Kuni, CARE supported the construction of two diversion weirs (one completed and the other about to be completed) for irrigation. The weir at Midagu is 95% completed and it is anticipated that about 175 households will eventually benefit. At present, of the total command area of 103 ha., only 53 ha is under irrigation.

At Kenteri, Meiso, the construction of another weir is underway (70% completed). It has potential to irrigate an area of 80 ha. According to the project staff, community participation in the form of labor and finance has been remarkable. Arrangements have not yet been made to organize irrigation water users associations needed to ensure proper and sustainable management of the systems. There is also no fee collection system yet in place required to cover the cost of operation and maintenance.

Table 3.2: Crop Production-Related Activities of CARE

Description of Activities	Unit	Year 1997/98 – 2000/01					
		West Hararge[7]			East Hararge[8]		
		Plan	Actual	% change	Plan	Actual	% change
(1) Training:							
▪ Farmers (agronomy)	No.	812	8234	-	8242	6460	78.4
▪ Woreda staff	No	-	4	-			
▪ Extension training	No.	-	-	-	7980	16197	203
(2) Irrigation development	Ha.	-	-	-	500	34	6.8
▪ Lined canal construction	Km.	-	-	-	15.3	1.6	10.5
▪ Diversion weir construction	No.	-	-	-	4	2	50.0
▪ Night storage pond construction	No.	-	-	-	10	2	20.0

Table 3.2 cont'd .....

Description of Activities	Unit	Year 1997/98 – 2000/01					
		Adama			Boset		
		Plan	Actual	% change	Plan	Actual	% change
Pump irrigation	Ha.	20	10	50.0			
Canal construction	Km.	0.5	0.6	120.0	6.8	7.4	108.8
Weir construction	No.	-	-	-	1	1	100
Seedling production	No. (000)	-	-	-	1750	1450	82.9
Agricultural package	No.	135	338	250.4	121	210	173.6
Canal maintenance	Km	-	-	-	14	20.5	146.4
Training							
▪ Farmers	No.	315	594	188.6	658	1109	168.5
▪ Project staff[9]	No.	40	40	100			
▪ Woreda staff	No.	12	10	83.3	10	12	120.0

Source: Project field offices

At Grawa irrigation, promotion of organic farming, provision of farm tools and improved seeds are the major areas of intervention to increase agricultural production.

The construction of a diversion weir and canals (lined and earth) is underway and near completion in Chilul, which is located in the lowland Grawa, a locality that frequently faces serious rainfall shortage. The irrigation, if supported by proper methods of water application, efficient management, and adequate technical support could contribute considerably, to the increase of crop production and productivity.

At Grawa attempt is being made to increase agricultural production through the introduction of organic farming. Composting exercise through pit method is being practiced at the backyards of selected beneficiary households in the project area.

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[7] Project woredas include Chiro, Kuni, Guba Koricho (disaggregated data by woreda are not available)

[8] Project woredas include Grawa, Bedeno and Kurfachele ((disaggregated data by woreda are not available)

[9] Training of staff included both Adama & Boset

In East Shoa, project activities were limited to irrigation and farmers' training. Both in Adama and Bosset outputs have been considerably bigger than plan. The irrigation system is well maintained and farmers' knowledge about the basics of irrigated crop production is remarkable.

A diversion weir the project constructed on Awash River at Doni and 7.5 km main canal constructed to channel the water to the command area was completed five years ago, and still it is in good condition. The beneficiaries are responsible for the maintenance of the canal with technical assistance and close monitoring from the project. However, the canal depth is increasing owing to the piling of sediment being removed from the canal every time maintenance is carried out. This has posed a problem in the maintenance of the canal and in channeling water to the command area and needs attention.

About 300 ha is irrigated from the diversion at Doni. The project is successful and has effected a significant change in the livelihood of the beneficiaries. Crop production has significantly increased from 800 kg/ha to 2400 kg/ha. A farmer beneficiary earned about 8,000 Birr from onion he planted on a 0.25 ha irrigated land.

Few farmers, however, are not beneficiaries of the irrigated fields because they lease the land to other non-farming groups. Effort to obtain information on the lease arrangement was not successful. Both the lessor and the lessee have not been willing to provide figures on the rental. The information the team had is that the rental is to the advantage of the lessee because of his superior knowledge of the market and market information. Moreover, he has capability to transport the farm produce to nearby townships, which the lessor cannot do easily. It is true that the lessee earns revenue risk-free, but the concern is that the revenue foregone is bigger than the risk averted. That is, the project beneficiaries are the losers. But the loss can be avoided through organizing farmers into a marking cooperative or setting up producers' groups that could link up with wholesalers and retailers in the townships. The important message here is in an irrigation scheme where production involves perishable products like vegetables, marketing is crucial that needs particular attention. The leasing of land in the scheme is linked to marketing difficulties the producer face, meaning that the marketing aspect has not been given the attention it deserved.

The effort made to know the number of beneficiaries who already are leasing their plots to traders was not successful. It is learnt that it is not big. But it could grow big in no time unless the marketing problem is addressed.

On a more positive note, many interviewed beneficiaries expressed high satisfaction in the scheme, and they reported that it has immensely improved their well-being (see the box story below)

No More a Stranger to Fifty and One Hundred Birr Notes

Afrasa is a young girl of 25 years of age. She is a beneficiary at the Doni irrigation scheme. She lives with here two sisters in the village close to the irrigation site. She produces vegetables, mostly onions. When asked to tell what she appreciates most of the irrigation scheme, she smiled with radiance and said, "I am much richer now than before. I never had paper money bigger than one or five Birr notes. Now this is history. I am no more a stranger to the 50 and 100 Birr notes, thanks to the project". She was also asked whether she faced any marketing problem to which she responded in the affirmative. But she added that she and her two sisters have so far managed alright to look for buyers at reasonable prices.

Natural Resources Conservation[10]

Table 3.3 below presents the main project activities and outputs. The table clearly demonstrates that except for seedling production on micro nurseries, outputs were well below targets. Survey results reveal that farmers awareness is low about usefulness of conservation practices and the seriousness of land degradation. Yet, only 13.5% of farmers training programs in this regard was actually implemented. Lack of budget was cited as the main problem for the under-performance.

[10] Title II Projects have numerous conservation interventions (physical and biological measures) in every woreda. Yet, under the IR4- Natural Resource-Based Maintained – there are three indicators specified to measure results of which two are not practical to apply. There is thus only one indicator left– "communal land reclaimed through physical and biological means" – to quantitatively monitor performance. To supplement this with some qualitative observations a few questions were included in the household survey. The frequency distribution of the questions are presented for each CS. The beneficiaries are the owners of the Title II Programs. How much are they familiar with the main problem the conservation programs address – land degradation? Do they feel they are participating effectively in the effort being made through the projects to reduce degradation? Are they aware of the realized and potential benefits from the physical and biological measures, which take land away from traditional uses? The purpose was thus to solicit responses to these and other related questions. The objective was to have information that could be of use in the designing of future DAP. The results (percentage of responses) are summarized in tables 3.4, 3.7, 3.11, 3.15, 3.20 and 3.25 for those CS that had conservation program.

Table 3.3: Outputs of CARE Soil and Water Conservation Activities in 1997/98 – 2000/01 Period

Description of Activities	Unit	East Hararghe			West Hararghe			Total		
		Plan	Actual	% change	Plan	Actual	% change	Plan	Actual	%
1. Soil conservation training for HHs	No.	4126	210	5.1	-	346	-	4126	556	13.5
2. Tree seedling production (demonstration nurseries)	No.	981,000	301,000	30.7	800,000	710,200	88.8	1,781,000	1,011,200	56.2
3. Seedling production (micro nurseries)	No.	111,000	450,000	405	-	-	-	111,000	450,000	405
4 Promotion of fuel saving stoves	No.	430	450	104.7	146	68	46.6	576	518	90

Source: Project field offices

Other main observations relating to natural resources activities of the Title II Projects include:

a) Maize and sorghum are major cereals cropped followed by barley and wheat at high altitudes. The mid altitudes are mostly cropped with chat, a perennial stimulant crop. Cereal-cultivated land experiences severe erosion problem owing to the absence of ground cover, steep slopes, absence of conservation measures and seasonal intense showers. Chat-cropped lands have slight erosion because of the traditional soil and water management practices which control surface runoff and erosion. Chat planted in well cultivates and cleanly tilled ridges and basins collects runoff water and controls erosion.

b) Another observation that this evaluation notes is the planting of potatoes along the contour in rows between ridges and terraces. It is a good example of conservation-based farming practice seen in the highland parts. It needs to be improved and expanded. The technique presumably was introduced during the Italian occupation according to information from the wereda agricultural office. It is a technique worth considering in any plan to improve agricultural production.

c) Chat is not only a good source of income to farmers but it also is helpful for conservation. Chat performs well under better soil moisture conditions and, therefore, requires better soil and water management. The traditional Hararghie land management involves ridge and basin cultivation. The ridges and basins formed in chat farming help in harvesting moisture and erosion control, and therefore, it is a conservation-based intervention. However, since chat field is kept clean from vegetation underneath it favours splash and sheet erosion. Farmers, however, practice strip cropping to reduce runoff and soil erosion. Sweet potato, sorghum and maize are grown in strips in the mid and lowlands whereas potato is planted in the highlands.

d) One other activity with the potential to contribute towards balancing the natural resource base is the supply of coffee and fruit tree seedlings to farmers. Farmers are given training in planting techniques and plantation management.

e) Introduction of energy saving stoves is another area of intervention that can help reduce overexploitation of vegetation cover.

f) CARE Adama operates in 27 kebeles. The project area is characterized by severely degraded upland slopes and lowlands with moisture stress. Development of water harvesting structures (birka/cistern), construction of diversion weirs for irrigation development, training in improved agricultural practices, provision of seeds and tools and moisture conservation measures (ridge and sunken bed) are a good example of conservation-based development.

g) Based on results from the household survey, it seems evident that farmers' knowledge about erosion, degradation, participation in project supported conservation work, etc. was not adequate (Table 3.4).

Table 3.4: Selected Conservation-Related Survey Results in CARE Projects

(percent)

Characteristics	CARE Title II Projects					
	Bosset	Chiro	Guba Koricho	Kuni	Kurfachele	Grawa
Beneficiaries who recognize soil erosion caused degradation is a problem	77	69	74	69	37	74
Beneficiaries who say they have had active individual and community participation in the project-promoted conservation programs	49	30	11	26	38	29
Beneficiaries who say they planted trees with support provided by the project (technical assistance, seedlings, etc.)	7	47	9	20	41	26
Beneficiaries who report the presence of an area enclosure for the purpose of land rehabilitation	3	5	-	10	3	3
Beneficiaries who say they are getting grass for their livestock from enclosed areas through the cut and carry system	-	13	-	76	-	-
Beneficiaries who say they collect fuel wood (dried leaves and wood) in the enclosures	-	25	-	62	17	-

Source: Project field offices

Catholic Relief Services (CRS)

Crop Production

CRS operates 11 Title II projects in as many woredas. Of these only four-Fedis, Jarso, Kombolcha and Gulomekeda – have had some crop production-related programs (Table 3.5). The activities involved training of farmers and staffs of line ministries, in soil and water conservation, irrigation canal construction. Results were mixed. While training programs were carried out almost as planned (except farmers' training in Jarso), conservation outputs were dismally lower than plan in both woredas, although the quality and appropriateness of the conservation measures leave no question to ask.

Several small irrigation schemes envisaged in the DAP have not been implemented reportedly pending the completion of a **Programmatic Environmental Assessment** of the small-scale irrigation schemes in the country.

Table 3.5: Crop Production-Related Activities of CRS (Oromia, Tigray & Harari[11])

Description of Activities	Unit	Year 1997/98 – 2000/01											
		Fedis			Jarso			Kombolcha			Gulomekeda		
		Plan	Actual	%	Plan	Actual	%	Plan	Actual	%	Plan	Actual	%
(1) Training:													
▪ Project staff	No.	9	9	100	5	6	120.0	5	5	100	5	5	100
▪ Woreda staff	"	1	1	100	-	2	-	-	-	-	-	-	-
▪ Farmers	"	105	105	100	87	45	51.7	85	83	97.6	100	98	98.0
▪ Farm land soil bunding	Km.	-	-	-	149	45	30.2	85	137.6	161.9			
▪ Farm land stone bunding	"	-	-	-	264.1	38	14.4	690.6	92.5	13.4			
▪ Composting	M^3	-	-	-	263	114	43.2	209.6	30	14.3			
(2) Irrigation:													
▪ Canal construction	Km	-	-	-	12.7	12.0	94.5	90.0	-	-	6	1.7	28.3

Source: Project field offices

[11] CRS operates in woredas not shown in the table. The omission is due to absence of crop production- related activities.

Natural Resources Conservation

The projects have been engaged in a wide range of conservation activities as seen in Table 3.6 below. Although the rate of performance varied from project to project, in most cases what has been accomplished was well under target, especially so with physical soil conservation measures. Low performance is attributed to irregularity in the flow of project resources. In a few cases, it is though that some targets (construction of Fanya Juu, for example) were considered ambitious.

Table 3.6: Outputs of CRS Soil and Water Conservation Activities in the Period 1997/98 – 2000/01

Description of Activities	Unit	Fedis			Jarsso			Kombolcha			Goroguttu			Total		
		Plan	Actual	%	Plan	Actual	%	Plan	Actual	%	Plan	Actual	%	Plan	Actual	%
1. Soil bund construction	Km	1474	246	16.7	149	37.5	25.2	690	137.6	19.9	262	132	50.4	2575	553.1	21.4
2. Stone bund	"	18	5	27.8	264	114	43.2	210	92.5	44	260	149.4	57.5	752	360.9	48
3. Fanyajuu	"	344	66.3	19.3	-	-	-	12	-	-	-	-	-	356	63	17.7
4. Hill side terrace	"	245	166.5	68	601	472.5	78.6	639	310.5	48.6	336	311	92.6	1821	1260.5	69.2
5. Stone checkdam	"	32	6.5	20.3	5.5	5.1	92.7	16	2.9	18.5	16	22	137.5	69.5	36.5	52.5
6. Vegetative barrier	"	76	68.4	90	-	-	-	7	2.9	40.7	11	10.6	96.2	94	81.9	87.1
7. Seedling production	No.	1,360,000	1,130,000	83	1,037,000	996,000	96.4	1,100,000	1,016,500	92.4				3,497,000	3,142,500	89.8
8. Transplanting	"	1,360,000	1,122,000	82.5	959,000	454,000	47.3	1,100,000	1,016,500	92.4	573,600	439,550	76.6	3,992,600	3,032,050	75.9
9. Micro-basin establishment	No.	-	-	-	232,400	76,700	33	289	137.8	47.7	207,000	108,600	52.5	439,689	185,437.8	42.2
10. Seed collection	Kg.	-	-	-	103	61.2	59.4	108	99.5	92.2	54	64	118.5	265	224.7	84.8
11. Grass seed production	Ha.	-	-	-	1.75	0.9	51.4	-	-	-				1.75	0.9	51.4
12. Grass sting	Km.	-	-	-	340	975	28.7	76	42	55.3	126	127.4	101.2	542	266.7	49.2
13. Compost making	M^3	-	-	-	12.6	12	95.2	90	30	33.3				102.6	42	40.9
14. Cutoff drain	Km.	-	-	-	-	-	-	4	12	300	8			12	12	100
15. Grass strip production	Kg.	-	-	-	-	-	-	135	107.5	79.6				135	107.5	79.6
16 Spate canal construction	Km.	-	-	-	-	-	-	18	7.5	41.7				18	7.5	41.7
17. Road construction	Km.	-	-	-	-	-	-	8	6	75	12	10	83.4	20	16	80
18. Pond construction	No.	-	-	-	-	-	-	-	-	-	6	4	67	6	4	66.6
19. Roof catchment	No.	-	-	-	-	-	-	-	-	-	1	1	100	1	1	100

Source: Project field offices

Table 3.6 Cont'd .....

Description of Activities	Unit	Metra			Dire Dawa			Gulomekada			Total		
		Plan	Actual	%	Plan	Actual	%	Plan	Actual	%	Plan	Actual	%
1. Soil bund construction	Km	352	150.3	42.7	-	870	-	450	405.4	90.1	802	555.7	69.2
2. Stone bund construction	"	192	48	25	-						192	48	25
3. Micro-basin construction	No.	202,000	187,500	92.8	-	294,000					202,000	481,500	238
4. Hill side terrace	Km.	307	238.9	77.8	-	1615?	-				307	404.4	130
5. Check dam construction	Km.	12	12	100	-	46.8	-	30	34	113.4	42	92.8	220
6. Vegetative barrier	"	6	6	100	-	29.8	-				6	35.8	596
7. Grass strip	"	125	98	78.4	-	58	-				125	156	125
8. Cutoff drain	"	4	4	100	-	5	-				4	9	225
9. Tree seed collection	Kg.	30	30	100	-						30	30	100
10. Seedling production	No.	540,000	540,000	100	-						540,000	540,000	100
11. Transplanting	No.	540,000	530,000	98.2	-	-	-	600,000	592,160	98.7	540,000	1,130,000	209
12. Fanyajuu	Km.	-	-	-	-	281.8	-				-	281.8	
13. Area enclosure	Ha.	-	-	-	-	-	-		150	-	-	150	

Source: Project field offices

Other main conservation-related findings include:

a) Not only conservation activities come in many forms, but they also address the priority conservation needs of the areas. The qualitative aspects of the various types of cropland conservation structures, stabilization of these structures with vegetation mainly grasses, agroforestry, pond construction, area enclosure and enrichment plantations are of high standards. The assistance the projects were providing to the establishment of small-scale private nursery is worth noting.

b) Awareness of the beneficiaries about soil erosion issues is considerable as shown below (Table 3.7).

c) At Golorabo, the project has developed a spring and delivered water through a pipe to a village about 400 m away. There is a water committee to manage the system. Water from the spring is also used to irrigate crops such as potatoes. A village organization manages the irrigation. Any conflict arising from water use is resolved by the village organization (Afosha), which is accountable to the Kebele Administration. Communities highly appreciate the Afosha system. They think it is very effective to resolve conflicts. The system could be used to promote community-driven conservation programs.

d) Cropland conservation outputs in East Hararghe projects are relatively impressive qualitatively. Rectangular ridges and basins are formed to plant sweet potato on the ridge and chat in the basin. Biological conservation practices are introduced in the area.

e) Bund stabilization with elephant/ napier grass is undertaken widely and this has enhanced the formation of bench or nearly bench terraces, with a terrace wall of 1.5 - 2m.

f) Soil bund is the most commonly practiced conservation activity followed by stone bund and stone-faced terrace in all weredas, and this is supportive.

g) In a nursery established at Egu, various tree and grass species are raised. Eucalyptus spp, cupresus, acacia spp cordia spp are among the tree species being raised. The nursery further serves as a grass and fodder species multiplication site where grass species such as vetiver, elephant grass and Phalaris spp are multiplied. Flooding is a problem obstructing nursery activities. Constructing a dyke around the nursery could probably solve the problem. Another option could be to move the nursery to another site during the next DAP (if any).

h) Table 3.7 reveals that the majority of the beneficiaries are aware that erosion-caused degradation is an important problem.

Table 3.7: Selected Conservation-Related Survey Results in CRS Projects

(Percent)

Characteristics	CRS Title II Projects						
	Gulo Mekeda	Jarso	Kombolcha	Fedis	Meta	Gorogutu	Dire Dawa
Beneficiaries who recognize that soil erosion-caused degradation is a problem	93	79	79	85	68	51	67
Beneficiaries who say they have had active individual and community participation in the project-promoted conservation programs	66	42	76	51	93	88	94
Beneficiaries who say they planted trees with support provided by the project (technical assistance, seedlings, etc.)	29	20	44	27	40	71	21
Beneficiaries who report the presence of an area enclosure for the purpose of land rehabilitation	63	66	78	59	74	72	97
Beneficiaries who say they are getting grass for their livestock from enclosed areas through the cut and carry system	35	11	55	15	87	92	97
Beneficiaries who say they collect fuel wood (dried leaves and wood) in the enclosures	5	7	50	12	64	80	80
Beneficiaries who report active women participation in the conservation programs	89	12	53	20	86	83	57

Source: Project field offices

Some comments on figures in Table 3.7:

- The awareness of the beneficiaries on soil erosion as the cause for land degradation and decline in agricultural productivity is high (93%) in Gulomekeda (Tigray) followed by Fedis (85%). Although communities in the

project woredas are no strangers to conservation, there are observations attesting that there has been an important qualitative change. Communities accept that it is they themselves who should assume the lead role in conservation development more now than before, and the observations accredit this to the projects.

- Community participation in project activities is also high in Meta (93%) followed by Gorogutu (88%). It is relatively lower in Jarso (42%). The important contribution of the projects according to observations made is that the participation is more authentic now (more decision making role) than before.

- Percent of beneficiaries who are aware that area enclosure is meant to rehabilitate degraded lands is highest in Dire Dawa (97%). This is attributable to the projects' efforts.

Ethiopian Orthodox Church - Development Inter-Church Commission (EOC-DICAC)

Crop Production

The main intervention to increase production, namely, the provision of input credit was not implemented due to the government micro-finance policy. Because of this, the projects did not have any alternative interventions aimed at improving the supply side of household food security. However, there have been numerous activities of demonstrative nature such as training, on-farm conservation in Wadla and emergency capacity enhancing in Mekdela and Endamahoni (Table 3.8). Performance in respect to these activities has been satisfactory.

The plan to develop small-scale irrigation schemes in Sodo, Mekedela and Wadla did not materialize. Two irrigation schemes were planned for Endamehoni project; one has been developed but did not go operational at the time of this evaluation, and the second is still in the planning stage.

Three reasons are given for under-performance in the development of small-scale irrigation schemes. The first is that DAP did not have essential information on water bodies to be developed for irrigation or for domestic use, and in some cases the water sources did not even exist. The second is that the time envisaged in the project proposals for the completion of the schemes has not been realistic. The third was that project funds came later than planned and in less amount than expected.

Table 3.8: Outputs of Crop Production-Related Activities of EOC

S. No.	Description of Activities	Unit	Year 1997/98 – 2000/01														
			Sodo			Mekedela			Wadla			Endamehoni			Total		
			Plan	Actual	%	Plan	Actual	%	Plan	Actual	%	Plan	Actual	%	Plan	Actual	%
1	Vegetable production																
	▪ Establishment veg. Demo. Center	No.				3	2	66.67	3	2	66.67	3	2	66.67	9	6	66.7
	▪ No. of farmers plot	No.				540	125	23.15	500	276	55.20	150	160	106.67	1190	561	47
2	Crop assessment	No.	12	4	33.33	12			12	6	50.00	10	8	80.00	46	18	39
3	Crop market survey	No.	20	13	65.00	20	12	60.00	20	17	85.00	20	19	95.00	80	61	76
4	Agroforestry																
	▪ Seedling planting on bunds	000'				2			2.5	119.1	4764.00	4.5	2.6	57.78	9	121.7	1352.22
	▪ Grass slip on bunds	Ha.	10			24			5.5	6.133	111.51	21.2			60.7	6.133	10
	▪ Grass slip on strips	Ha.				79						3.2			82.2		
5	Irrigation development																
	▪ Canal improvement	Km.				2	2	100.00	3	.51	17.00	2	00	00	7	0.51	7.3
	▪ Pond for irrigation	No.							2	00	00				2	00	00
6	Farmers training																
	▪ On improved agricultural practices	No.	150	99	66.00	560	532	95.00	450	598	132.89	550	562	102.18	1710	1791	104.7
	▪ On vegetable production	No.				118	147	124.58	110	125	113.64	115	128	111.30	343	400	116.6
	▪ On water management	No.	51	82	160.78	62	45	72.58	31	40	129.03	57	62	108.77	201	229	113.9
	▪ On women skill development	No.	100			50			50			50			250		
	▪ On TAP/primary health worker	No.				20	17	85	17	2	11.76	20	20	100	57	39	68.42
7	Crop land bunding																
	▪ Soil bund	Km.				732.4	7.5	1.02	513	0.578	0.113	425.6	18.003	4.23	1671	26.081	1.6
	▪ Stone bund	Km.				2186	830.1	37.97	743	951.257	128.03	854.8	457.9	53.57	3784	2239.957	59
	▪ Stone bund maintenance	Km.								369.419			1507.6			1877.019	

No.	Description of Activities	Unit	Year 1997/98 - 2000/01														
			Sodo			Mekedela			Wadla			Endamehoni			Total		
			Plan	Actual	%	Plan	Actual	%	Plan	Actual	%	Plan	Actual	%	Plan	Actual	%
	▪ Checkdam construction	Km.				11.5	11.4	99.13	1	2.268	226.8	8.25	5.71		20.75	19.378	93.4
	▪ Trench construction	Km.											100.54			100.54	
	▪ Cut of drain construction	Km.				6.6	4.722	71.55							6.6	4.722	71.55
8	Compost preparation	M^3				100	32	32.00	100	100	100				200	132	66.0
9	Capacity building																
	▪ Metratogical stations	No.	2	1	50.00	2	1	50.00	2	1	50.00	2	1		8	4	50

Source: Project field offices

Livestock[12]

Like other CS, EOC did not have much presence in livestock development. The activities it has been promoting focused on Sodo. Table 3.9 shows that performance in respect to feed development in Sodo (the most important intervention) has been well below plan (vetiver slips production 17%, multiplication of other grass slips 2.4%).

[12] EOC, FHI, REST, SCF/USA and WVI/E have had some direct livestock interventions. The scope varied from project to project. So did the types of activities, although feed, health and capacity building (training) of farmers were common features of livestock programs. In many respects livestock programs aimed at enhancing the access aspect (improving household income) of household food security. For this reason and convenience apiculture (support for honey production) is included in this section.

Table 3.9: Outputs of EOC Livestock Activities in the 1997/98 – 2000/01

Description of Activities	Unit	Sodo			Mekdella			Wadla			Endamehoni		
		Plan	Actual	%	Plan	Actual	%	Plan	Actual	%	Plan	Actual	%
Vet-post construction	No.	-	-	-	1	1	100	1	1	100	1	1	100
Grass seed multiplication center	"	1	1	100	1	1	100	1	1	100	-	-	-
Grass seed production	Qt.	-	-	-	-	-	-	-	-	-	1	0.15	15
Multiplication of other grass slips	Million	1.48	0.035	2.4	-	-	-	-	-	-	-	-	-
Improved grass sown on grazing lands	Ha.	198	-	-	-	-	-	-	-	-	-	-	-
Vetiver slip production	Million	0.42	0.072	17	-	-	-	-	-	-	-	-	-

Source: Project field offices

Natural Resources Conservation

Physical conservation structures (stone bund, soil bund, hillside terracing) and seedling production and planting on communal locations dominated conservation activities of the projects. In respect to these activities outputs were well below targets. In the case of physical structures, outputs ranged between 32% and 56% of the plan. It was a bit higher with communal tree planting (afforestation). Some 63% of the planned tree planting was achieved in Endemahoni and Mekedela projects, the only two sites where there were communal tree planting operations. In all other conservation interventions, outputs were either close to target or surpassed them (Table 3.10). More importantly, outputs in many respects were increasing consistently over the project period. Moreover, the standards or qualities of the conservations works done have been impressive.

The dominant conservation programs like construction of physical soil conservation structures, seedling production and community tree plantations wholly relied on food-for-work. The flow of FFW resources has been irregular and inadequate, and the under performance in this respect has been because of it.

Table 3.10: Outputs of EOC Soil and Water Conservation Activities: 1997/98 – 2000/01

No	Description of Activities	Unit	Wadi			Eddamhoni			Soddo			Mekedela			Total		
			Plan	Actual	%	Plan	Actual	%	Plan	Actual	%	Plan	Actual	%	Plan	Actual	%
1	Homestead planning																
	▪ Nursery establishment	No.	1	2	200	5	5	100	1			1	2	200	8	9	112.5
	▪ Seed collection	Kg.	115	187.65	163.17	148	193	130.41	55	324.42	589.85	190	178.45	9.18	508	883.55	173.9
	▪ Seedling production	000'	1950	1422.4	72.94	920	189.6	20.61	1900	722.17	38	2800	2730.36	97.51	7570	5064.53	66.9
	▪ Seedling distribution/ planting	000'	1909	1576.41	82.58	896	177.6	19.82	1820	707.66	38.88	2569	3116.08	121.30	7194	5578.24	77.5
2	Communal land planting																
	▪ Nursery establishment	No.	1			1	1	100	1	1	100	1	1	100	4	3	75
	▪ Existing nursery expansion		.75	.75	100										.75	.75	100
	▪ Seed collection	Kg.	130	116	89.23	130	151	116.15		23.28		130.	106.37	81.82	390	396.65	101.7
	▪ Seedling production	000'	1300	1199.5	92.27	510	846.9	166.06	1400	190	13.57	1600	1000	62.5	4810	3236.4	67.3
	▪ Seedling planting	000'	1292	757.3	58.61	505	852.1	168.73	998	109.9	11.01	1592	251.2	15.78	4387	1970.5	44.9
	▪ Pitting	000'	500	681.6	136.32	505	852.1	168.73	1012.14	181.7	17.95	997	251.2	0.25	3014.14	1966.6	65.2
	▪ Area closure	Ha.	50	50	100	120	340	283.33				1210	1210	100	1380	1600	115.9
	▪ Hillside terrace	Km.				278	578.96	208.26				37.2	29.62	79.61	315.2	608.58	193.1
	▪ Trench construction	Km.				200.5	154.2	76.9							200.5	154.2	76.9
	▪ Micro-basin construction	000'	426.7	505.32	118.43	40	177.07	442.68				476.5	191.5	40.19	943.2	873.89	92.6
	▪ Cut of drain	Km.	1	4.423	442.30					3		3.3			3.3	7.423	224.9
	▪ Checkdam construction	Km				5	5.14	102.8							5	5.14	102.80
3	Demo, on soil & water conservation																
	▪ Micro basin	000'	1	1	100										1	1	100
	▪ Hillside terrace	Km	3	7.966	265.53										3	7.966	265.53

Table 3.10 cont'd .....

No.	Description of Activities	Unit	Wadla			Endamhoni			Soddo			Mekedella			Total		
			Plan	Actual	%	Plan	Actual	%	Plan	Actual	%	Plan	Actual	%	Plan	Actual	%
	▪ Cut off drain	Km	2	0.218	10.90										2	0.218	10.90
	▪ Seedling production	000'	20	17	85.00										20	17	85.00
	▪ Checkdam construction	Km	0.02												0.02		
	▪ Soil bund construction	Km	10	3	30.00										10	3	30.00
	▪ Stone bund construction	km	10	4.5	45.00										10	4.5	45.00
	▪ Bench terrace	Km.	1	2.776	277.60										1	2.776	277.60
4	Communal nursery																
	▪ Nursery establishment	No.	2			2	2	100	3	3	100	2	1	50	9	6	66.67
	▪ Seedling production	000'	20			20	20	100	150	15	10	200			390	35	8.97
5	Grass seed production																
	▪ Center establishment	No.	1	1	100	1	1	100	1	1	100	1	1	100	4	4	100
	▪ Grass seed production	Qt.	1			0.5			1			1	1.1	110	3.5	1.1	31.43
	▪ Vetiver slip production	Million	1			0.3			0.4	0.013	3.25	0.3	0.028	9.33	2	0.041	2.05
	▪ Improve grass sown on grazing	Ha.	48			48			48			48			192		
	▪ Grass slip production	Million	0.5	0.074	14.80	0.3			1.46	0.012	0.82	0.5	0.003	0.60	2.76	0.089	3.22
	▪ Forage production on farm plant	Ha.	1	1	100	1						4			6	1	16.67
6	Gully reclamation																
	▪ Checkdam construction	Km.	2	2.14	107	15.8	1.877	11.88	13	9.063	69.72	5.8	3.79	65.34	36.6	16.87	46.09
	▪ Vegetative barrier	Km.				15	1.933	12.89		7.84		1.3			16.3	9.773	59.96

Source: Project field offices

Other observation points of significance to conservation include:

a) The Sodo project is constructing 16 km of road – Kela to Adelle. The project has also maintained a total of 18 km of road from Jolle Mazoria to Genet and another 5 km on another route. The construction of one bridge is completed and there is another under construction. The road and bridge construction and road maintenance tally with the plan. In all cases labor-intensive technologies are used, and quality of work is rated good. All the construction and maintenance programs have been conservation friendly.

b) Grass seed multiplication sites are established by the project with the purpose of multiplying various grass and legume species. The seeds and splits produced are used in the stabilization of conservation structures on cultivated lands. There was oversawing on enclosed areas and on grazing lands to improve grazing quality and increase biomass production. The action was commendable. Different species of grasses such as vetch, rhodes, phalaris, vetiver, elephant grass and fodder beet are raised. The organization of activities, the quality of grasses and legumes, and the level of production, distribution methods used, etc., at the multiplication sites are impressive, especially in Sodo, and sensitive to conservation needs.

c) In Sodo a spring is developed near the nursery to supply water to a nearby village. Cattle troughs are constructed near the nursery. The catchment upslope is properly conserved with natural vegetation. The project is further strengthening conservation activities through enrichment plantations and area enclosures.

d) Again in Sodo about 75 ha of communal land plantations have been developed with additional 25 ha planned to be planted in the Fiscal Year 2000/01. The community is given awareness on the protection and management of the plantation undertaken in communal lands. The project has supported the community to establish by-laws to enforce the protection of enclosure areas and communal plantations.

e) In Sodo vetiver is used to develop grass strips in the conservation of cultivated lands. It is also used in the stabilization of cropland bunds. Vetch is used to improving fallowlands and Rhodes grass is oversown on grasslands to improve the grazing quality while phalaries is used in oversowing and bund stabilization. The project has planted elephant grass for stabilizing gullies. The choice of the grass types for the intended purposes is supportive.

f) Cordia, Eucalyptus camaldulensis and globules, Acacia spp are among the seedlings being promoted. Among the seedlings raised Eucalyptus, Rhamnus and Cupresus are given to farmers for homestead and woodlot plantations while the other seedlings are planted on communal lands. Communal woodlots need to be encouraged in Sodo. Unlike in other parts of the country there is no problem with communal plantations in the project area because of the by-laws established by idirs, which are respected and strictly observed. In the case of individual plantation, extension agents check whether adequate preparation is made for planting before seedling distribution. Farmers are required to

prepare the land for plantation three months prior to plantation. This is indeed encouraging, and no doubt it would contribute to improved survival rate.

g) It is important that a big majority of beneficiaries in Endemahoni, Mekdela and Wadla appreciate the seriousness of land degradation. (Table 3.11).

Table 3.11: Selected Conservation-Related Survey Results in the EOC Projects (Percent)

Characteristics	EOC Title II Projects			
	Endamehoni	Wadla	Mekedela	Sodo
Beneficiaries who recognize that soil erosion- caused degradation is a problem	98	80	88	67
Beneficiaries who say they have had active individual and community participation in the project-promoted conservation programs	84	89	64	17
Beneficiaries who say they planted trees with support provided by the project (technical assistance, seedlings, etc.)	36	40	11	11
Beneficiaries who report the presence of an area enclosure for the purpose of land rehabilitation	37	34	30	1
Beneficiaries who say they are getting grass for their livestock from enclosed areas through the cut and carry system	46	5	2	-
Beneficiaries who say they collect fuel wood (dried leaves and wood) in the enclosures	2	2	2	-
Beneficiaries who report active women participation in the conservation programs	86	88	63	4

Source: Project field offices

Some comments on the results shown in the above table:

- The results may send a message that the need for conservation and afforestation is not significant in Sodo. Empirical observations suggest otherwise. The need is big in Sodo also, although it might be less than in the northern projects.

- Individual and community participation in soil conservation activities is low in Sodo (17%) but high in Wadla (89%). In Wadla and Endamehoni participation is high probably because of FFW, which apparently motivates participation.

- It is surprising to see only 30% of the beneficiaries reporting enclosures in Mekdela where area enclosure is one of the project's main interventions. This could partly be attributable to the low level of participation of the community while deciding on area enclosure.

- Women participation is extremely low in Sodo (40%). The apparent reason for this is the tradition prevailing in the area that does not encourage women to participate in farming activities, let alone conservation tasks, that are largely regarded as a male function. It is a challenge to positively alter the attitude.

- Results on tree planting and participation in area enclosure do not seem to tally with the realities on the ground as evidenced at the time of field visit, especially in Endemehoni. Enclosure-related activities have been more brisk than survey results would indicate.

- It is good to learn that a high percentage of farmers acknowledge the importance of erosion-caused degradation. It is a very critical development issue in the project communities. Yet, area enclosure, an important means of rehabilitation, is not featuring prominently. There could be a number of reasons for this. One hopes that the lack of community and project perception about its importance is not one among the reasons. If it were, there is reason to believe that an opportunity was missed, and it should be reversed in any next similar projects.

Food for the Hungry International (FHI)

Crop Production

At Lay Gayint the project activities included: (1) input distribution like vegetable seeds and fertilizers (2) training intended to build capacity at the household and woreda levels, and (3) introduction of root crops such as sweet potatoes and Irish potatoes. Vegetables like onions/shallot were also introduced with the intent of improving household income. Good agricultural land in the project area is very scarce, soil fertility low, topography mostly steep, and rainfall irregular. In such a situation a move towards root crops and vegetables and away from the traditional cereal and grain production seems an intelligent decision and could positively affect food security.

Small-scale irrigation development planned at two locations have been completed. This would help farmers to produce grain at least twice a year. The schemes are small with a total command area of 26 ha. The irrigation systems (water ways) are of acceptable standards. Farmers have been trained and organized to operate the scheme.

The major activities in Tach Gayint include supply of improved seeds of cereals (wheat, sorghum and teff) and vegetable seeds (cabbage, carrot, beet root, swiss chard, tomato, onion lettuce) and root crops (potato, sweet potato, onion bulb). Accomplishment of grain seed distribution against plan was about 66% of the plan, largely due to seed supply-related reasons like not getting the variety of seed needed and at the time required; it was 117% in the case of other seeds.

In Tach Gayint, the project supplied chemical fertilizer, and performance was 84% of the plan. There have been a number of other activities and in most cases performance was better than plan (Table 3.12). One of the outputs in Tach Gayint worth noting is the completion of two irrigation schemes with a combined 57 ha. of command area.

At Simada activities have been similar with those of Lay Gayint. Table 3.5 shows that performance was equally satisfactory, in some case like input distribution even better. Provision of sweet potatoe cuttings was only 10% of the plan. On the other hand, the three planned irrigation schemes have been completed successfully. They were operational at the time of the visit. The schemes with a total of 46 ha of command area are well designed and communities adequately organized and trained to run the schemes.

Table 3.12: Outputs of Crop Production-Related Activities of FHI

Description of Activities	Unit	Year 1997/98 – 2000/01								
		Lay Gayint			Tach Gayint			Simada		
		Plan	Actual	%	Plan	Actual	%	Plan	Actual	%
(1) Input distribution:										
▪ Vegetable seeds	Kg.	66	52.02	78.8	47	54.76	116.5	59	195	330.2
▪ Fertilizer	Kg.	118400	117925	99.6	147.5	123.5	83.7	102900	107900	104.9
▪ Seed	Kg.	13700	4803	35.1	25	16.4	65.6	4000	10200	255.0
▪ Tools	No.	100	200	200	1695	2196	129.6	1450	7502	517.4
(2) Root crops										
▪ Sweet potato cuttings	No.	-	-	-	15000	8300	55.3	27000	2050	7.6
▪ Irish potato	Kg.	66750	36397	54.5	98400	127900	130.0	34700	52200	150.4
▪ Onion/Shallot	Kg.				8000	9503	118.08	21200	27700	130.7
(3) Demonstration of field crops	No.	-	-	-	35	30	85.7	29	30	103.4
(4) Demonstration of horticultural crops	No.	-	-	-	-	-	-	500	958	191.6
(5) Training	"							556	486	87.4
▪ Cooperative leaders	"									
▪ Farmers	"	920	135	14.8	300	344	114.7			
▪ Field day	"				-	-	-			
▪ Training project staff	"	10	10	100	239*	235*	98.3*			
▪ Training woreda staff	"	18	26	144.4	-	-	-			
(6) Small scale irrigation development	"	2	2	100	1	1	100	3	3	100

*** Project + Government Staff**

Source: Project field office

Livestock

Livestock development and food security problems are strikingly similar among the FHI projects. Observations made during field visits and results of PRA surveys confirm this. Yet, livestock activities among the projects had significant variations. At Gubalafto and Tach Gayint, forage, introduction of income generating activities like distribution of poultry and small ruminants and training were focused. while at Simada the emphasis was placed on health and apiculture. Lay Gayint had virtually no activity. While the rational for the variation is not evident, performance rate was mixed in all of the projects. Mostly, outputs were lower than plan (Table 3.13). The performance was particularly weak with the distribution of poultry and small ruminants, an area that could possibly have a quicker return to improve access to food.

Table 3.13: Output of Livestock Activities of FHI Projects in the 1997/98 – 2000/01 Period

Description of Activities	Unit	Gubalafto			Lay Gayint			Simada			Tach Gayint		
		Plan	Actual	%	Plan	Actual	%	Plan	Actual	%	Plan	Actual	%
Provision of apicultural tools	Set							25	65	260			
Provision of frame	No.							-	10	-			
Of smoker	"							-	9	-			
Other related tools	"							-	-	-			
Provision of animal health equipment	Birr							15000	14660	97			
Provision of veterinary medicines	"							15000	12555	83			
Farmers training on apiculture	No.							213	154	72	150	141	94
Farmers training on livestock management	"							305	277	91			
Farmers training of improved livestock management	"							-	6	-			
Grass seed multiplication/hill side fodder planting	Ha.							4	4	100	1420000	1106640	77.93
Forage seed provision/backyard forage planting	Qt.	13.5	11.5	85	-	-	-				1500000	965468	64.36
Poultry provision											600	250	41.67
- Cockerel	No.	680	249	37	-	-	-				-	-	-
- Pullets	"	3400	1245	37	-	-	-						
- Sheep	"	-	-	-	-	-	-	40	-		320	209	65.31
Training on livestock development	"	238	46	19	-	-	-				250	254	101.6
Training in poultry management	"	120	120	100	-	-	-						
Training to animal health technician	"	2	-	-	-	-	-						
Training project staff	"	-	-	-	10	10	100						
Training woreda line office staff	"	-	-	-	5	13	260						
Provision of heifer	"	-	-	-	-	-	-	20	-		2	-	0
Improved poultry breeding demonstration	"	-	-	-	-	-	-	150	50	33			

Source: Project Field Office

Natural Resources Conservation

Table 3.15 contains opinions of project beneficiaries on some selected conservation subjects. The percentage of farmers who report project support for tree planting is too low to believe in Simada in particular where the project has been actively supporting homestead planting. This and the lack of community-driven demand for area enclosure seems to suggest the prevalence of low farmers' awareness about land degradation, although a big majority of interviewed farmers responded knowledge of the seriousness of the problem.

The FHI conservation programs largely dealth with activities designed to rehabilitate degraded areas. Accordingly, hillside terracing, micro basins and biologically conserving the terraced areas featured prominently during the project period. In this regard, performance was satisfactory. In Lay Gayint, Simada and Gubalafto 98% of the targeted area of hillside terracing was achieved. Performance with tree planting was also high; over 72% of the plan was achieved. The projects were also actively supporting farmer-based tree seedling production through micro-nurseries and individual tree planting. Outputs in this respect paralleled or surpassed targets.

As can be observed in Table 3.14 below performance was equally satisfactory compared to plan in other conservation activities like checkdam construction, cutoff drain, and farmland terracing. Some 32 ha of area was enclosed for protection and enrichment planting in Simada; it was more than planned. But land degradation is most severe in the project areas. Productive and carrying capacity of land is already significantly curtailed. There seems to exist a gigantic need for area enclosure. The lack of area enclosure in the projects other than in Simada, and the smallness of the plan figure in Simada are difficult to explain.

Table 3.14: Outputs of FHI Soil and Water Conservation Activities in the Period 1997/98 – 2000/01

Description of Activities	Unit	Ba, Gavient			Simada			Gubalafto			Total		
		Plan	Actual	%	Plan	Actual	%	Plan	Actual	%	Plan	Actual	%
1. Hillside terrace	Km	1180	1161.7	98.5	922	1141.8	123.8	450	205.4	45.6	2552	2508.9	98.3
2. Checkdam construction	"	70	68.5	97.8	94	115.6	123	40	17.34	43.4	204	201.4	98.7
3. Cutoff drain	"	36	28.3	78.6	18	24.9	138.4	40	8.2	20.5	94	61.41	65.3
4. Seedling raising	No	5,785,000	2,838,200	49.1	8,200,000	6,713,600	81.9	-	-	-	13,985,000	9,551,800	65.3
5. Seedling planting.	"	2,800,000	2,077,400	74.2	3,300,000	2,420,300	73.4	180,000	60,000	33.4	6,280,000	4,557,700	72.6
6. Support for establishing private nurseries	No	49	30	61.2	19	19	100	-	-	-	68	49	72
7. Homestead planting	No	-	-	-	2,500,000	2,372,000	94.9	-	-	-	2,500,000	2,372,000	94.9
8. Microbasin	No	-	-	-	328,700	475,350	144.6	400,000	321,220	80.3	728,000	796,570	109
9. Farmland terrace	Km	-	-	-	164	104	63.4	1,920	767.9	40			
10. Gabbion retaining wall	M^3	-	-	-	1,670	840.9	50.4	-	-	-	1,670	840.9	50.4
11. Water way construction	Km.	-	-	-	3	2.3	75.4	6.5	-	-			
12. Area enclosure	Ha.	-	-	-	26	32	123.1	-	-	-	26	32	123.1
13. Sisal planting	No.	-	-	-	-	-	-	105,000	36,500	34.8	105,000	36,500	34.8

Source: Project field office

Table 3.15: Selected Conservation-Related Survey Results in the FHI Projects (Percent)

Characteristics	FHI Title II Projects			
	Lai Gayint	Tach Gayint	Simada	Gubalafto
Beneficiaries who recognize soil erosion-caused degradation is a problem	83	82	66	63
Beneficiaries who say they have had active individual and community participation in the project-promoted conservation programs	79	66	55	83
Beneficiaries who say they planted trees with support provided by the project (technical assistance, seedlings, etc.)	5	17	11	31
Beneficiaries who report the presence of an area enclosure for the purpose of land rehabilitation	37	62	43	30
Beneficiaries who say they are getting grass for their livestock from enclosed areas through the cut and carry system	-	-	-	55
Beneficiaries who say they collect fuel wood (dried leaves and wood) in the enclosures	2	-	-	-
Beneficiaries who report active women participation in the conservation programs	51	28	26	63

Source: Project Field Offices

Relief Society of Tigray (REST)

Crop Production

Crop production activities included distribution of vegetable seeds and fruit seedlings in Were leke, Adi Ahferom and Dega Tembien; four small irrigation schemes in Were leke and Ahferom; and training of farmers in all project areas. Table 3.16 below shows that almost all planned activities were fully carried out. The development of irrigation schemes was nearly completed at the time of the visit. Training and organizing users were in progress.

Table 3.16: Crop Production-Related Activities of REST

Description of Activities	Unit	Year 1997/98 - 2000/01											
		Were Lekhe			Mereb Lekhe			Afferom			Degua Lembien		
		Plan	Actual	%	Plan	Actual	%	Plan	Actual	%	Plan	Actual	%
Vegetable seeds distribution	Kg.	324	304	93.8	-	-	-	253	313	122.4	256	277	108.2
Fruit seedlings distributed	No.	164,125	111,850	68.1	-	-	-	71,700	70,050	97.7	76,150	81,000	106.4
Irrigation development													
- Micro dam	No.	1	1	100	-	-	-	1	1	100	-	-	-
- Diversion	No.	2	2	100	-	-	-						
Training of beneficiaries	No.	3772	3856	102.2	2330	2205	94.6	2224	2287	102.8	1625	1590	97.8

Source: Project field office

Livestock

The livestock development programs of REST projects involved feed development and improving productivity with facilitating farmers access to genetically superior local cattle breed and Nubian goats. Modernizing of apiculture has been an important input to improve income.

Table 3.17 below shows that the projects performed very well in respect to all activities. In spite of poor security situation as a result of the Ethio-Eritrean war that troubled development efforts relatively more in Tigray than elsewhere in the country, project performance was at par or exceeded the plan. Field observations and results of PRA surveys reveal that provisions and services were timely and backstopping to farmers was adequate.

In spite of the impressive outputs this evaluation would like to note that some of the livestock interventions, notably distribution of improved breeds of animals, was not well targeted. Many of the visited beneficiaries looked wealthy by standards prevailing in their respective communities. For example, W/ro Almaz G/Igzabhere at Inticho borrowed Birr 1300 to buy a project supplied Begayit cattle. Almaz owns a business in Inticho, her husband works for Farm Africa, her daughter and son are in college, she rents a house at Inticho (rental Birr 80.00/month). Almaz belongs, by all counts, to a well-endowed household. Should she then be a beneficiary of a project that promotes household food security and targets the poor in particular[13]?

[13] REST considered the observation the team made a gross conclusion. It is not in fact a conclusion, it rather is an observation made to suggest there is need to look into the past targeting experience rather critically with the intent of forth improving targeting strategies.

Table 3.17: Outputs of REST Livestock Activities in the 1997/98 – 2000/01

Description of Activities	Unit	Wereleke			Adi Ahferom			Dega Tembien			Merebleke		
		Plan	Actual	%	Plan	Actual	%	Plan	Actual	%	Plan	Actual	%
Provision of beehives	No.	68	57	84	60	54	90	50	46	92	35	28	80
Dairy cow/goat distribution	"	332	310	93	170	167	98	-	-	-	110	110	100
Improved grass seeds distribution	Qt.	25	25	100	17	17	100	25	25	100	25	25	100
Legume seeds distribution	"	95	95	100	45	40	88.9	45	40	88.9	40	40	100
Distribution of local grass seeds	"	15	21	140	10	10	100	10	10	100	10	10	100
Forage development	"	615	629	102	313	295	94	355	315	88.7	-	-	-

Source: Project Field Office

Natural Resource Conservation

The REST projects aim at improving household food security in drought-prone and food-deficit woredas through interventions leading to the preservation and sustainable utilization of the natural resource base. Conservation activities include: farmland terracing. hillside terracing, gully stabilization. seedling production and planting, area enclosures, training, and others. It is not the diversity of conservation activities that is striking at REST Title II projects, but the size or the extent of each activity. It is relatively big. For example, in the project life the combined area enclosed in the Ahferom, Dega Temben and Mereb Leke projects was 19,664 ha., considerably larger than area enclosed in the rest of Title II projects. Empirical observations suggest that the potential demand for area enclosure is vast in all the project areas. However, based on survey results especially discussions with farmers, it can be asserted that community-driven demand for enclosure is bigger in Tigray project areas than in others.

Quantitative outputs compared to plan have been very satisfactory with all major conservation and reforestation activities as shown below by project over the period 1997/98 – 2000/01. (Table 3.18 and 3.19)

Table 3.18: Outputs of REST Soil and Water Conservation Activities in the Period 1997/98 – 2000/01

Description of Activities	Unit	Ahferom			Doga Temben			Mereb Leke			Grand total		
		Plan	Actual	%	Plan	Actual	%	Plan	Actual	%	Plan	Actual	%
1. Hillside Terrace	Km	49.2	464	94.3	295	294.2	99.7	606	540.3	89.2	950.2	880.9	92.7
2. Communal Planting	No.	637,000	633,292	99.4	1,012,500	1,061,672	104.9	900,000	813,111	90.3	2,549,500	2,508,075	98.4
3. Homestead "	"	876,690	803,504	91.4	679,500	650,100	95.7	-	-	-	1,556,190	1,453,604	93.4
4. Area enclosure	Ha.	3,827	3,873	101.2	13,046	14,696	112.6	-	-	-	17,723	19,664	110.0
5. Stone bund	Km.	404	401.6	99.4	465	410	88.2	504	133.5	26.5	1,373	945.1	68.8
6. Soil bund	"	-	-	-	35	-	-	-	-	-	35	0	0
7. Check dam	"	76	74.9	98.5	50	50.2	100.4	70	60.4	86.3	196	185.5	94.6
8. Micro basin	No.	54,000	84,909	157.2	-	-	-	50,000	-	-	104,000	84,909	81.6
9. Stone faced trench	Km.	125	129.5	103.6	346	355.1	102.6	150	-	-	621	632.6	101.8
10. Trench bund	"	-	-	-	-	-	-	101	94	93.1	101	94	93.1
11. Private plantation	"	-	-	-	-	-	-	599,000	668,688	113.2	599,00	668,688	113.2

Source: Project field office

Table 3.19: Soil and Water Conservation in Central Tigray Zone

	Percent of Plan Achieved			Total
	Dega Tembien	Adi Ahferom	Mereb Leke	
1 Hillside terracing	100	94	89	93
2. Tree planting (communal)	105	99	90	98
3. Tree planting (individual)	96	91	-	93
4. Area enclosure	113	101	129	110
5. Stone bund	88	99	26	69
6. Soil bund	-	-	-	-
7. Trenches and checkdams	100	98	86	95
8. Micro basin	-	157	-	-
9. Stone-faced bund	103	104	99	102

NB: 1. Figures are rounded off to the next whole number
2. – means there was no activity
Source: Project Field Office

Stone-faced terraces are among the most commonly practiced conservation activities. The more widely applied conservation measures in order of importance are: stone-faced terrace, stone bund, soil bund and hillside terrace. It is observed that the measures are appropriate taking into account the objective conditions prevailing in the project communities.

Alongside the physical conservation measures, a lot of biological conservation has been going on in the four Title II projects in the Central Zone. The household survey that the evaluation carried out reveals that 70% of the sampled households have planted trees. The survey results show that awareness is high about the need for soil and water conservation; there has been active community participation in the projects' conservation programs; and women participation has been encouraging (Table 3.20 below for selected survey results).

Table 3.20: Selected Conservation-Related Survey Results in the REST Projects

(Percent)

Characteristics	REST Title II Projects			
	Were Leke	Mereb Leke	Adi Ahferom	Dega Tembien
Beneficiaries who recognize that soil erosion-caused degradation is a problem	94	96	81	99
Beneficiaries who say they have had active individual and community participation in the project-promoted conservation programs	86	88	90	92
Beneficiaries who say they planted trees with support provided by the project (technical assistance, seedlings, etc.)	63	38	77	95
Beneficiaries who report the presence of an area enclosure for the purpose of land rehabilitation	94	88	93	91
Beneficiaries who say they are getting grass for their livestock from enclosed areas through the cut and carry system	82	52	79	91
Beneficiaries who say they collect fuel wood (dried leaves and wood) in the enclosures	3	4	1	69
Beneficiaries who report active women participation in the conservation programs	92	91	89	94

Source: Project Field Office

The figures demonstrate:

- The level of awareness of the beneficiaries about soil erosion being a cause for loss of production potential of land is high in all project woredas. This probably is the reason for the demand-driven area enclosure and on-farm conservation that are evident among REST Title II Projects.

- Similarly, individual and community participation in the project's conservation activities are remarkable (86 – 92%). Active and seemingly authentic participation seems to prevail.

- Except in Mereb Leke where project-supported tree planting is low (38%), the majority of beneficiaries (60%) in other weredas reported practicing tree planting.

- Percent of beneficiaries who agree that area enclosures help in rehabilitating degraded areas is over 88% in the four project weredas, another indication of desired community perception about conservation-based development.

- The majority (52 – 91%) of the respondents said that they use grass from enclosed areas through cut and carry. As more access is gained to using enclosed areas motivation would be greater for new areas to come under protection. Beneficiaries who responded that they use wood from enclosure areas is low in all weredas except in Dega Tembien, where 69% of the beneficiaries do use wood and leaves from enclosures. This is not unexpected as the process takes time. The fact that there was harvest at all is encouraging.

- Beneficiaries who responded that women actively participated in conservation activities is over 90%. This could be due to extensive FFW-related activities permeating the region.[14]

SCF

Livestock

A total of 66,649 livestock population belonging to some 9,516 households benefit from project water harvesting schemes (8 ponds) in Liben, Borena. The plan was to install hand pumps and cattle troughs to each of these ponds to ensure adequate and clean water supply. The technique envisaged to obtain clean water by natural filtering through seepage is a sound and appropriate one. Only two of the eight pumps purchased were installed. It was not possible to install the rest of the pumps due to financial constraint and soil and topographic limitations.

Besides the ponds, five elas (wells) have been rehabilitated and cattle troughs built in each site to facilitate livestock watering. The rehabilitation of these wells, apart from increasing water supply, reduces time and labor taken to fetch water. According to the beneficiaries 15 – 20 people were required to

[14] REST authorities do not agree that FFW employment is not a strong factor for women participation in the conservation programs. The evaluation team believes FFW is an important but not the only element for active women participation. In most group discussions, it was women who were more vocal about improving the norms currently in force for the FFW activities. They thought the norms do not reflect market rates. The works are exacting, but payment is not commensurate. The evaluation team believes such beneficiary expressions are an important indicator of FFW attraction to women participation in the conservation programs.

draw water prior to the rehabilitation; it is now five to six people. The construction of the watering troughs improved efficiency, and reduced loss of water.

Besides, water development, (excluding pond rehabilitation) performance was well below plan in all activities in Liben Borena Zone. The primary reason given for the poor performance was inadequate and late availability of project fund. Interventions at Filtu were fewer, in fact only two, and performance was better.

Table 3.21: Outputs Compared to Plan for Livestock Activities in the Period 1997/98 – 2000-01 – SCF/USA Projects

Description of Activities	Unit	Liben			Filtu		
		Plan	Actual	%	Plan	Actual	%
Pond rehabilitation	No.	24	8	38	-	-	-
Cattle trough construction	"	43	8	19	-	-	-
Dipping bath rehabilitation	"	4	1	25	-	-	-
Dipping bath construction	"	3	-	-	-	-	-
Vet-post construction	"	7	2	29	-	-	-
Support for livestock vaccination and treatment	Head	888,000	564,098	64	-	-	-
Supply of sprayer	"	200	87	44	-	-	-
Supply of milk processing equipment	"	380	190	50	-	-	-
Vet-scout refresher training	"	55	24	44	-	-	-
Training on milk processing	"	380	300	79	-	-	-
Livestock vaccination	"	-	-	-	60,000	136,988	228
Livestock treatment	"	-	-	-	20,000	20,822	104
Livestock condition survey	Seasons	10	4	40	-	-	-

Source: Project field office

Natural Resource Conservation

Conservation at the SCF projects is restricted to water development, since there were not any. The consciously planned conservation activities. It was planned to construct 24 ponds, 19 wells and 43 troughs. To date eight ponds five wells and seven troughs have been constructed. Initially the locations for the water structures were selected by the Zonal Mining and Water Department. In other words, it was this office that had the mandate to determine priority areas for the construction. The first two PAs were selected on this basis. This procedure was later abandoned and the communities selected the rest of the locations. The criterion for selection was severity of water shortage and not necessarily

environmental considerations. In spite of this, the design and construction of the water systems were environment sensitive.

The Liben project has a nursery at Genale, 30 kms from Negelle. The strategy is to plant about two hectares of wood lot around each pond catchment to protect sediment flowing into ponds. In addition to this, each pond is provided with a silt trap to control sediment entering the pond.

The water development activity undertaken at Jidola is a very good example of how appropriate water harvesting structures could be developed. Proper site selection, design and appropriate construction techniques have been employed. The catchment is well vegetated and the risk for sedimentation is negligible and hence the pond would provide sustained use. Beneficiaries are content with the development in the site. The project has succeeded in showing that harvesting surface water is an efficient method for water development in the area.

World Vision International (WVI)

Crop Production

The projects in Tigray (Tsed Amba, Atsbi Wombera) ran activities related to crop demonstrations, which were meant to influence productivity. These were carried out as planned. Irrigation development involving a river diversion was planned at Tsed Amba. At the time of the visit some 50% of the diversion work was completed, pumps were installed and canals were under construction.

Training of farmers, woreda line officers and project staff were carried out to increase local capacity as per the plan (Table 3.22).

Table 3.22: Crop Production-Related Activities of WVI

Description of Activities	Unit	Year 1997/98 – 2000/01					
		Tseade Amba			Atsbi Wembera		
		Plan	Actual	%	Plan	Actual	%
Irrigation							
▪ Diversion canal construction	Km.	2	1	50.0			
▪ Pumps					2	2	100
▪ Dam construction•					1	1	100
Field crop demonstration	"	2	1	50.00	4	1	25
Horticultural crop demonstration	Kg/site	261	219	83.9	8	6	75
Agronomy practices demonstration	No.	1	1	100			
Training							
▪ -Project staff	No.	5	3	60			
▪ Woreda staff	No.	72	77	106.9			
▪ Farmers	No.	2405	2116	88.0			

Description of Activities	Unit	Year 1997/98 – 2000/01					
		Adama			Kersa-Kondaliti		
		Plan	Actual	%	Plan	Actual	%
Cereal crop demonstration	No.				176	136	77.3
Enset seedling supply	No.				7500	3951	52.7
Vegetable seed supply	Kg.				30	30	100
Sweet potato & cassava cutting	No.				14000	12000	85.7
Coffee & fruit seedling supply	No.				20,000	11,500	57.5
Training							
▪ Project staff	No.	2	3	150	-	-	-
▪ Woreda staff	No.	20	34	170	90	91	101.1
▪ Farmers	No.	1599	1748	109.3	234	399	170.5

Source: Project field office

• Under construction

The projects in the Oromia Region (Adama & Kersa Kondaliti) were engaged in the provision of seedling of enset, sweet potato and cassava to improve food availability. Since these root and tuber crops are high yielding and relatively more drought-tolerant, compared to cereals, it is considered a step in the right direction to diversify coping strategies. In Adama, crop production-related activity was limited to training of farmers and project staff assisting farmers.

At Badawacho Woreda (SNNPR) income diversification and crop-related project activities included seedling supply of cash crops (coffee and fruit) and food crops (enset, sweet potato). Irrigation development work is underway but going very slowly. Project performance was adequate.

Training of farmers, staffs of line offices and relevant project staff went according to plan.

Livestock

Among the seven Title II projects under WVI/E only three have had some form of livestock-related interventions, albeit, very limited in scope. Performance was satisfactory where there have been activities, except pullets and cockerel distribution in Kersa Kondaliti (Table 3.23).

The household survey this evaluation has carried out reveals that over 65 percent of rural households in Adama produce honey using the traditional methods. Yield is low and so is income. Household food security in the woreda is still not good. Yet, the project did not have any activity in this respect. It could be cost-effective to improve access to food.

Table 3.23: Outputs of WVI/E Livestock Activities in the Period 1997/98 – 2000/01

Description of Activities	Unit	Atwomberta			Tsaedaemba			Kersa Kondaliti		
		Plan	Actual	%	Plan	Actual	%	Plan	Actual	%
Beehive demonstration	Site	6	6	100	-	-	-	-	-	-
Forage multiplication	"	3	3	100	-	-	-	-	-	-
Training on beekeeping	No.	388	334	86	-	-	-	-	-	-
Pullets and cockerel provision	"	-	-	-	-	-	-	1200	806	67
Provision of honey extractor	"	-	-	-	-	-	-	1	1	100

Source: Project field office

Natural Resources Conservation

The major activity in natural resource base maintenance in "Tsede Amba and Atsbi Womberta Woredas is hillside terracing. Achievement was very low compared to the plan. Trench bunding is done above beyond the plan in the two wereads (> 100%). However, trench bunding another major conservation activity, output surpassed the target. Still another major activity was tree seedling production where achievement was slightly bigger than one half of the target.

Total seedlings raised in three woredas (Adama, Badawacho and Kersa Kondaliti) was over 10 million out of which only 1.4 million was distributed. The difference must have been seedlings distributed but not reported in Kersa Kondaliti, which had nearly 60% of total seedling production.

Table 3.24: Outputs of WVI/E Soil and Water Conservation Activities in the Period 1997/98 – 2000/01

Description of Activities	Unit	Tsaede Tseade Amba			Atshi Womberta			Humbo and Soddo			Total		
		Plan	Actual	%	Plan	Actual	%	Plan	Actual	%	Plan	Actual	%
1. Check dam construction	km	23	4.04	17.6	-	-	-	20	32.6	170	43	36.6	85
2. Trench bund	"	1540	1662	107.9	1852	2316.6	125	-	-		3392	3978.6	117
3. Hillside terrace	"	575	159.3	27.7	538	269.1	50	25	5	20	1138	433.4	38
4. Gabbion retaining wall construction	M^3	1920	2927	152.4	1124	-	-	-	-	-	3044	2924	96
5. Training in soil conservation	No.	-	-	-	-	-	-	224	221	98.7	224	221	98.7
6. Training in Agro-forestry	No.	-	-	-	-	-	-	208	127	61.1	208	127	61.1
7. Soil bund	Km.	-	-	-	-	-	-	269	167.5	62.3	269	167.5	62.3
8. Pitting	No.	-	-	-	-	-	-	1,068,000	378,668	35.4	1,068,000	378,668	35.4
9. Seedling planting	"	-	-	-	-	-	-	1,068,000	218,206	20.4	1,068,000	218,206	20.4
10. Fanyajuu	Km.	-	-	-	-	-	-	230	155.1	67.4	230	155.1	67.4

Description of Activities	Unit	Adama			Badawacho			Kersakondaliti			Total		
		Plan	Actual	%	Plan	Actual	%	Plan	Actual	%	Plan	Actual	%
1. Seedling raising	No.	2,470,000	1,404,431	56.8	1,876,000	1,351,660	72.1	6,000,000	3,220,000	53.7	10,346,000	5,976,091	57.7
2. Seedling distribution	"	2,133,800	1,404,500	65.8	-	-	-	-	-	-	2,133,800	1,404,500	65.8
3. Checkdam construction	Km.	52	29.5	56.7	105	90.7	86.4	40	43.7	109.3	197	163.9	83
4. Cutoff drain construction	"	38	15.4	40.5	66	148.5	225	66	42.3	64.1	170	206.3	121
5. Soil bund construction	"	626	162.1	25.9	-	-	-	-	-	-	626	162.1	25.9
6. Fanyajuu	"	372	152.8	41.1	220	170.4	77.5	283	36.3	12.8	875	359.5	41
7. Stone bund construction	"	67	67	100	-	-	-	-	-	-	67	67	100
8. Trench bund	"	15	24.1	161.0	796	848.2	106.6	-	-	-	811	872.3	107
9. Hillside terracing	No.	55.7	188.2	337.9	-	-	-	-	-	-	55.7	188.2	337.9
10. Microbasin establishment		53,750	67,340	125.3	790,400	1,013,300	128.2	-	-	-	844,150	1,080,640	128

Source: Project field Office

Soil bund is the most commonly practiced conservation activity followed by stone faced terrace in Atsbi Wembera, Lalay Tsed Amba, Kersa Kondality and Adama. It is considered appropriate under the circumstance.

In Sodo Zuria and Humbo land degradation as a result of erosion and nutrient mining is a serious problem of agricultural production. Livestock production in particular is constrained by lack of grazing land. Land holding is about 0.1 – 0.25 ha owing to high population density (over 600 persons per square kilometer). Therefore, the overwhelming majority of the population in the area is food insecure. Moreover, the prevailing climatic irregularities cause precarious conditions for agricultural production. In some years rains fail, still in some there is unexpected heavy rain that causes flood and hail storm that devastates production. For instance in the current fiscal year (2000 – 2001) there was a hail storm incidence, which caused a considerable crop failure.

Cultivating of vulnerable areas (steep hillslopes) prompted by population increase leading to cropping marginal areas aggravates degradation in the area. It is observed that up to 80% slopes are cultivated on the escarpments of Mount Damota. A wide-spread clearing of previously protected natural and planted forests on Damota Mountain is a critical issue to be noted in natural resource base maintenance.

This evaluation makes the following additional notes about WVI/E conservation programs:

- The conservation practices are of poor quality, and the techniques applied do not suit the conditions. For example, the application of Fanya juu prevailing in the area regardless of the soil type and rainfall cannot be justified.

- The physical conservation measures the team visited at Ziga Borkoshe were of poor quality, narrowly spaced and improperly laid out and constructed.

- The interventions in natural resources did not consider the land use system while planning. Structural measures not recommended for grasslands have been applied. Constructing of soil bunds on grazing land that has little or no erosion problem was observed.

- The conservation activities often overlap with the farming seasons. The normally accepted season for conservation is the slack period (a period after harvest to the next season of land preparation).

There seems to prevail big community awareness about the seriousness of land degradation and the attendant soil loss, specially in the Tigray project areas (Table 3.25).

Table 3.25: Selected Conservation-Related Survey Results of WVI/E Projects

(Percent)

Characteristics	WVI/E Title II Projects					
	Atsbi Womberta	Lalelay Tse tse	Kersa Kondaltiti	Adama	Soddo Zuria	Humbo
Beneficiaries who recognize that soil erosion-caused degradation is a problem	99	97	66	57	46	47
Beneficiaries who say they have had active individual and community participation in the project-promoted conservation programs	92	99	47	43	17	30
Beneficiaries who say they planted trees with support provided by the project (technical assistance, seedlings, etc.)	84	85	39	16	21	22
Beneficiaries who report the presence of an area closure for the purpose of land rehabilitation	65	62	3	32	8	10
Beneficiaries who say they are getting grass for their livestock from enclosed areas through the cut and carry system	79	65	-	86	42	60
Beneficiaries who say they collect fuel wood (dried leaves and wood) in the enclosures	0.91	-	-	22	27	-
Beneficiaries who report active women participation in the conservation programs	97	99	22	32	8	2

Source: Project Field Offices

The Table demonstrates:

- It is only 16% of the respondents who say they planted trees with the project support in Adama and equally low figures of 21% and 23% in Sodo Zuria and Humbo projects, respectively. Yet, WVI/E had a respectable level of involvement in tree seedling production and distribution. It is hard to explain the lack of correspondence. It perhaps tells the existence of mis-direction of seedlings or even perhaps low survival rate.

- Figures seem to have a regional dimension, low in SNNP and Oromiya and high in Tigray. While the latter is understandable (strong regional government drive for natural resources rehabilitation), the low response in the South would mean the opposite. But the problem (degradation) is also profound in the South and thus a possible challenge area for future projects.

3.2.2 Health and Water Outputs

Seven of the eight cooperating sponsors namely CARE, CRS, EOC/DICAC, FHI, REST, SCF/USA and WVI/E have health components. The majority focus on water supply and health education, on issues like nutrition, hygiene and sanitation including water handling. CRS, EOC/DICAC, SCF/USA and WVI/E conduct TBA and CHA training. Some have been engaged in health care facility provision. Only two CSs, FHI and SCF/USA are involved in some family planning efforts. A summary of CS project health related activities are presented in Table 3.26.

Table 3.26: DAP/Title II Health Interventions

Sites	CSs	Objectives	Activities
E/Shoa, East & W/Hararghe	CARE	• Improved Health and Nutrition • Improved access to Health services • Improved water supply • Hygiene and sanitation education	• Develop springs and wells, ground catchment • Nutrition education and Vit. A distribution • Education on water usage, waste disposal • Utilization of latrines, fuel saving stoves construction • Food processing, preservation and preparation
E/Hararghe, E/shoa, Gurage, Harari E/Tigray and Dire Dawa	CRS	• Sub-Goal 2=improved utilization of food by vulnerable groups • Strategic objective 1=Improved health status of children and mothers. • Strategic objective 2= Develop sustainable community structures for promotion of health of women and children	• Health education including training CHAs and TBAS • Food supplementation <2, pregnant and lactating mothers. • Spring protection and hand-dug wells construction of health posts. • Monthly ration, immunization, ANC, training and counseling
E/Tigray, N/Wollo, S/Wollo, Gurage Sodo	EOC/ DICAC	• Improve health status through improved water supply, health services, consumption of vegetables	• Development of springs; water management training • TBAs training • Education in Hygiene and sanitation • Horticulture development • Health post construction as well as provision of equipment & furniture.
Lay and Tach Gayint, Simada, Guba-Lafto	FHI	• Decrease malnutrition including micronutrient deficiency in children as well as pregnant and lactating mothers. • Increase accessibility of RH information and services. • Increase immunization coverage • Increase availability and use of potable water and proper sanitation	• Start weaning at 4 months, Vit. A capsule distribution • FP education and CBD of contraceptives, immunization. • Increase (P) using potable water • Increase quantity of water used per HH • Increase availability and use of sanitation facilities
Central Tigray, East Tigray	REST	• Increased access to potable water supply to alleviate the domestic work burden of rural women, reduce incidence of water-borne diseases	• Develop springs • Hand-Dug shallow wells • Drilling of boreholes
Wolayita Sodo, East Tigray, East Shoa, South Shoa	WVI/E	• All health activities limited to raising awareness through training in Kilte-Awlalo • Increase access to potable water	• Borehole and pond construction, spring development, roof catchment • Training of CHAs and TBAs in nutrition sanitation water management • Awareness raising in AIDs and other STDS as well as FP. • Demonstration of latrine
Liben/Borena, Filtu/Somalia	SCF/ USA	• Improved household health and nutrition status • Increased water supply and improved water quality • Increase availability of health services	• Supplementary feeding and nutrition education • EPI and Vit. A supplements • FP in collaboration with FGAE training of TBAs in MCH • Construction of health posts • Rehabilitation of ponds with separate access for humans and animals • Construction of birka, training in water point management, construction of a health station at Filtu

Source: Project Site Offices, June 2001

Projects' performance in respect to health interventions for the period 1997/98 – 2000/01 are presented in Table 3.27 and 3.28 below by CS. Using the last column of the table, rating of CS performance is reviewed using a level of 80% to represent a satisfactory performance.

Based on this, the performance of CRS and REST had outputs exceeding the cutoff point for all activities they have been engaged in. Although inter-CS variations are significant, under-performance is evident with the rest of the CS.

The obvious question is why did this happen? There are common and CS – specific factors accounting for performing below plans. The first and perhaps the most important cause was inadequate and late provision of fund. This was a cause for frustration of project personnel and poor relation between project holders and local governments including line agencies. Moreover, prices of monetized commodities fluctuate, mostly downward, resulting in imbalance between planned and available fund. The donor response in the event of unfavorable balance is to reduce the level of activities, which could lead to program instability and reduced chance to sustain programs.

Problems stemming from monetization cut across sectors benefiting from the Title II Program. It is mentioned under the health section because it is the health programs that have relatively been more negatively affected, since cash component tends to be larger in the health interventions. Another common factor and a likely source for poor performance has been the role of communities in all aspects of projects, that is, community participation in project planning and management. The community participation is taken here in the context of beneficiary involvement in decision making. Evidences obtained from focus group discussions, interviews with key informants and government officials suggest that community participation to date leaves much to be desired with all CSs, although there are variations among the CSs (in the extent of the problem). Field observations also suggest that objective conditions prevailing in the project communities would not allow authentic community participation (decision making) because community-based organizations are lacking and where available are weak. Provisions in the DAP for capacity building at the community level could not be considered commensurate with the degree of the problem.

Among the CS – specific factors that have undermined project performance is the lack of good relationship between the project holders and government offices that is based on shared and common goal and objective. The tendency of discussing jointly implementation problems to seek agreed solutions has been lacking as observed during field visits. It is also observed that where the relation is more positive, for example among CRS and REST, projects performance was better in health and other sectors as well.

Other problems like inadequate backstopping site project staffs, poor supervision, and inadequate health staff could also be cited as reasons for poor performance.

Table 3.27: Major Health Outputs of by CS

CS	Activities	Unit	1997/98			1998/99			1999/00			2000/01			Cumulative		
			Plan	Actual	%	Plan	Actual	%	Plan	Actual	%	Plan	Actual	%	Plan	Actual	%
CARE	Clinic construction	"	3	2	67										3	2	67
	Health post construction	"															
	Latrine construction	"															
	Vegetable gardening	"	570	268	47	3138	690	22	110	294	267	408	229	56	3826	1481	39
CRS	Improved stoves	"							0	2	-	15	31	206	15	33	220
	Latrine construction	"				1	1	100	15	17	113	0	1	113	16	19	119
	Home visits	"				104	104	100	103	103	100	80	80	100	287	287	100
	Food supplement (M)	Prns.				1325	1325	100	1007	1007	100	807	807	100	3139	3139	100
	Food supplement (C)	"	3000	2996	100	4119	3427	83	3897	3334	86	3509	2733	78	14523	12490	86
	Health education	"	1500	1592	106	2825	2505	87	2507	2257	90	2307	1945	84	9139	8299	91
	Growth monitoring		1500	1404	94	1500	1123	75	1500	1187	79	1500	1056	72	6000	4800	80
EOC/ DICAC	Health post construction	"				2	2	100	3	3	100	-	-	-	5	5	100
	Vegetable plots					160	60	38	380	65	17	100	123	123	640	248	39
FHI	FP services	Persons				1200	283	24	2130	4532	213	3492	3041	87	6822	7856	115
	Micronutrient Supp.	"				11077	6192	59	14612	14265	98				25689	10467	41
	Latrine construction	No				3	4	133	45	46	102	22	0		70	50	71
	Health post construction	"				4	3	75	3	3	100	3	0		10	6	60
SCF	EPI/children	Persons	1033	584	57	1033	1420	137	1033	2207	214	1033	2207	214	4132	6418	155
	EPI/mothers	"	2000	312	16	2000	790	40	1000	1228	123	1000	1228	123	6000	3558	59
	TBA Training	"				35	35	100				35	35	100	70	70	100
	FP IEC	Material	1000	800	80							2000	3000	150	3000	3800	126
	Health Post	No							2	2	100						
WVI/E	Latrine const. Demon	"				1	1	100							2	2	100

Source: Project Field Offices

Table 3.28: Major Water Outputs by CS

CS	Activities	Unit	1997/98			1998/99			1999/00			2000/01			Cummulative		
			Plan	Actual	%	Plan	Actual	%	Plan	Actual	%	Plan	Actual	%	Plan	Actual	%
CARE	Spring Development	No.	22	18.5	84	26	11	42	9	3	33	10	6	60	67	38.5	57
	Hand-dug well	"															
	Roof catchments	"	4	2.2	55	7	0	0							11	2.2	20
	Pond construction	"	7	5	71	15	2	13							22	7	32
	Cistern construction	"	13	9	69	11	5	45	6	5	83	6	6	100	36	25	69
	Training (technicians)	"				59	65	110	0	16	-	80	86	108	139	167	120
CRS	Spring Development	No.	2	1	50	3	2	67	5	5	100	5	5	100	15	13	87
	Hand-dug wells		1	1	100	5	4	80	10	7	70	10	9	90	26	21	81
	Roof catchement		1	1	100	2	2	100	2	1	50				5	4	80
EOC/ DICAC	Spring and water	"				2	2	100	5	6	120	3	-		10	8	80
FHI	Spring Development	No	4	3	75	15	11	67	17	16	94	15	19	126	51	49	96
	Hand-dug well	"	1	2	200	13	5	38							14	7	50
	Training	"				128	119	93	217	251	116	41	3	7	386	373	97
REST	Spring Development	No.	24	24	100	19	15	79	18	15	83				71	64	90
	Hand-dug well	"	48	48	100	56	40	71	39	39	100				143	127	89
	Bore-hole	"	8	8	100	8	8	100							16	16	100
	Training	Sess.							20	20	100				20	20	100
SCF/ USA	Pond construction	No.				2	1	50	1	1	100	2	1	50	5	3	60
	Hand-dug well	"				2	1	50	1	1	100	2	1	50	5	3	60
	Birka Development	"				1	1	100	2	2	100	2	2	100	5	5	100
WVI/E	Pond construction	No	5	5	100	4	6	150	10	9	90				19	20	105
	Roof catchments	"							1	1	100				2	2	100
	Bore-holes	No.				13	7	54	7	7	100	5	-		25	14	56
	Spring Development	"							7	8	114	2	1	50	9	9	100
	Hand-dug well	"							7	1	14	2	3	150	9	4	44
	Training (water Management)	Sess.				2	2	100							2	2	100

Source: Project Field Offices

3.2.3 Physical Infrastructure Outputs

The aggregate plan (all CS) was to construct 770 km of rural road. Actually, 1052 km (36.6% higher) was constructed in the period. The situation was similar with maintenance. The plan was to do 550 km of road maintenance, but performance was higher by about 20% (Table 3.29). The table indicates that there was a considerable inter-CS variation. Most of the increase came from REST projects. This could be due to considerable demand for such roads arising from relatively large engagement in land reclamation by all REST projects.

Road density is low in most project areas even by Ethiopian standards. This immensely constrains projects' performance, especially as regards conservation programs and income generation initiatives. Moreover, a considerable amount of food aid commodities can be used via FFW without affecting local food production in all project areas. There is a huge demand for FFW employment. All of this suggests that there is a strong rationale to increase the scope of road program in the upcoming DAP.

Table 3.29 : Outputs of Physical and Social Infrastructures by CS for the Period 1997/98 - 2000/01

	Unit	Africare			CARE			CRS			EOC DICAC		
		Plan	Actual	%	Plan	Actual	%	Plan	Actual	%	Plan	Actual	%
1. Access Road													
- Road surveying	Km	13	9.7	74.6	-	-	-	-	-	-	10	36	360
- Road design	Km	13	9.7	74.6	-	-	-	-	-	-	-	-	-
- New road construction	Km	-	-		54	67.65	125.3	67.65	90.511	110.7	167	124.7	74.6
- Road maintenance	Km	-	-	-	58	53.11	91.6	41	67.124	108.0	38	27.8	73.2
- Dry weather Road construction	Km	-	-		47	35.6	75.7	-	-	-	-	-	-
- Culvert /Ford	No.	-	-	-	12	8	66.7	-	-	-	-	-	-
- Bridge		-	-	-	4	4	100	-	-	-	6	0	0
- Wooden bridge construction													
- Concrete bridge construction													
2. School construction		-	-	-	4	2	50.0	-	-	-	-	-	-
3. School maintenance		-	-	-	2	0	0	-	-	-	-	-	-

Source: Project Field Office

Table 3.29 Cont'd ...

	Unit	FHI			REST			SCF/USA			WVI		
		Plan	Actual	%	Plan	Actual	%	Plan	Actual	%	Plan	Actual	%
1. Access Road													
- Road surveying	Km	83	21.1	25	-	-	-	-	-	-	-	-	-
- Road design	Km	-	-	-	-	-	-	-	-	-	-	-	-
- New road construction	Km	105	59.1	56	278	580	209	-	-	-	99	130	132
- Road maintenance	Km	85	82.1	97	273	433	159	-	-	-	55.0	16.1	29
- Dry weather Road construction	Km	-	-	-	-	-	-	-	-	-	-	-	-
- Culvert /Ford	No.	6	5	83	-	-	-	-	-	-	-	-	-
- Bridge		-	-	-	-	-	-	-	-	-	-	-	-
- Wooden bridge construction											12	12	100
- Concrete bridge construction											1	1	100
2. School construction		-	-	-	-	-	-	-	-	-	-	-	-
3. School maintenance		20	16	80	-	-	-	-	-	-	-	-	-

Source: Project Field Offices

CHAPTER 3
SECTION 2
INTERMEDIATE RESULTS (EFFECTS)

3.3 Effects

3.3.1 Intermediate Results: Aggregate Picture

Intermediate Result One – Increased Agricultural Production (IR1)

Evaluation results on IR1 indicators are cast against baseline values in Table 3.30 below by CS. Cereals yield per unit of area rose in 2000 in all CS. These reasons might have accounted for the increase.

- Rainfall in 2000 was favorable in amount and distribution in most parts of the country, and grain production and yield were one of the highest recorded in recent times.
- Contrary to 2000 rainfall was poor in 1997, the base year, and production and yield were poor too.
- Title II soil and water conservation measures, although such measures normally take time before impacting yield, might have had an influence.

The number of project households who used fertilizer in 2000 was slightly higher (26%) than in 1997. There are no evidences to suggest that the projects had any contribution to the increase. The change is mostly attributed to the government aggressive promotion of the use of improved agricultural inputs such as fertilizer and improved seeds. The percentage of households who used improved seeds in 2000 (12.5%) also showed a modest increase compared to 1997 (5.9%). The increase is again mostly due to improved extension services and not because of the Title II interventions.

About 48% of the surveyed households reported that they practiced improved farming techniques, up from 35% in 1997. Improved farming practices referred to in these cases include crop rotation, inter-cropping, soil conservation, compost use, etc. Title II projects promote these methods in one form or another and they must have had contributed to the increase. It cannot be assumed that the projects are the only factor for the increase since the government extension services, also extended to Title II farmers, focus on same practices.

Area under irrigation is another IR1 indicator. The survey results show that Title II projects increased irrigated area from 60.4 ha in 1997 to 398.4 ha in mid 2000. In fact, when schemes that were nearing completion 90 operational area, over 600 ha. will be brought under irrigation with significant implications for food security of the benefiting households.

This report wishes to make a few observations in respect to the use of irrigation in command areas already in operation as well as the parts that will be operational by the finalization of the first DAP cycle.

There are several small-scale irrigation schemes completed and operating with the support of Title II program. The combined capacity is to irrigate over 600 ha. About 2400 households are expected to directly benefit from the schemes. Rainfall irregularity and

shortage are perhaps the two most important food security problems in most Title II project areas. It is for this reason that development of small, farmers-managed and labor-intensive irrigation schemes were underscored in DAP wherever such opportunities existed. Thus, the schemes were included in the DAP not based on any prior assessment of technical, financial, or economic feasibility or on any systematic consideration of crops to be grown. Neither was much attention paid to crop programs (market or family consumption). In cases where production is for the market, availability of market for the products was taken for granted.

It could be for this reason that either during or after the construction of the schemes the attention of project management is often directed to technical operations of the schemes such as organizing users into different task-oriented committees and training of farmers in water management. While appreciating this and noting that these technical aspects are critically important to the viability of the schemes, it is observed that the following equally important considerations are often side-lined.

- Irrigation is a technological input. It should increase productivity of whatever crop raised. This cannot, however, happen unless irrigation is complemented with other inputs such as improved cultural practices, chemical fertilizers, improved seeds, and other innovations that are appropriate to conditions prevailing in the particular site. The evaluation team observed farmers growing cereals under irrigation using mostly traditional methods, for example, broadcasting maize instead of row planting, using local seed of maize, use of zigzagged furrows, poor crop protection, poor drainage, etc. It is the impression that there is a need to develop an 'input package' with the object of optimizing return to the investment in irrigation. The projects need to develop the package in consultation with relevant line agencies. The package of inputs could vary from project to project depending upon the objective conditions prevailing in the particular project area. For example, assuming that the main irrigated crop is maize, the input package should involve row planning, 25 – 30 kg/ha of seeding rate at the minimum. This sort of thinking has not been evident.

- Irrigation widens usability of land and puts to task farmers to make a choice or choices among a wide range of possibilities. Irrigation increases economic options for farmers. Should farmers carry on using the pre-irrigation crop program? Or is a change in crop mix in order? Should priority be given to the staples or cash crops? Is it possible to introduce new cash crops? Because there is no community level capacity to analyze such options, this becomes the task of project management. Yet evidences are lacking that such elements of irrigation are given due attention.

- Irrigation tends to increase demand for being more market oriented. This is particularly true to those schemes where production is mostly or exclusively for the market. Market becomes even more critical in the event where products are high-priced, perishable and bulky to transport like vegetables. It is again the impression of this evaluation that market has been taken, in most cases, for granted. In other words, empirical observations suggest that it has not been given the attention it deserves.

Table 3.30: Results on IR1 indicators

IR# 1. Increased agricultural production	Unit	Africare		CARE		CRS		EOC		FHI		REST		SCF		WVI		All CS	
		1997	2001	1997	2001	1997	2001	1997	2001	1997	2001	1997	2001	1997	2001	1997	2001	1997	2001
1. Yield																			
- Barley	Kg/ha		NA	NA	532	690.9	942.7	390.25	923	386	885	532	668.8	NA	872.7	201.3	747.1	366.74	796
- Wheat			NA	NA	867	630	825.7	437.7	884	416	923.9	532	847.3	NA	584	222.4	542	447.62	782
- Teff			766.6	5.53	612.7	636	651.6	322.5	674.2	263.7	793.4	532	797	NA	693	165	591.5	320.8	698
- Maize			581.5	610	601.9	332.7	988.6	274.25	758.7	206	946.3	532	998.6	NA	322.3	238	647.8	365.5	836.5
- Sorghum			512.2	855	639.6	354.5	1051	248.7	628.8	-	833.7	532	788.8	NA	148.4	72	743.4	412.4	763.7
2. Overall grain production	Kg/ha	NA	535	NA	468	NA	488	NA	567	NA	416	NA	428	NA	659[a]	NA	480	NA	484
3. % H.H using fertilizers	%	NA	1.3	16.5	31.6	29.8	25.5	12.25	22	22.6	6.7	00	42.5	00	16.1	40.7	40.1	21	26.6
4. % H.H using improved seeds	%	NA	0.6	9.2	22.9	3	7.9	2.9	7.3	17.8	0.82	00	12.2	00	1.65	7.2	21.5	5.9	12.5
5. % H.H using improved agriculture practice	%	NA	21.1	38.5	44.2	NA	44.1	53.4	47.8	29	53.3	NA	44.4	NA	16.7	21.3	83.1	35	48.0
6. Area irrigated	Ha	NA	-	-	145.8	-	3.3	55.3	299	5.1	9.7	NA	1.75	NA	0.75	-	8.4	60.4	398.4

a) The figure seems on the high side. This is due to (1) maize, a relatively high yielding crop, dominated crop program in the areas and (2) area under crop/hh was relatively large.

Source: 1997 baseline survey and 2001 evaluation

Intermediate Result Two – Increased Household Income (IR2)

Table 3.31 below compares three of the five IR2 indicators selected to measure results for 1997 and 2000. The table demonstrates:

1. At the national or Title II level, livestock ownership declined from 2.66 TLU/hh in 1997 to 2.17 TLU/hh in 2000. It fell in all CS's but SCF. The main reasons were lack of feed, poor weather, changing land use due to conservation measures like enclosures and overgrazing. These have been accountable to the persisting nature of feed shortage in most project areas. In the PRA seasons farmers thought that health problems were a major factor for the decline. The declining livestock ownership could well be an indicator of stagnant or retrogressive well-being in the project areas.

2. Physical asset ownership is another indictor. This report selected seven types of assets among over 16 different assets on which data was collected to observe whether households owned more or less physical assets (excluding land, livestock and trees) in 2000 than in the base year. The assets are (1) plough and cart representing the group of assets used for production; (2) table, wooden-framed beds and blanket representing the group assets that are considered most basic; and (3) radio and watch representing the group of assets considered non-essential. Table 3.31 shows that in terms of these assets, ownership deteriorated in 2000 on aggregate level, another possible indication that there has not been any reduction on the level of poverty.

3. Percentage of households that added luxury food items is another indictor. This report took the percent of households reporting no consumption whatsoever of items considered luxury as the proxy to monitor progress. As can be observed in the table, the results between the two years are very close. There is though a slight improvement in 2001, nearly 68% of the respondents said they did not add luxury food items against about 70% in 1997.

4. The other two indictors of IR2 on which there are no reliable data are income from cash crop and average saving from credit society. Cash crop has not been properly defined and data collected in 1997 and 2001 are hard to tell whether they are referring to the same thing or source. Credit societies never materialized, it seems, because of the non-implementation of credit components of Title II due to the micro-finance regulations.

Table 3.31: Values on three of the five indicators of intermediate result two

Indicators	Unit	Africare		mCARE		CRS		EOC		FHI		REST		SCF		WVI		All CS	
		1997	2001	1997	2001	1997	2001	1997	2001	1997	2001	1997	2001	1997	2001	1997	2001	1997	2001
1. Change in the number of livestock ownership	TLU	-	-	2.63	1.60	2.77	1.49	2.82	1.94	1.81	1.40	3.98	2.14	2.61	6.09	2.83	1.8	2.66	2.17
2. Physical asset ownership of households:																			
- Production assets:																			
- Plough	No./ha	-	0.62	1.47	0.71	1.06	0.62	0.83	0.72	0.69	0.94	1	0.6	0.12	0.30	0.79	0.78	0.99	0.65
- Cart		-	-	0.01	0.01	0.08	0	0	0.01	0.02	0	0.8	0.01	0.01	0.01	0.02	0.02	0.01	0.05
- Essential assets:																			
- Table		-	0.08	0.03	0.8	0.12	0.08	0	0.03	0.01	0.08	0.02	0.43	0.68	0.35	0.03	0.68	0.08	0.07
- Wooden framed bed			0.01	0.01	0.04	0.07	0.07	0.19	0.17	0.01	0.89	0	0.96	0.35	0.46	0.25	0.79	0.11	0.15
- Blankets			0.17	0.84	0.43	0.39	0.51	0.33	0.30	0.11	0.94	0.46	0.68	0.63	0.43	0.4	0.84	0.54	0.43
- Non-essential assets:																			
- Radio			0.05	0.08	0.07	0.2	0.18	0.04	0.07	0.01	0.02	0.11	0.8	0.33	0.39	0.05	0.07	0.12	0.16
- Watches			0.05	0.11	0.15	0.25	0.15	0.05	0.07	0.02	0.79	0.14	0.83	0.35	0.34	0.13	0.69	0.18	0.17
3. Household that did not add any luxury food items	%	NA	8.0	64.4	62	62.5	62.0	82.2	80.5	98.2	91.8	65.6	61.7	47.3	43.7	72.8	72.5	69.6	67.7

Source: 1997 baseline survey and 2001 evaluation survey

baseline is not same

Intermediate Result Three – Improved Health Status (IR3)

There are seven indicators selected to monitor progress with Title II health and water (domestic use) interventions. Data on six of these are available for observing trends. Information on one indicator, namely, households with vegetable garden for home consumption, is not reliable to report on because there is not in the real sense a plot of whatever size on which vegetable is produced exclusively for home consumption. The indicator should have read, "Households that added vegetables in their crop program", without any further qualification.

Results on the six indicators are presented in Table 3.32 below. The table shows:

- There has been considerable improvement in 2001 over 1997 in the case of diarrhea prevalence, under-weight and water coverage. It is likely that Title II activities such as Vitamin A distribution, MICHA, latrine provision, protected water, FFW and relief assistance have contributed to the improved situation. Communities attribute whatever change to the projects in most sites. Even government offices acknowledge Title II achievement in the health and water areas.
- In two cases, that is, in respect to TTBA-attended deliveries and morbidity no comparison can be made between 1997 and 2001 because there are no baseline data for the former. But the 2001 figures of 40% TTBA – attended deliveries and 20% of household visitation to health facilities favorably compare with nationally available data.
- Title II project areas are relatively more marginalized and poverty is more pronounced. Still, the health indicators are either better than or about the same as the national averages. The Title II results are even more remarkable when seen against the socio-economic realities surrounding the project sites.
- Water coverage in 2000 increased by a reasonable margin since the start of Title II projects. In spite of this, survey data reveal that the amount of water consumed has actually declined in 2000. Evidences are not readily available to explain the reasons. Based on personal experiences, the evaluation team makes two conjectures. The first is that water charges may reduce demand, and households may opt for unsafe sources to meet non-drinking water requirement. Secondly, the survey was made during the rainy season at which time households find protected sources a bit far and try to resort to harvesting rainwater near their homes oblivious of the safety aspect. If the latter is the case, then it means that the future programs have to dwell a lot more on health education. Also if water charge is indeed the cause of water consumption decline, it might imply that authentic participation of the communities was lacking in site selection and operational procedures of the water points developed with Title II support.

Table 3.32: Results on IR3 indicators

Indicators	Unit	Africare		CARE		CRS		EOC		FHI		REST		SCF		WVI		All CS		
		1997	2001	1997	2001	1997	2001	1997	2001	1997	2001	1997	2001	1997	2001	1997	2001	1997	2001	
. Prevalence of diarrhoea occurrence among children 0 - 59 months old	%	NA	NA	13	7.7	14	4.8	8.8	6.2	17.7	4.2	14.2	6.6	24.1	6.7	9	11.9	12.7	5.3	
2. Children under weight	%	"	"	47.7	40.9	41.7	24.2	47.7	50.8	63.9	38.4	57.9	51	33.2	44.9	48.1	37.9	45.4	41.1	
3. Households using protected water source	%	"	"	37.44	30.8	42.32	42.5	50.70	31.9	24.94	26.1	29.79	58.3	35.67	36.1	33.18	60.6	36.3	44.2	14.3
4. Deliveries attended by TTBAs	%	"	"	-	36.7	-	61.8	-	31.6	-	50	-	39.5	-	69.45	-	32.1	NA	40	
5. H.H that visited health posts twice in the last six months	%	"	"	-	27.2	-	21.9	-	18.2	-	17.8	-	25	-	26.35	-	27.6	NA	20.5	
6. Amount of water used	Lt/day /H.H	"	"	44.42	45.8	41.51	34.8	36.29	31.2	32.19	27	39.62	39	55.42	38.5	37.54	34	40.63	35.7	NA

Source: 1997 baseline survey and 2001 evaluation survey

Intermediate Result Four - Natural Resource Based Maintained (IR 4)

Under the Intermediate Result No. 4, namely, **Natural Resource Base Maintained**, three indicators are specified in the DAP: (1) Communal land reclaimed through physical and biological means; (2) soil deposited behind checkdam; and (3) soil deposited behind hillside terrace. There are baseline values for some projects in the case of the first indicator and invariably none for the latter two. Even in the case of this indicator, it is difficult to know the area planted with trees (biological conservation) unless one has information on tree survival rate and planting distance. Such information is not available anywhere. The fact that there are no data on the other indicators should not surprise anyone since it is not practical and realistic to measure soil deposited behind a checkdam or a hillside terrace. The fact that realities that surround these physical soil and moisture conservation measures (type, size, materials used for construction, slope, etc.) are so diverse within a PA let alone among PA's preclude the adoption or use of such indicators. Moreover, the application of the indicators requires special skill further complicating their use. Other indicators such as tree survival rate, vegetation cover attained, native species of trees regenerated through area enclosure, depth of soil trapped inside checkdam by type of checkdam, etc., would have been more pragmatic.

Accordingly, analysis of Intermediate Result No. 4 is limited to qualitative observations. At this point it is pertinent to raise a few points regarding FFW, which is central to the efforts all CS's make to rehabilitate land.

All CS's are engaged in natural resources conservation, some more heavily than others. The main objective is to prevent further degradation and to improve the producing capacity of already degraded land. The strategy is to focus on physical and biological conservation measures. Through Title II support a huge amount of such conservation works has been accomplished (see below for details presented by project and by CS). The conservation works also include construction and maintenance of rural roads. Between 1998 and 2000, the Title II projects constructed 1052 km and maintained 663 km of rural roads. The conservation works and the roads have one important thing in common. They are by and large products or outputs of FFW.

Needless to state that FFW contributed immensely to the improvement of household food security through employment creation. On average it accounted for about 3-4 months food need of the Title II beneficiaries in the year 2000. Although difficult to quantify, FFW programs helped to increase local food production, improved fuelwood supply, facilitated the movement of people and goods, improved surface water supply, and restored lost habitat for wildlife.

More specifically this evaluation would like to make the following four observations on FFW for consideration in future programs:

1) Document review (publications of Grain Market Research Project, 1998, FEWS publications, food monetization studies) and grain and livestock prices observed at the time of evaluation reveal that FFW in Title II project areas has had little or no effect on local food production.

2) More outputs could have been achieved through FFW over the Title II project period had it not been for delayed and reduced delivery of food aid resources. With some CS. FFW resource obtained was 50% or less of the planned amount.

3) In some CS, FFW wage payment was often delayed due to weak project administration. and this has been a cause for poor project-beneficiary and project-local government relations.

4) FFW wage rates have not been reflecting the going wage rates. They have been considerably below labor cost. This reduced FFW contribution to creating assets at the household level. and this in return perpetuated dependency at the household level.

Intermediate Result Five: Emergency Response Capacity Increased (IR5)

This evaluation has observed that almost all Title II projects have been providing support to project woredas on:

- Monitoring food supply situation through seasonal crop assessments
- Grain and livestock price monitoring
- In a few woredas, Title II Program supported the setting up of c-class weather stations.
- All project woredas have a disaster prevention and preparedness plan (availability of a standing committee for the purpose, operating procedures for the committee, linkage mechanisms with higher authorities within the regional organizational structure, etc.)
- In the household survey households were asked whether they receive information on weather, grain and livestock prices. Majority of the respondents receive information from development agents, neighbors and traders. The share of the projects was under one percent in all projects.

3.3.2 Intermediate Results - Africare

IR1

Africare was not covered in the 1997 baseline survey. But Africare has its own benchmark figures from 1999 crop year. The evaluation survey results are compared to these figures.

The 2000 yields of the two major crops-maize and sorghum – were less by 35% and 27%, respectively over the baseline values. The improved maize and sorghum seeds the project supplied were not complemented with chemical fertilizers, most likely accounting for the lack of positive results. Rainfall irregularity was also experienced. Rains started late and this was not good to early planted crops like maize and sorghum.[15]

[15] Africare believes that the soils in the project area do not require chemical fertilizers. There is no scientific evidence in support of the view.

The project reportedly supplied sorghum and maize seeds in 2000. Yet only 0.6% of the surveyed households used any kind of improved seed. The project did not provide chemical fertilizers, yet about 1.3% of sample households used fertilizers. The survey also shows that 21% of the surveyed households used improved cultural practices. This is encouraging because it happens among Agnuak farmers who used to be complete strangers to improved techniques of crop production before the project.

IR2

There are data on livestock ownership, physical asset ownership and luxury food items added for 2001. Similar data are not available for 1997 for comparison. Livestock ownership is very low 0.73 TLU/hh. Anuaks, the Gambellans in Gog, are almost exclusively crop producers, and low livestock ownership is expected.

IR3

Africare did not have direct health interventions.

3.3.3 Intermediate Results - CARE

IR1

Decrease in yields of maize and sorghum in Kurfachele by 48%, and 42% respectively were observed in 2000 over the baseline. In Grawa maize yield was less by about 16% but sorghum yield showed an increase of about 10%. Improved yield situation was observed in Bedeno, where maize and sorghum yield rose by 69% and 97%, respectively (Table 3.33). The table further shows that maize and sorghum in Chiro, Gubakoricho and Kuni significantly.

In Adama crop yields increased in 2000, with some remarkably. For example, teff yield in 2000 increased by about 64% over 1997. Sorghum also showed a higher yield in 2000. In Bosset, yields of teff and sorghum rose by 50% and 54%, respectively in 2000, while in maize yield decreased slightly (Table 3.33)

Per household teff and maize declined by 16% and 42%, respectively.

There are no credible reasons to explain maize and sorghum yield behavior in CARE projects. For example, in Kurfachele more farmers used fertilizers, improved seeds and improved farm management practices in 2000. Yet, productivity of these crops declined. On the other hand, in Bedeno the percentage of farmers using fertilizers, seeds and improved farming practices also increased in 2000 but by less points. Yet, maize and sorghum yields increased significantly. Rainfall was rated better in 2000 than in 1997. This should have resulted in higher crop yields, but it did not. It stands to reason that the explanatory factor could be the responses the surveyed farmers gave. They might have either inflated or deflated results knowingly or unknowingly. The effects of the projects on crop productivity and overall grain production could not be expected to be significant, since there have not been interventions to directly influence yields or overall production.

Table 3.33: IR1 Results of CARE Title II Projects

Intermediate Results	East Hararge						West Hararge						East Shewa			
	Kurrachele		Bedeno		Crawa		Chiro		Guba Koricho		Kuni		Adama		Bosset	
	Base line Value	2000 Achieved	Base line Value	2000 Achieved	Base line Value	2000 Achieved	Base line Value	2000 Achieved	Base line Value	2000 Achieved	Base line Value	2000 Achieved	Base line Value	2000 Achieved	Base line Value	2000 Achieved
Yield of Major Crops (Kg/ha):																
- Barley	-	479	-	681	-	223	-	193	-	400	-	178	-	759	-	866
- Wheat	-	367	-	1510	-	470	-	147	-	-	-	-	-	942	-	1000
- Teff	-	2017	-	1721	-	964	1216	383	1216	-	1216	452	389	640	389	577
- Maize	912	476	912	1538	912	769	1520	311	1520	147	1520	625	569	601	569	651
- Sorghum	720	417	720	1421	720	792	1216	698	1216	571	1216	485	516	919	516	814
Overall Crop Production (Kg/hh):																
- Barley	-	17	-	5	-	2	-	26	-	.5	-	2	-	148	-	7
- Wheat	-	8	-	8	-	4	-	1.5	-	-	-	-	-	164	-	2
- Teff	-	-	-	6	-	3	-	5.8	81	-	81	11	337	284	337	224
- Maize	85.2	56	85.2	310	85.2	86	187	168	187	55	187	180	397	229	397	416
- Sorghum	144.6	745	144.6	96	144.6	71	333	317	333	381	333	68	70	9	70	61
Monitoring Indicators:																
- % HH using fertilizers	-	59.8	-	8.5	-	65.0	18.9	13.2	18.9	4.4	13.9	53.1	40	32.1	40	17.2
- % HH using improved seeds	2.1	57.0	2.1	6.7	2.1	63.3	18.5	7.9	18.5	4.5	18.5	42.2	6	1.4	6	0.3
- % HH using improved Agri. Practices	25.7	55.3	25.7	59.3	25.7	61.0	57.0	27.6	57.0	31.7	57.0	34.5	30	31.7	30	52.8
- Area irrigated (ha)	-	63.72	-	0.4	-	33.70	-	4.8	-	0.5	-	38.6	-	0.25	-	3.51

Source: 1. The source of baseline figures is CARE
2. DSA Agricultural HH Survey Results, 2001
– in 2000 means there have not been enough observation to make use of simple statistics like the mean

IR2

The 1997 and 2001 values on livestock ownership, physical asset ownership and luxury food items added for CARE projects are presented in Table 3.34 below. Notable observations include:

- Livestock ownership increased in Chiro, Grawa and Bosset in 2001 over 1997. In the rest of the projects ownership declined. It is hard to point out the reasons for the increase or decrease. In group discussions farmers seriously contend that livestock number is continuously declining due to feed shortage and rampant livestock diseases. Agricultural offices of local government tend to confirm the farmers' view.

- Ownership of physical assets in terms of number per household changed very little between the two years. This coupled with declining trend of livestock ownership seems to indicate that there was no asset creation at the household level over the project period.

- The situation with luxury food items added is similar to asset ownership; there was no significant change.

Table 3.34: Changes between 1997 and 2001 in Respect to Ownership of Livestock, Physical Asset and Luxury Food Items added for CARE Project

Projects	Livestock ownership (TLU/hh)		Physical asset ownership (No./hh)		Luxury food added (%)	
	1997	2001	1997	2001	1997	2001
(1) East Hararghe						
- Grawa	1.55	2.58	0.28	0.21	42.8	45.4
- Bedeno	1.77	1.59	0.26	0.21	35.06	38.00
- Kurfachelle	1.63	1.28	0.29	0.21	39.04	42.09
(2) West Hararghe						
- Chiro	2.28	2.97	0.47	0.30	27.6	31.75
- Guba Koricha	3.10	2.53	0.42	0.26	30.52	34.79
- Kuni	2.34	1.70	0.50	0.31	44.8	47.2
(3) East Shoa						
- Adama	7.32	6.84	0.33	1.4	30.16	33.17
- Bosset	2.4	3.84	0.5	0.31	29.64	31.01

Source: 1997 baseline survey and 2001 evaluation survey

IR3

All CARE projects that have registered improvements are found in cash crop (coffee and chat) areas. Bosset should have registered an improvement as well with its high income generating irrigation schemes, but this has not happened.

Table 3.35: IR3 Results of the CARE Title II Projects

	Indicators	Unit	Bosset		Adama		Chiro		Guba Koricha		Kuni	
			Base year value	2001	Base year value	2001	Base year value	2001	Base year value	2001	Base year value	2001
HEALTH STATUS IMPROVED Intermediate Result No. 3)	1. Prevalence of diarrhea occurrence	%	-	4.6	-	4.9	-	21.7	-	16.7	-	10.4
	2. Children under weight	%	32.5	60.0	35.4	48.3	38.4	31.9	35.5	38.5	47.1	47.4
	3. Households using protected water sources	%	-	34.7	-	55.8	-	23.1	-	8.6	-	23.4
	4. Deliveries attended by trained TBAs	%	-	35.4	-	37.3	-	40.5	-	5.0	-	39.4
	5. HH that visited health posts twice in the last six months	%	-	21.0	-	35.1	-	39.6	-	25.1	-	29.2
	6. Amount of water used	Lt/day/HH	47.9	43	50.3	55.0	45.9	34	46.4	47	49.3	44
Available baseline data for CARE-ET is at zonal level hence would not serve our purpose, i.e. woreda level												

Table 3.35 continued ...

	Indicators	Unit	Kurfa-chele		Bedeno		Grawa	
			Base year value	2001	Base year value	2001	Base year value	2001
HEALTH STATUS IMPROVED Intermediate Result No. 3)	1. Prevalence of diarrhea occurrence	%	-	7.1	-	8.0	-	9.9
	2. Children under weight	%	47.1	29.8	59.2	31.2	48.9	40.4
	3. Households using protected water sources	%	-	89.4	-	70.0	-	55.6
	4. Deliveries attended by trained TBAs	%	-	42.1	-	47.5	-	46.8
	5. HH that visited health posts twice in the last six month	%	-	21.7	-	19.4	-	26.7
	6. Amount of water used	Lt/day/HH	31.1	57	39.4	32	36.4	55

Source: 1997 baseline survey and 2001 evaluation survey

There are baseline values for two indicators: Children under-weight and amount of water used (source not distinguished). In respect to these two indicators the situation households face in all project locations is deplorable. Children under-weight increased in Bosset, Adama, Guba Koricha and Kuni. Water consumption decreased in Bosset, Chiro, Kuni, and Bedeno. Generally consumption in 2001 was below WHO minimum requirement by 16-53%. This is in spite of the fact that water was and still remains one of the most important support areas. But use of safe water in project communities seems significantly higher than the national average, and the areas where projects (except Guba Koricho) showed commendable results (see Table 3.35).

Some deterioration was observed in children's underweight in Adama, Guba-Koricha, Kuni, and significant deterioration in Bosset. As mentioned above, Bosset should have registered an improvement, but this has not happened; instead a decline occurred. There have been instances in the past where extra money earned from development work went mainly for drinks. Women's empowerment and more consultative family resource use could have helped.

In places where there was no improvement in the percentage of households using safe water distance traveled to water sources and water charges could be factors. Most water development ventures impose a nominal charge. The charge, however small it might be, could deter use because of low affordability.

3.3.4 Intermediate Results – Catholic Relief Service (CRS)

IR1

Data on IR1 indicators for CRS Title II projects in 1997 and 2000 are shown in Table 3.36 below. It reveals that there were significant productivity increases in 2000 over that of 1997 cereals, notably maize and sorghum. Over three-fold increase in maize yield was reported in several of the projects (Hundene, Fedis, Jarso). Very high sorghum productivity increase was also reported for Jarso (431%), Fedis (101%), Hundene (85%). Wheat, barley and teff yields were generally more favorable in 2000, but the changes were less dramatic. Despite the fact that there is expectation that the CRS conservation activities (rated highly qualitatively and quantitatively) could influence positively crop productivity, it is not likely that this could be the major thrust for the huge yield increases. The year 2000 was a good production year because of the favorable meher rains in amount as well as in distribution. The 'belg' rain in the year was inadequate and this affected maize and sorghum in most places but not in Hararghe. Farmers re-planted and the extended rains of the meher season resulted in relatively high maize and sorghum yields in Hararghe in particular. It seems thus evident that the favorable rainfall in 2000 was by and large behind the high productivity increase in CRS Title II projects.

Overall household production, on the other hand, did not correspond to the yield rise. The 2000 figures were in many instances lower than the baseline values. The mean area under cereal production decreased in all projects, in some by as much as 60%. It seems evident that the decrease in cultivated area was the major reason for cereal production per household.

There has not been a significant change in the proportion of households using productivity-increasing inputs – fertilizers and improved seeds. The trend was decreasing

number of fertilizer users (Jarso, Fedis, Adama) and increasing numbers of users of improved seeds (Jarso, Gulomekeda, Hundene) in 2000. The combined influence of this on crop yields might not be much.

Although there are no baseline figures to compare with, the percentage of farmers using improved cultural practices in 2000 was very encouraging, and perhaps this had some contribution to the 2000 relatively high productivity discussed above. Nearly 50 percent of surveyed farmers employed improved practices of one type or another in Hundene, Gulomekeda, Fedis, Kombulcha, and Jarso. There is reason to believe that the projects had a role (conservation programs, farmers' training). Discussions with farmers individually and in group indicate that there is a lot of appreciation for this low cost approach to increasing productivity.

There are irrigation schemes here and there but the effect of this on production is yet to materialize since the schemes have either not been completed or went operational only recently at the time of the visit.

To recap, it is difficult to say that the projects brought any significant change in food production to date, although it could be argued that the projects' support for conservation and capacity enhancement at the household level might positively affect production in the future, perhaps in a sustainable way.

Table 3.36: IR1 Results of CRS Title II Projects

Intermediate Results	Adama		Dugda Bora		Sire Dodota		Meta		Gorogutu		Dire Dawa	
	Base line Value	2000 Achieved	Base line Value	2000 Achieved	Base line Value	2000 Achieved	Base line Value	2000 Achieved	Base line Value	2000 Achieved	Base line Value	2000 Achieved
Yield of Major Crops (Kg/ha):												
- Barley	960	834.6	NA	1028	NA	700	890	-	890	-	890	00
- Wheat	760	778	NA	760	NA	639	840	-	840	-	840	00
- Teff	700	712	NA	783	NA	523	-	-	-	-	-	00
- Maize	650	745	NA	972	NA	609	430	1640	430	1584	430	-
- Sorghum	-	766	NA	666	NA	545	490	1274	490	1355	490	808
Overall Crop Production (Kg/hh):												
- Barley	363	145	NA	27	NA	222	133.5	1	133.5	81	133.5	00
- Wheat	315	105	NA	76	NA	273	221.4	2	221.4	-	221.4	00
- Teff	553	345	NA	100	NA	323	-	3	-	27	-	00
- Maize	251	292	NA	580	NA	247	51.5	105	51.5	92	51.5	-
- Sorghum	-	6	NA	-	NA	8	195.4	227	195.4	83	195.4	271
Monitoring Indicators:												
- % HH using fertilizers	89	32.8	NA	6.1	NA	29.0	28	10.6	28	31	28	22
- % HH using improved seeds	1	0.1	"	2.0	"	1.3	4	5.2	4	13.9	4	19.8
- % HH using improved Agri. Practices	NA	37.3	"	29.4	"	38.1	NA	41.6	NA	47	NA	38.5
- Area irrigated (ha)	0	-	-	-	-	-	0	0.88	0	0.19	0	-

Source: 1. The source of baseline figures is CRS
2. DSA Agricultural HH Survey Results, 2001
- in 2000 means the number of observations made were too small to make any good use of simple statistics like the mean.
NA= Not Available

Table 3.36 Cont'd .....

Intermediate Results	Fedis		Kombolacha		Jarso		Gulomekeda		Hundene	
	Base line Value	2000 Achieved	Base line Value	2000 Achieved	Base line Value	2000 Achieved	Base line Value	2000 Achieved	Base line Value	2000 Achieved
Yield of Major Crops (Kg/ha):										
- Barley (Kg/ha)	890	833	890	-	890	1465	410	1127	890	838
- Wheat (Kg/ha)	840	1388	840	-	840	1527	290	963	840	551
- Teff (Kg/ha)	-	416	-	-	-	833	-	600	-	833
- Maize (Kg/ha)	430	1865	430	1230	430	1541	-	909	430	1461
- Sorghum (Kg/ha)	490	989	490	1130	490	1411	-	500	490	907
Overall Crop Production (Kg/hh):										
- Barley	133.5	17	133.5	-	133.5	55	89.4	206	134	1
- Wheat	221.4	8	221.4	-	221.4	151	31.3	43	221	8
- Teff	-	6	-	-	-	.56	-	2		0.4
- Maize	51.5	57	51.5	164	51.5	46	-	6	52	79
- Sorghum	195.4	76	195.4	109	195.4	65	-	1	195	103
Monitoring Indicators:										
- % HH using fertilizers	28	15.8	28	50	28	21.2	71	35.7	0	26.8
- % HH using improved seeds	4	3	4	19.7	4	4.5	4	13.4	4	5
- % HH using improved Agri. Practices	NA	50.3	NA	51.1	NA	55.6	NA	49.1		47.2
- Area irrigated (ha)	0	-	0	2.1	0	0.13	0	-	NA	-

Source: 1. The source of baseline figures is CRS
2. DSA Agricultural HH Survey Results, 2001

- in 2000 means the number of observations made were too small to make any good use of simple statistics like the mean.

NA= Not Available

IR2

Table 3.37 provides data on household livestock and physical asset ownership and consumption of luxury food items in 1997 and 2001 for CRS Title II projects. The Table shows:

- In seven of the ten projects where there are data for 1997 and 2001, livestock ownership declined, in some rather sharply (Hundene, Goroguttu). In three projects (Goluomekeda, Kombolcha and Fedis) livestock ownership of households increased. Like in CARE projects there are no distinctly known reasons either for the increase or decrease. Farmers are strongly inclined to believe that herd size is decreasing due to feed and health problems, implying that livelihood means have been weakening in the project areas in spite of the Title II interventions.

- There is not much difference in the level of physical asset ownership of the households between the base year and 2001.

- In almost all projects, the percentage of households who said they never consumed any luxury food item is less in 2000, but the difference is small with most projects.

Table 3.37: Changes between 1997 and 2001 in Respect to Ownership of Livestock, Physical Asset and Luxury Food Items added for CRS Project

Projects	Livestock ownership (TLU/hh)		Physical asset ownership (No./hh)		Luxury food added (%)	
	1997	2001	1997	2001	1997	2001
Goulomekeda	0.66	1.17	0.33	0.22	20.52	25.97
Adama	2.15	2.02	0.43	1.36	34.74	39.99
Dugda bora	4.51	2.99	0.30	0.52	39.38	42.9
Dodota Sire	-	1.33	-	0.37	-	40
Jarso	1.56	1.08	0.27	0.20	33.78	37.8
Kombolcha	1.18	1.30	0.36	0.25	38.54	40.8
Fedis	0.76	1.30	0.23	0.20	26.12	31.20
Meta	2.78	1.64	0.47	0.25	34.64	39.00
Gorogutu	2.5	1.44	0.27	0.26	43.78	48.02
Hundene	1.86	0.63	0.59	0.20	48.54	49.5
Dire Dawa	3.81	2.83	0.40	0.28	21.9	23.01

Source: 1997 baseline survey and 2001 evaluation survey

IR3

Table 3.38 shows that CRS health performance has been impressive. Under-weight prevalence decreased, immensely in some projects. Diarrhea prevalence seems low, and percentage of households using safe water sources is high in most projects by Ethiopian standards. CRS has been focusing on children in several different ways: it was engaged in growth monitoring, provided supplemental feeding to both mothers and children. These are bound to contribute to improved nutritional status of children. Communities as well as local authorities expressed concern, especially in East Shoa, that FACS program might encourage parents to go for more children in order to obtain the monthly ration of flour and oil.

There was a decline in the amount of water used by households at Dugda-Bora, Hundene, Dire-Dawa, and at a significant level in Adama. Most of the planned water development goals have been achieved. Still, water consumption (lower in 1997 by 25% to 61% compared to WHO minimum rural requirement) declined in 2000. This should be a concern area in the future programs.

Table 3.38: IR3 Results of the CRS Title II Projects

	Indicators	Unit	Duga-Bora		Dodota Sire		Jarso		Kombolcha		Eedis	
			Base year value	2001	Base year value	2001	Base year value	2001	Base year value	2001	Base year value	2001
HEALTH STATUS IMPROVED Intermediate Result No. 3)	1. Prevalence of diarrhea occurrence	%		0.9	-	0.0	-	8.4	-	12.9	-	13.9
	2. Children under weight	%	40.9	32.3	-	-	40.4	10.8	54.2	19.4	57.7	32.6
	3. Households using protected water sources	%		56.1	-	30.0	-	17.4	-	57.1	-	4.0
	4. Deliveries attended by trained TBAs	%		67.4	-	91.7	-	62.2	-	73.1	-	76.2
	5. HH that visited health posts twice in the last six month	%		13.9	-	15.5	-	24.2	-	25.4	-	21.1
	6. Amount of water used	Lt/day/HH	48.5	34	-	27	32.3	32	38.1	48	32.9	33

CRS (continued) ...

	Indicators	Unit	Meta		Goroguta		Hundene		Dire-Dawa		Adama		Gulo Mekda	
			Base year value	2001	Base year value	2001	Base year value	2001	Base year value	2001	Base year value	2001	Base year value	2001
HEALTH STATUS IMPROVED Intermediate Result No. 3)	1. Prevalence of diarrhea occurrence	%		7.6		5.7		11.8		3.9	-	-	-	0.5
	2. Children under weight	%	45.5	22.3	53.3	22.3	36.8	14.6	43.8	24.0	39.3	30.3	62.3	34.0
	3. Households using protected water sources	%		56.1		76.7		27.5	88.2	72.5	-	17.2	-	53.4
	4. Deliveries attended by trained TBAs	%		39.1		47.4		51.4		62.7	-	58.2	-	51.2
	5. HH that visited health posts twice in the last six month	%		33.3		28.9		28.3		23.6	-	11.7	-	15.2
	6. Amount of water used	Lt/day /HH	35.0	47	34.4	35	57.4	35	44.1	41	61.0	26.0	-	25

IR4

Under IR4 of CRS. there are a few observations this evaluation wishes to note. These include:

1. There are observations indicating that a significant reduction of soil loss has been attained due to conservation activities. Farmers talk about yield increase from land treated with conservation measures. Yield increase is normally more significant in areas having moisture stress.

2. Severely degraded hillsides have been rehabilitated through area enclosures, enrichment plantations and gully stabilization measures. These activities have increased availability of wood-based products (fuel wood and construction material), though the beneficiaries have not yet started to utilize them. Procedures will have yet to be worked out for the utilization. Availability of animal feed has also increased due to area enclosures and planting of improved forage trees and grass species. The beneficiaries use grass and fodder from area enclosures through cut and carry arrangement.

3. Project sources reveal that about 400 hectares of severely degraded hillsides have been rehabilitated through area enclosures. The rehabilitation process has been enhanced through the construction of micro-basins and enrichment plantations. The planting of forage species such as Acacia VXK7, Leucanea and Sesbaina has made these areas more productive and increased biomass.

4. Bund stabilization activity through the planting of improved forage species such as phalaris, setaria and elephant grass in addition to stabilizing the structures has helped to increase livestock feed availability. Several gullies have been treated with checkdams.

5. Traditional farming practices involving the techniques mentioned in combination with the introduced conservation practices provided effective moisture conservation and erosion control. Runoff farming practice is known in the traditional farming system where road discharge is let into farmlands to increase soil moisture.

6. Degraded land rehabilitation through area enclosure, enrichment plantation and over-sowing of grass seeds is showing a good recovery in Kombolcha. The area seems to have rehabilitated well and the natural vegetation is emerging. Farmers expressed satisfaction with the increased supply of grass from the area enclosure. There were no waged guards to protect the enclosures. It is the community that assumes the responsibility. This is good for sustainability and a good indication of the existence of sense of community ownership.

3.3.5 Intermediate Results – EOC/DICAC

IR1

Cereal yield in 2000 rose sharply over the base year in all EOC projects (Table 3.39).

In terms of crop production increasing interventions, EOC projects had little to offer. Input credit was suspended. Extension services were kept at the minimal level due to government regulations. Irrigation schemes did not materialize in time to expect changes. The activities the projects had that could have some contribution to increasing productivity were soil and water conservation programs and training given to farmers. The contribution of such activities to raising crop yield does not normally occur in the short-term. It is thus evident that the very high yield differences between 1997 and 2000 could not possibly be attributed to the projects. The change was largely due to favorable amount and distribution of the meher rain in 2000.

There has not been a significant change in the use of fertilizer and improved seeds between 1997 and 2000. Neither was this expected due to the absence of interventions promoting the use of these inputs. Except in Endamahoni percentage of households using improved farm management practices was slightly less in 2000 than in 1997, implying that farmers' training and conservation efforts did not result in increased application of improved cultural practices. In Endemahoni, the 1997 figure, 96%, is not credible. The analogous figure for 2000 was 40%. It is unlikely that big proportion of farmers would give up using improved crop growing methods in a time frame of 3-4 years. Factors that could possibly lead to such a reduction such as lack of knowledge, shortage of labor, lack of motivation from previous experience did not occur according to empirical observations and results of discussions with farmers. That is why the credibility of the 1997 result is put to question. Practicing improved cultural practices, might not be credible.

There was no change in the size of irrigated land between 1997 and 2000.

To sum up, crop production and productivity in EOC projects were better in 2000 than in 1997. The difference is due to natural causes and not project –induced.

Table 3.39: IR1 Results of EOC/DICAC

Intermediate Results	Mekedela		Wadla		Endamehoni		Sodo	
	Base line Value	2000 Achieved	Base line Value	2000 Achieved	Base line Value	2000 Achieved	Base line Value	2000 Achieved
Yield of Major Crops (Kg/ha):								
- Barley	342	830	404	805	422	1238	393	666
- Wheat	382	841	547	745	433	1230	373	739
- Teff	273	650	477	823	258	801	282	679
- Maize	500	500	294	-	303	1025	-	757
- Sorghum	300	620	495	640	200	1452	-	890
Overall Crop Production (Kg/hh):								
- Barley	109	152	158	192	118	281	181	107
- Wheat	95	114	175	251	125	275	192	104
- Teff	112	147	272	41	52	12	113	158
- Maize	66	4	121	-	46	11	-	78
- Sorghum	120	75	163	2	50	16	-	44
Monitoring Indicators:								
- % HH using fertilizers	10.6	12.6	5	17.8	10.1	19.9	27.3	37.7
- % HH using improved seeds	5.2	6.4	4.5	8.9	2.2	8		6
- % HH using improved Agri. Practices	69	53.7	48	41.1	96.5	39.8		56.8
- Area irrigated (ha)	50	57.01	56.5	57	115	115.37		-

Source: 1. The source of baseline figures is EOC/DICAC
2. DSA Agricultural HH Survey Results, 2001
- in 2000 means the number of observations made were too small to make any good use of simple statistics like the mean.
NA= Not Available

IR2

In the northern EOC projects, livestock ownership at the household level decreased in 2001 compared to 1997. In Sodo it showed a slight increase in 2001. There has also not been any appreciable difference in physical asset ownership for the project beneficiaries between the two years (Table 3.40). If livestock and physical asset ownership is to be used as effect indicator, it stands to reason that the EOC projects had little or no effect on the well-being of the beneficiaries in this cycle of Title II.

Table 3.40: Changes between 1997 and 2001 in Respect to Ownership of Livestock, Physical Asset and Luxury Food Items added for EOC Project

Projects	Livestock ownership (TLU/hh)		Physical asset ownership (No./hh)		Luxury food added (%)	
	1997	2001	1997	2001	1997	2001
Endamehoni	2.14	1.85	0.16	0.17	13.28	15.21
Wadla	2.02	1.90	0.15	0.14	14.56	16.01
Mekdella	2.54	1.84	0.09	0.46	4.5	11.06
Sodo	2.06	2.17	0.20	0.46	33.68	35.71

Source: 1997 baseline survey and 2001 evaluation survey

IR3

Table 3.41 depicts that many positive changes have been observed: percentage of households using protected water sources has increased with a corresponding reduction in the incidence of diarrheal diseases in children; morbidity has also gone down. Underweight in children has worsened in Wadla and Mekdela. Figures of 52.8% for Wadla and 57.5% for Mekdela compare badly with the regional average of 45.0%.

Except in Sodo, water consumption declined in 2000 compared to 1997. The amount consumed in 2000 was very low even by Ethiopian standards. Water charges and awareness problems are suspected to be the reasons for low water coverage.

Table 3.41: IR3 Results of the EOC Title II Projects

	Indicators	Unit	Endamchoni		Wadla		Mekdela		Sodo	
			Base year value	2000	Base year value	2000	Base year value	2000	Base year value	2000
HEALTH STATUS IMPROVED (Intermediate Result No. 3)	1. Prevalence of diarrhea occurrence	%	25	2.4	38	5.7	30	11.2	23	5.5
	2. Children under weight	%	65.1	54.4	40.4	52.8	49.7	57.5	46.9	38.6
	3. Households using protected water sources	%	1.0	10.6	1.0	44.4	5.0	68.8	-	3.9
	4. Deliveries attended by trained TBAs	%	2	36.4	-	29.0	19.8	39.0	-	22.2
	5. HH that visited health posts twice in the last six month	%	20.4	3.9	15.2	11.8	14.4	22.7	18.7	34.6
	6. Amount of water used	Lt/day/HH	30.5	24	53.0	22	39.2	19	22.9	60

Source: 1997 baseline survey and 2001 evaluation survey

3.3.6 Intermediate Results - Food for the Hungry International (FHI)

IR1

Yield figures for 2000 were considerably higher in 2000 than in 1997 in the projects (Table 3.42). In Gubalafto Woreda the 2000 cereal yields were also high but could not be compared to any baseline figures, sine such figures are not available.

The high yield figures in 2000 are largely due to adequate rainfall in the meher season. Unlike in other Title II projects, it is likely that the projects would have influenced these high yields because:

- Farmers were provided with a sizable quantum of fertilizer over the period;
- They were also supplied with improved seeds, although not on the same scale as fertilizer
- The project-supported irrigation schemes in Lay Gayint, Tach Gayint and Simada have started operation

Despite the introduction of irrigated farming and provision of fertilizers, the percentage of farmers using fertilizer and improved seeds deteriorated in 2000 especially in Lay and Tach Gayint. Two reasons could be advanced to explain the situation. The first is farmers were not able to repay their 1999 input loan from government or quasi-government sources and as a result they were barred from the credit facility in 2000. Secondly, incremental production from the input use were not attractive enough for farmers to carry on using the technologies. The situation seems to indicate that fertilizer and improved seed might not be the solution. The situation seems to indicate to improve household food security in the project areas.

The proportion of farmers using improved crop production techniques increased markedly in 2000 compared to the base year. Would this be farmers' response to declining use of fertilizers and improved seed for economic reasons? If this is true, it is much welcome and needs to be supported in future programs.

Table 3.42: IR1 Results of FHI Title II Projects

Intermediate Results	Lay Gayint		Tach Gayint		Simada		Gubalifo	
	Base line Value	2000 Achieved	Base line Value	2000 Achieved	Base line Value	2000 Achieved	Base line Value	2000 Achieved
Yield of Major Crops (Kg/ha):								
- Barley	499	986	570	938	475	798	NA	801
- Wheat	454	863	628	1056	584	947	NA	886
- Teff	274	914	407	762	374	712	NA	932
- Maize	-	468	555	100.3	269	845	NA	1111
- Sorghum	-	354	-	824	-	1063	NA	828
Overall Crop Production (Kg/hh):								
- Barley	205	68	158	37	129	62		37
- Wheat	164	138	215	89	176	56		24
- Teff	138	93	140	141	194	243		146
- Sorghum	-	6	145	31	112	12		71
- Maize	-	4	-	-	-	40		145
Monitoring Indicators:								
- % HH using fertilizers	24.5	6.1	24	12.2	42	7.2		1.3
- % HH using improved seeds	8.5	0.6	21	2.1	42	0.6		-
- % HH using improved Agri. Practices	12	55.9	33	61.1	42	47.5		48.7
- Area irrigated (ha)	7.6	-	5	-	2.7	-		2.0

Source: 1. The source of baseline figures is FHI
2. DSA Agricultural HH Survey Results, 2001
- in 2000 means the number of observations made were too small to make any good use of simple statistics like the mean.
NA= Not Available

IR2

In Lay Gayint, Tach Gayint and Simada livestock ownership per household significantly declined in 2001 compared to 1997. For example, it decreased from 3.65 TLU/hh in 1997 to 1.17 TLU/hh in 2001 (Table 3.43). The rate of decrease was equally high in Simada. In Gubalafto there are no baseline data, but livestock ownership is as small as it is in the other projects. In several discussions, farmers in all the projects showed displeasure to physical soil conservation measures because they said the bunds, stone bunds in particular, breed crop pests and reduce grazing area. They attributed declining livestock ownership to feed shortage resulting from the conservation works.

Table 3.43: Changes between 1997 and 2001 in Respect to Ownership of Livestock, Physical Asset and Luxury Food Items added for FHI Project

Projects	Livestock ownership (TLU/hh)		Physical asset ownership (No./hh)		Luxury food added (%)	
	1997	2001	1997	2001	1997	2001
Lay Gayint	3.65	1.17	0.11	0.09	9.4	12.50
Tach Gayint	2.43	1.48	0.07	0.08	0.02	5.07
Simada	3.55	1.42	0.08	0.08	3.61	7.10
Gubalafto	-	1.50	-	0.07	-	8.00

Source: 1997 baseline survey and 2001 evaluation survey

IR3

There has been a considerable decline in diarrhea prevalence, and children under-weight, and the number of families using protected sources of water increased (except Simada). Morbidity figures look reasonable by the country's standards. All of this indicates that FHI Title II projects improved health status of the communities. FHI's engagement in family planning activities could be a major explanation for commendable health achievements.

Table 3.44 indicates that the number of households using water from protected sources was 10.1% in 2000 against 6.7% in 1997 for Lay Gayint and Tach Gayint, while at Simada it actually decreased by 5.4%. The amount consumed has also been low (lower by 56% to 69% than WHO minimum for a rural household). Distance traveled to the watering points and water fees could be the deterrents.

Table 3.44: IR3 Results of the FHI Title II Projects

	Indicators	Unit	Lay Gaint		Tach Gaint		Simada		Guba-Lafto	
			Base year value	2001	Base year value	2001	Base year value	2001	Base year value	2001
HEALTH STATUS IMPROVED (Intermediate Result No. 3)	1. Prevalence of diarrhea occurrence	%	35.9	1.1	25.6	4.1	31.5	4.6	-	7.1
	2. Children under weight	%	55.1	20.1	69.1	35.5	68.7	48.1	-	50.0
	3. Households using protected water sources	%	13.5	23.6	28.7	35.4	16.2	12.4	-	34.6
	4. Deliveries attended by trained TBAs	%	88.1	52.8	74.2	58.1	79.2	52.8	-	36.4
	5. HH that visited health posts twice in the last six months	%	-	15.2	-	18.9	-	13.5	-	22.9
	6. Amount of water used	Lt/day /HH	33.9	27	29.3	25	33.3	26	-	30

Source: 1997 baseline survey and 2001 evaluation survey

3.3.7 Intermediate Results – Relief Society of Tigray (REST)

IR1

Among the REST Title II projects, activities meant to directly influence grain production and productivity were limited to soil and water conservation measures, irrigation and training of farmers. It was planned to provide credit to purchase fertilizer and improved seeds. But this was not implemented. The planned irrigation schemes were not completed up to the time of the evaluation.

Be that as it may, the 2001 survey results reveal that cereal yields in 2000 were comparable or close to national average yield. It is not possible to compare yield between the base year and 2000 by crop because data are not available for 1997. There are, however, data on cereal yield for all the four projects both for 1997 and 2000 (Table 3.45). REST provided the 1997 figures and they look suspicious because they are identical for all projects. If they are to be relied on, then yield differences between 1997 and 2000 are large. Cereal yields 2000 were significantly higher, about 45% in Mereb Lekhe, about 37% in Adi Aheferom, nearly 39% in Degua Tembien, and 79% in Were Lekhe.

In all the four projects cereal yield increased in 2000 compared to the 1997 baseline results. The projects have been supporting moisture conservation measures, and a lot of work has been done in this regard. This, coupled with farmers' training and the existence of a strong linkage between government agricultural extension and the projects, is expected to have some contribution to the yield increase in 2000.

The percentage of farmers using improved seeds and fertilizers was high, though not compared to the 1997 figures because data are not available, but seen against the history of the use of productivity – increasing inputs in the region. The advent of fertilizer and improved seeds in Tigray is very recent due to civil unrest and past government policies. A few years ago the proportion of farmers using chemical fertilizers must have been insignificant. The evaluation survey indicates nearly 40% of the sample population used fertilizer in 2000 in Mereb Leke, 50% in Adi Ahferom, 42% in Dega Tembien, and about 40% in Were Leke. These figures were close to the national average. It goes without saying that the increase in the use of fertilizer and improved seeds contributed to the yield increase observed in 2000.

There was also a positive development in respect to the use of improved farm management practices. Although there are no baseline data to compare change, in 2000 some 70% of the surveyed households in Dega Tembien used improved cultural practices of some form, 54% in Were Leke and 53% in Adi Ahferom.

Finally, it can be argued that the projects contributed to the higher cereal yield obtained in 2000, although the extent of the contribution might be modest. Externalities such as favorable weather and regional government's effort to improve access to fertilizers might have accounted more for the change.

Table 3.45: IR1 Results of REST Title II Projects

Intermediate Results	Mereb Lekhe		Adi Aheferom		Degua Tembeln		Were Lekhe	
	Base line Value	2000 Achieved	Base line Value	2000 Achieved	Base line Value	2000 Achieved	Base line Value	2000 Achieved
Yield of Major Crops (Kg/ha):	532	773	532	729	532	742	532	953
- Barley	-	-		800		631		968
- Wheat		-		936		734		1018
- Teff		816		689		917		854
- Maize		934		527		826		1261
- Sorghum		885		781		777		1267
Overall Crop Production (Kg/HH):	243	758	243	865	243	496	243	628
- Barley		-		3		106		29
- Wheat		3		50		99		48
- Teff		118		235		98		291
- Maize		19		14		8		78
- Sorghum		107		19		7		49
Monitoring Indicators:								
- % HH using fertilizers	NA	39.6	NA	49.5	NA	41.7	NA	39.4
- % HH using improved seeds	NA	2.7	NA	15.3	NA	19.6	NA	11.3
- % HH using improved Agri. Practices	NA	NA	NA	53.3	NA	70.5	NA	53.8
- Area irrigated (ha)		1.5		0.25		-		-

Source: 1. The source of baseline figures is REST
2. DSA Agricultural HH Survey Results, 2001

- in 2000 means the number of observations was too small to make any good use of simple statistics like the mean.

NA= Not Available

IR2

Data are available both for 2001 and the base year only for Degua Tembien and Wereleke. In the first, livestock ownership increased considerably. In most other Title II projects livestock ownership declined. In Wereleke, there was a small decline in 2000. Again the decline is ignorable compared to most other projects. The feed development initiatives, which are stronger, must have contributed the situation in the two REST projects. The change in physical asset ownership is, like in other projects not significant.

Table 3.46: Changes between 1997 and 2001 in Respect to Ownership of Livestock, Physical Asset and Luxury Food Items added for REST Project

Projects	Livestock ownership (TLU/hh)		Physical asset ownership (No./hh)		Luxury food added (%)	
	1997	2001	1997	2001	1997	2001
Adi Ahferom	-	1.92	-	0.8	-	41.09
Degua Tembein	0.84	2.17	0.26	0.46	38.3	40.27
Merelehe	-	1.91	-	0.57	-	30.02
Wereleke	2.86	2.56	0.09	0.30	36.8	41.9

Source: 1997 baseline survey and 2001 evaluation survey

IR3

It was not possible to find enough base-year values for comparison. Where available, a decline was observed in many instances. It was particularly evident as regards under-weight of children in Were Leke and Degua Tembien. Even though there was no base-line figure to compare with, Adi Ahferom 2000 figure of 83.8% underweight is greatly alarming. It is higher than the regional average estimated at 60.0% as well as the CSs average of 62.2%.

There was decline in the percentage of households using protected water sources in Were-Leke, although the value was higher than the national of about 45.4%. The amount of water consumed per household increased in all projects, but the amount was small compared to WHO minimum requirement of 20 lt./day/capita for a rural household.

Table 3.47: IR3 Results of the REST Title II Projects

	Indicators	Unit	Were leke		Mereb Leke		Adi-Ahferom		Dega Tembien	
			Base year value	2001	Base year value	2001	Base year value	2001	Base year value	2001
HEALTH STATUS IMPROVED Intermediate Result (No. 3)	1. Prevalence of diarrhea occurrence	%	-	10.5	-	7.9	-	3.5	-	4.5
	2. Children under weight	%	54.7	60.8	-	-	-	83.8	65.7	59.7
	3. Households using protected water sources	%	62.9	49.4	-	62.0	-	62.0	-	59.9
	4. Deliveries attended by trained TBAs	%	-	27.8	-	29.8	-	35.7	-	64.99
	5. HH that visited health posts twice in the last six months	%	-	29.4	-	29.6	-	24.6	-	17.0
	6. Amount of water used	Lt/day/ HH	40.3	36	-	47	-	38	39.9	35

Source: 1997 baseline survey and 2001 evaluation survey

IR4

The communally reclaimed land is assumed to be the same as area enclosed. It is also assumed that all the physical conservation measures and communal tree planting activities took place in the enclosed areas during the project period. Compared to, the baseline values, percentage area increase of reclaimed land in 2001 is presented below:

	Percent
Degua Tembien	73
Adi Ahferom	65
Mereb Lehe	47
Were Lehe	26

A number of factors could account for this encouraging result. The most important of this could be the existence of high community awareness that the underlying causes of household food shortage and low productivity are soil erosion and land degradation. Moreover, there is commitment to reverse the degradation process at the government, relatively more pronounced community and household levels. Empirical observations suggest that the commitment has international support since many donors and NGOs participate in the conservation programs in one way or another.

There are observations indicating that conservation and reforestation efforts have had positive effects on the environment, such as:

- Reduction in soil loss
- Improvement in hydrologic behavior like longer use of water bodies
- Increase of vegetative bio-mass
- Increase in the availability of wood-based products
- Increase in moisture availability (conserved moisture in the soil) for crops
- Increase in the supply of animal feed

3.3.8 Intermediate Results - Save The Children (SCF)

IR1

The two Title II projects SCF implements are in pastoral locations where normally crop production does not feature prominently. It is because of this that DAP interventions were on livestock and water development. The projects had no direct role in the area of crop production (cereal and pulses), and there were no results in respect to IR1.

It is, however, interesting to note that cereal production is an important economic activity and deductively an important livelihood source in Liben Woreda, Borena Zone. Maize production is also important in Filtu Woreda, Somalie Region. Survey result shows that 36% of households had maize field of 0.93 ha/household in 2000.

In Liben Woreda, about 46% of surveyed households grew barley, 41% wheat, 41% maize, and 16% teff. The reported yields in the case of barley, wheat and teff in 2000 were not significantly lower than the national average in the same year. It should also be

noted that over 32% of the surveyed households used chemical fertilizers, 3.3% improved seeds, and over 30% improved farming practices (see Table 3.48). All of this seems to suggest that any project aiming at improving the supply side of household food security cannot ignore crop production in Liben Woreda.

Table 3.48: IR1 Results of SCF Title II Projects

Intermediate Results	Liben (Borena)		Filtu (Somalia) SCF	
	Base line Value	2000 Achieved	Base line Value	2000 Achieved
Yield of Major Crops (Kg/ha):				
- Barley	NA	872	NA	-
- Wheat	NA	589	NA	150
- Teff	NA	764	NA	150
- Maize	NA	517	NA	186
- Sorghum	NA	238	NA	136
Overall Crop Production (Kg/hh):				
- Barley	NA	205	NA	-
- Wheat	NA	221	NA	0.8
- Teff	NA	43	NA	0.8
- Maize	NA	119	NA	62
- Sorghum	NA	1	NA	7.2
Monitoring Indicators:				
- % HH using fertilizers	NA	32.3	NA	0
- % HH using improved seeds	NA	3.3	NA	0
- % HH using improved Agri. Practices	NA	30.1	NA	3.4
- Area irrigated (ha)	NA	-	NA	0.75

Source: 1. The source of baseline figures is SCF/USA
2. DSA Agricultural HH Survey Results, 2001
- in 2000 means the number of observations made were too small to make any good use of simple statistics like the mean.
NA= Not Available

Livestock ownership in 2001 increased in both projects. The increase in Liben was significant. Two reasons could explain the change. The first is the project interventions, especially the improved water supply for the stock. The second is that it is common practice among the pastoralists to replace reduction in herd size a natural disaster like the 1998/99 drought might have caused. There was not much change in respect to physical asset ownership (Table 3.49).

Table 3.49: Changes between 1997 and 2001 in Respect to Ownership of Livestock, Physical Asset and Luxury Food Items added for SCF/USA Project

Projects	Livestock ownership (TLU/hh)		Physical asset ownership (No./hh)		Luxury food added (%)	
	1997	2001	1997	2001	1997	2001
Liben	4.07	6.17	0.74	0.78	54.6	57.4
Filtu	5.22	6.4	0.52	0.67	51.04	55.2

Source: 1997 baseline survey and 2001 evaluation survey

Other Observations

SCF

Milk production is one of the most important indicators of livestock productivity. In pastoralist communities where livestock are a major source of food, milk productivity becomes an important indicator. Owing to this, data on milk production was sought by seasons to capture seasonal variation.

Table 3.50: Average Milk Production in Liben and Filtu[16]

Type	Unit	1997		2001			
		Rainy Season	Dry Season	Rainy Season		Dry Season	
				Local	Improved	Local	Improved
Liben Wereda:							
Cows	Lt/day	1.34	0.37	0.826		0.470	
Camels	"	0.40	0.18	0.094		0.022	
Goats	"	0.14	0.03	0.113		0.059	
Total	Lt/HH	1.88	0.58	1.033		0.551	
Filtu Wereda:							
Cows	Lt/day	2.38	6.37	.664	-	.335	-
Camels	"	3.70	7.91	1.042	-	.436	-
Goats	"	1.14	2.93	0.228	-	.145	-
Total	Lt/HH	17.21	7.22	1.934	-	0.916	-

Source: 1997 baseline survey and 2001 evaluation survey

N.B: Figures for 1997 look exaggerated by all accounts, empirically or otherwise. They are suspicious to say the list.

[16] One of the comments SCF made on the draft report was to use the 1997 baseline survey data figures it provided to the evaluation. However, the team has not been able to find data on milk production in WASS documents.

Milk production showed high seasonal variability. The main reason for the variability is the scarcity of water and pasturage. The feed and water programs have been designed to reduce the seasonal variability. There has not been any visible contribution from the projects in this regard yet.

Table 3.51: Lactating Cows, Camels and Goats in Liben and Filtu Wereda

Type	1997			2001		
	Mature females	Lactating animals	% lactating	Mature females	Lactating animals	% lactating
Liben Wereda						
Cows	1450	494	34.1	345	162	47
Camels	195	64	32.8	28	14	50
Goats	690	211	30.6	90	49	54
Total	**2335**	**769**	**32.9**	**463**	**225**	**49**
Filtu Wereda						
Cows	3169	1117	35.2	112	90	80
Camels	4357	1296	29.7	125	66	53
Goats	5104	2170	42.5	186	146	78
Total	**12630**	**4583**	**36.3**	**423**	**302**	**71**

Source: 1997 baseline survey and 2001 evaluation survey

In the pastoralist areas lactating animals are a very important indicator of livestock productivity and welfare. Table 3.51 indicates that the situation has markedly improved in this regard in both projects in 2001 compared to 1997. Although the contribution of the projects cannot be ascertained yet it could be considerable, notably in Liben.

IR3

There was a decline in the amount of water used by households at both Liben and Filtu. These sites experienced severe droughts in 1998/99 leading to the drying up of several water sources.

Percentage of households using protected water sources of 36.1% for both Liben and Filtu was a notable achievement although change could not be monitored for lack of baseline data. The proportion of children underweight has increased by over 100% in Liben and three reasons could account for this. The first is high livestock mortality that occurred in 1998/99 which deprived, especially children, food and milk. The second is bush encroachment resulting in reduced feed (browsing materials), especially for camels and goats. Thirdly, unlike pastoralists Borena there are empirical observations suggesting that among Somalie pastoral households children do not enjoy priority in the allocation of food in the family.

In addition, the water development effort has reduced migration and the community awareness about the use of clean water improved. The FFW interventions helped to reduce the food gap.

Table 3.52: IR3 Results of the SCF Title II Projects

	Indicators	Unit	Liben		Filtu	
			Base year value	2000	Base year value	2000
HEALTH STATUS IMPROVED (Intermediate Result No. 3)	1. Prevalence of diarrhea occurrence	%	-	7.2	-	6.3
	2. Children under weight	%	23.4	49.6	58.1	40.3
	3. Households using protected water sources	%	-	36.1	-	36.1
	4. Deliveries attended by trained TBAs	%	-	50.0	-	88.9
	5. HH that visited health posts twice in the last six months	%	-	34.4	-	18.3
	6. Amount of water used	Lt/day/HH	44.16	33	66.81	44

Source: 1997 baseline survey and 2001 evaluation survey

3.3.9 Intermediate Results – WVI/E

IR1

WVE Title II projects have had activities intended to positively influence crop production and productivity. These included:

- Agricultural demonstrations
- Agronomic practices
- Irrigation
- Farmers' training
- Extension services through agriculture offices
- Soil and water conservation

The activities were carried out in most instances according to plan. Did these activities increase crop yield as anticipated? In 2000 cereal yields were reasonably good in most Title II projects. They were significantly higher than the 1997 yields, the year Title II projects started operation. For example, in Adama and Tigray projects cereal yields in 2000 rose two-fold or better compared to 1997 (Table 3.53). A number of factors must have accounted for the increase. Rainfall was better in 2000 in all project locations, according to local sources. Although it is hard to quantify the share of the project activities to the observed yield improvement, yet there are empirical evidences (FGD discussion results) suggesting that the projects had a contribution.

In the Tigray projects, the yield increase was in spite of a reduction in the percentage of households who used fertilizers in 2000 (70% used fertilizer in 1997 against 50% in 2000 in Laylay Tsed Amba). Moreover, the project activities were relatively less in scope in the north. This could mean that external factors like more favorable rains in 2000 strongly influenced the yield increase. The same argument might hold for WVE Title II projects in the south especially Adama, where only 32% of the surveyed households used fertilizers in 2000 against about 80% in 1997. Decline in fertilizer use was likely because of restricted access to credit and high fertilizer prices. Defaulting farmers were denied credit in 2000. Despite this, cereal yields in 2000 were significantly higher than in 1997. This means that the rains had a big role in the increase.

The situation was quite different in Badawacho. Cereal yield in 2000 declined considerably compared to 1997. Overall cereal production to a household also declined markedly. The reasons seem to be external. Rainfall in 2000 in the Title II project area in the woreda was not as good as elsewhere. Farmers did not have the customary access to input credit, and less farmers used fertilizer and improved seeds.

The percentage of farmers who practiced improved farming techniques was reasonable in the Tigray projects (53% in Atsbi Wombera and 59% in Lay Lay Tsed Amba) but not so in southern projects (Adama 30%, Sodo Zuria 50%, Humbo 52%, 56% Kersa Kondaliti, and 61% in Badda Wacho) in 2000. The figures for southern woredas are regarded low because farmers in these parts are accustomed to using improved farming practices such as rotation, manure, compost, inter-copping and others.

Land is becoming scarcer in the south project areas and landholding is decreasing. This should have led to more intensification, meaning increased use of the techniques. It is true that land scarcity in the south is forcing farmers to compromise physical soil conservation measures that compete for land, and the reduction in the use of improved farming methods might be reflecting this reality.

There was virtually no change in the size of irrigated farming between 1997 and 2000. This means that the projects did have results in this regard.

To recap, there was increased crop productivity in the Tigray projects and in Adama mostly, it seems, due to favorable rainfall. PRA survey results indicate that Title II projects contributed to the yield improvement, although the size of the contribution could be small.

Table 3.53: IR 1 Results of WVI/E Title II Projects

Intermediate Results	Adama		Sodo Zuria		Humbo		Atsbi Wombera		Laylelay Tsed Amba		Kersa Kondaltiti		Badawacho	
	Base line Value	2000 Achieved	Base line Value	2000 Achieved	Base line Value	2000 Achieved	Base line Value	2000 Achieved	Base line Value	2000 Achieved	Base line Value	2000 Achieved	Base line Value	2000 Achieved
Yield of Major Crops (Kg/ha):														
- Barley	589	1134	NA	294	NA	300	410	820	410	746	NA	554	511	00
- Wheat	438	1325	NA	774	NA	-	290	815	290	1167	NA	458	539	-
- Teff	528	741	NA	1420	NA	106	-	637		832	NA	395	631	-
- Maize	597	1074	NA	750	NA	658	-	150		421	NA	477	1069	216
- Sorghum	504	860	NA	931	NA	709	-	-		661	NA	604	853	-
Overall Crop Production (Kg/hh):	NA	908	NA	336	NA	304	-	360	-	344	NA	661	NA	79
- Barley	NA	147	NA	14	NA	0.8	89.4	245	89.4	255	NA	90	NA	00
- Wheat	NA	107	NA	17	NA	-	31.3	98	31.3	62	NA	299	NA	-
- Teff	NA	351	NA	31	NA	2	-	17	-	11	NA	210	NA	-
- Maize	NA	297	NA	245	NA	284	-	0.8	-	4	NA	58	NA	72
- Sorghum	NA	6	NA	29	NA	18	-	-	-	12	NA	4	NA	-
Monitoring Indicators:														
- % HH using fertilizers	79.5	32.1	NA	33.1	NA	23.6	71	50.5	71	50.0	NA	26.8	63.8	65
- % HH using improved seeds	16.3	1.5	NA	17.1	NA	15.6	4	23.5	4	19.3	NA	22.7	4.5	51
- % HH using improved Agri. Practices	88.1	30.1	NA	49.6	NA	51.9	NA	52.6	NA	58.8	NA	28.5	61.3	61
- Area irrigated (ha)	-	-	-	-	-	0.25	0	1.0	0	2.0	NA	55.8	NA	-

Source: 1. The source of baseline figures is REST
2. DSA Agricultural HH Survey Results, 2001
- in 2000 means the number of observations was too small to make any good use of simple statistics like the mean.
NA= Not Available

IR2

Table 3.54 below indicates that in most of WVI/E projects livestock ownership declined in 2001. In fact, it is only in Adama and Kersa Kondaliti that it increased since 1997. There are no evidences to explain the increase in these two woredas, while the decrease in the rest of them could be due to scarcer food supply and deteriorating animal health services empirically observed across the country.

Ownership of physical assets showed some improvement in 2001 with several of the types monitored in the survey. But the change is not really much to think that the asset base of households has changed for the better since the launching of the projects. The remarkable change in radio ownership in Adama coupled with the increase in livestock might suggest household income rise, which farmers disclaim as evidenced during FGD household survey results also indicate falling income.

Table 3.54: Changes between 1997 and 2001 in Respect to Ownership of Livestock, Physical Asset and Luxury Food Items added for WVI Project

Projects	Livestock ownership (TLU/hh)		Physical asset ownership (No./hh)		Luxury food added (%)	
	1997	2001	1997	2001	1997	2001
Adama	1.62	2.50	0.39	1.38	39.7	42.8
Kersa Kondolati	1.94	3.02	0.18	0.58	31.56	34.5
Sodo Zureia	2.11	1.34	0.23	0.65	21.6	25.7
Atsbi Womberta	2.64	1.40	0.29	0.20	18.44	22.91
Lelay Tsedamba	-	1.12	-	0.14	-	31.01
Humbo	2.23	1.45	0.18	0.45	33.34	35.78

Source: 1997 baseline survey and 2001 evaluation survey

IR3

Overall, WVI/E seem to have made some remarkable achievements. Diarrhea prevalence figures for 2000 look good and better than most rural areas in the country. In the Tigray projects children under-weight in 2000 were considerably high. The unrest that prevailed in the area over the last three years and persisting rain shortage could be the main factors, and not necessarily poor projects performance (Table 3.55).

The amount of water used decreased in Atsbi, Humbo and Adama. It could be due to unsatisfactory achievement in respect to boreholes (56%) and hand-dug wells (44%).

Table 3.55: IR3 Results of the WVE/E Title II Projects

	Indicators	Unit	Atsbi Wombera		Tsed-Amba		Kersa Kondaliti		Sodo Zuria		Humbo		Badawacho		Adama	
			Base year value	2000	Base year value	2000	Base year value	2000	Base year value	2000	Base year value	2000	Base year value	2000	Base year value	2000
HEALTH STATUS IMPROVED Intermediate Result No. 3)	1. Prevalence of diarrhea occurrence	%	-	25.0	-	19.4	-	8.7	-	5.8	-	9.4	-	4.4	-	10.7
	2. Children under weight	%	68.6	70.0	-	69.0	45.7	37.1	39.7	24.4	46.7	38.0	-	-	48.1	26.9
	3. Households using protected water sources	%	66.8	76.8	-	28.9	-	6.8	62.8	80.0	56.5	86.1	-	76.9	-	68.4
	4. Deliveries attended by trained TBAs	%	-	34.8	-	17.9	-	17.1	-	30.0	-	30.6	-	44.8	-	55.3
	5. HH that visited health posts twice in the last six months	%	-	33.9	-	13.3	-	24.4	-	26.7	-	30.6	-	28.6	-	31.1
	6. Amount of water used	Lt./day /HH	33.7	26		29	25.8	38	28.5	33	31.4	18	-	21.0	50.3	42.0

Source: 1997 baseline survey and 2001 evaluation survey

CHAPTER 3
SECTION 3
Title II Program Impacts

3.4 Title II Program Impacts

3.4.1 Introduction

Title II rural projects seek the same strategic objective (SO) – Enhanced Household Food Security. There are three indicators selected to measure SO impacts, namely, (1) Reduction in child stunting[17]; (2) Decrease in the length of period households faced food shortage in a normal production year; and (3) Reduction in the use of severe coping strategies. The results of this evaluation are cast against the analogous figures obtained in the 1997 baseline survey, wherever possible in order to find out the extent to which the projects have been able to positively affect the well-being of the beneficiaries.

Indices were constructed to evaluate the impact of different CS on the reduction of the use of severe coping strategies.

The comparism is based on the baseline survey of 1997 and 2000. Data are available on 18 different coping strategies seven of which are considered severe coping strategies[18]. Indices are constructed on the entire 18 as well as on the seven severe coping strategies to see the impact of the projects.

To construct the indices the Laspeyres method is used. The attempt is to observe the change in aggregate value of the use of coping strategies between the base year (1997) and mid 2001 (the time of the final evaluation).

The formula used is:

$$\text{Index} = \frac{\sum Cpc}{\sum Cpb} \times 100$$

Where Cpc – responses (in percentage) of the current year
Cpb – responses (in percentage) of the base year
W – weight

The mean ratio of responses from the baseline survey on coping strategies are taken as weight (w).

[17] One of the major points the CS and other stakeholders raised on the draft final evaluation report was the reliability of the data set from the household survey, especially the nutrition data. Accordingly, 2-person team (one each from CARE and DSA) was set up to further clean the data. It presented its findings to CARE and it is annexed here-with (Annex 6) for information to the CS.

[18] The seven coping strategies regarded severe include:

- Reducing the amount of food normally consumed
- Eating wild food
- Distress migration
- Selling personal effects
- Selling productive assets
- Withdrawing children from school
- Practicing maternal buffering

3.4.2 Overall Picture*

Child Stunting

Stunting of children in the age group of 6-59 months have improved in 2000 in all CS compared to 1997 as shown below.

	Stunting Results (%)	
	1997	2001
1. National (all CS)	61.1	39.5
2. Africare	NA	18.6
3. CARE-Ethiopia	55.2	43.7
4. CRS	56.8	34.3
5. EOC	66.6	54.5
6. FHI	85.9	56.5
7. REST	71.9	46.1
8. SCF	45.4	40.5
9. WVI/E	65.9	39.6

Source: 1997 baseline and 2001 evaluation surveys

Cross-tabulation results indicate that there is statistically significant association between stunting and episode of illness (P= .002), use of latrine (P=.001) income (P=.000), water source (P=.000), land/livestock/ox ownership, (P=.000), mother education (P=.001), and education status of the head of household.

Food Shortage

Households in the project areas have up to four sources of food for consumption: own production (the part used for own consumption), purchase, FFW (used for own consumption), and relief. In the household survey farmers were asked to tell the length of time each source was sufficient to cover the family need in 2000. The 1997 baseline survey asked farmers to tell the length of the period the household did not have enough food for consumption in the last 12 months without being specific about the source. In the comparison presented below it is assumed that the 1997 data on food shortage did not include relief. The food shortage data for 2000 have been adjusted accordingly.

Survey results show the length of the period Title II households faced food shortage in 2000 was less compared to 1997 nationally[19]. At the CS level, the change was positive with most of them, even though the size of reduction was small as shown below.

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* In section survey results are presented by CS, project and for Title II (all CS). Aggregated results for the three SO indicators are in Annex 4.

[19] The food shortage indicator refers to a normal production year. It should be noted that available data (CSA, FAO) indicate that 2000 was better than a normal production year.

	Food Shortage (Months)	
	1997	2001
1. National (all CS)	5.6	4.7
2. Africare	NA	5.7
3. CARE	5.6	5.1
4. CRS	5.2	4.6
5. EOC	5.5	5.7
6. FHI	8.8	5.3
7. REST	4.1	3.6
8. SCF	2.2	1.4
9. WVI/E	5.5	4.3

Source: 1997 baseline and 2001 evaluation surveys

Coping Strategies

This evaluation understands that the 1997 baseline survey took seven coping mechanisms to constitute severe coping strategies. These are:

- Reducing the amount of food normally consumed
- Eating wild food
- Distress migration
- Selling personal effects
- Selling productive assets
- Withdrawing children from school
- Practicing maternal buffering

At the national level, slightly less number of beneficiaries made use of severe coping strategies in 2000 (1997 base year). At the CS level also, except in two CS, percentage of households that reverted to practicing severe coping strategies was less in 2000. Weighted aggregate indices of coping strategies (all coping strategies and severe coping strategies) are presented below.

	Weighted Aggregated Index (2000) (Base year, 1997)	
	Severe Coping Strategies	All Coping Strategies
1. National	99.4	
2. Africare	-	-
3. CARE	124.6	176.4
4. CRS	118.5	164.0
5. EOC	78.1	103.5
6. FHI	80.0	106.4
7. REST	96.9	117.9
8. SCF	58.3	68.5
9. WVI/E	90.4	112.1

Source: 1997 baseline and 2001 evaluation surveys

Figure 1: Stunting Prevalence in 2001 Compared to 1997

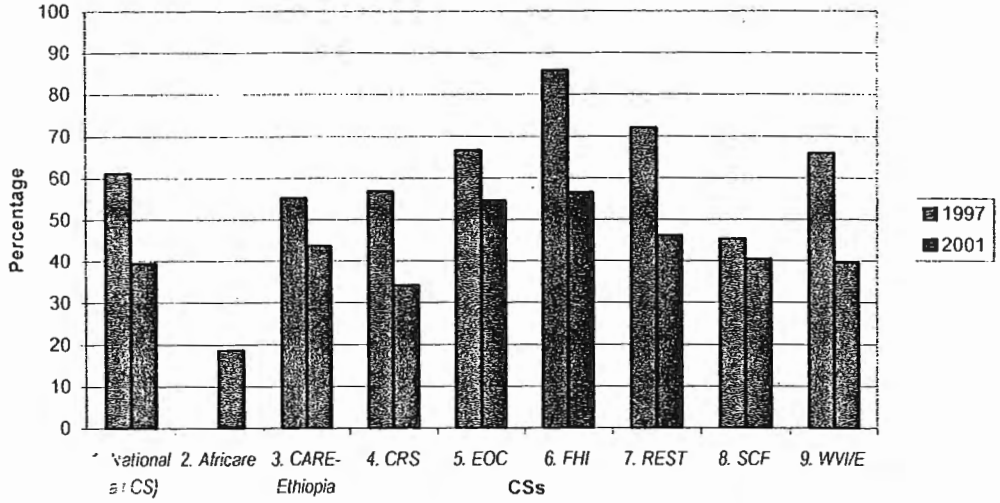


Figure 2: Food Shortage in 2001 Compared to 1997

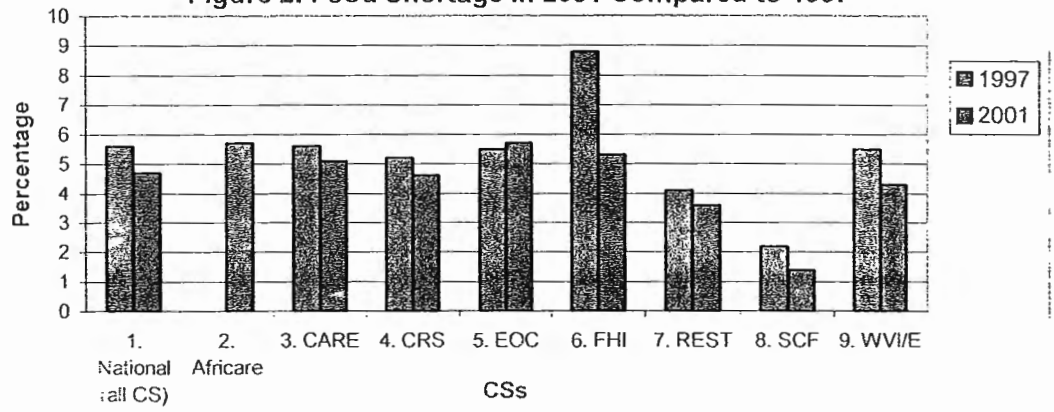
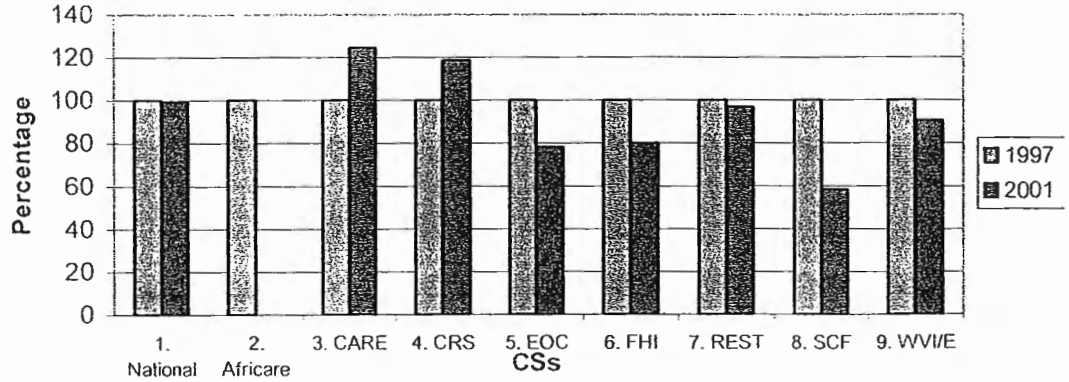


Figure 3: The Use of Severe Coping Strategies in 1997 and 2001



3.4.3 SO Results – Africare

Stunting

The title II project in Gambella started operation in 1999 and thus it was not included in the 1997 baseline survey. Accordingly, there is no benchmark stunting figure to compare with the evaluation result. However, Africare had carried out a nutrition survey (2000) in 1999 and stunting then was 24.3%. It was down to 18.6% in 2001.

Cross-tabulation results indicate that there is no statistically[20] significant association between stunting and any of the livelihood indicating variables.

Food Shortage Duration and Application of Severe Coping Strategies

There are no baseline values to evaluate impact in respect to reduction in food shortage and the use of severe coping strategies. The 2001 survey results indicate:

(1) On average a household in the project communities did not have adequate food supply for 4.25 months in 2000.

(2) Female-headed households were worse off (4.4 months) compared to male-headed families (4.19 months). The difference was not statistically significant (P=.157)

(3) Africare is trying to introduce ox-ploughing among the Augnak farmers, still dominantly hoe-cultured. Among the surveyed households, only 13 or 7.5% owned oxen, not necessarily used for agriculture. Those who owned ≥ 2 oxen had a much shorter food shortage time (1.25 months compared to 4.5 months in the case of oxless and 5.6 months for those who owned one ox apiece). Assuming that ox ownership had a positive contribution agriculturally (increased food production), the promotion program is supportive.

(4) Africare also distributed improved seeds and chemical fertilizers the use of technologies did not have any meaningful association with either reducing food shortage or decreasing the use of severe coping strategies. It should be noted that the intervention period was short compared to other CS projects.

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[20] The livelihood variables this evaluation chose to look for any possible association with stunting are:
(1) Demographic variables – family size, sex of head of household,
(2) Nutrition health variables –
(3) Wealth-related variables -

3.4.4 SO Results – CARE

Stunting

The evaluation survey results show that the nutritional status of children has improved in all CARE projects in 2001 compared to the base year (Table 3.56). Could the reduction in stunting be attributed to the project interventions? Or was it the result of other factors, including increased food supply in 2001 due to relatively good meher rainfall that was observed across the country? Under the intermediate results presented in section 3.3 above one observes that there were some changes in livelihood systems, for example:

- Crop production generally increased in 2000 compared to 1997, despite reduction in cropped area/household in 2000;
- An average household owned less livestock in 2000 than in 1997, largely due to the 1998/99 drought-like situation observed in most CARE project woredas;
- There was not any significant difference in physical asset ownership;
- Although health figures for 1997 are lacking, the 2000 results on the prevalence of diarrhea, water coverage, and children underweight are comparable to national figures for CARE projects, thus it is likely there was some positive contribution from the CARE projects in this regard; and
- There was no remarkable difference in household income from all possible sources between 1997 and 2000.

These points seem to suggest that the improvement in stunting could be opportunistic arising from external factors such as rainfall, food distribution through relief, FFW, or others[21].

Table 3.56: Child stunting in 1997 and 2000 among CARE Title II projects

Project woredas	(Percent)	
	1997	2001
1. East Hararghe:		
▪ Bedeno	63.7	36.5
▪ Girawa	55.5	49.6
▪ Kurfachele	62.0	40.7
2. West Hararghe:		
▪ Chiro	50.3	54.6
▪ Gubakoricho	44.2	35.0
▪ Kuni	56.9	47.9
3. East Shoa		
▪ Adama	52.5	39.0
▪ Bosset	57.1	46.0

Source: The 1997 baseline and 2001 evaluation survey

[21] This evaluation understands that child stunting is a 'process'. It could start in the mother's womb, and that it is not a function of one season's good fortune with rains. But, it also understands that improved food availability over a season could have an impact on the nutritional status of children.

Some cross-tabulation findings

(1) Demographic Variables

- Households having larger family size show relatively less stunting prevalence across CARE rural projects but the difference is not statistically significant (P=.705). Chiro is an exception. Households with family size ≥ 6 show high stunting, which is not unexpected. The difference is not, however, statistically significant.

(2) Asset ownership:

Land and labor (economically active population) are major livelihood variables among rural households in Ethiopia. One would expect an inverse relationship between asset ownership and child prevalence stunting. According to the survey results, this has not been the case with a few of CARE projects. In fact stunting in Kunni, Kurfachele, and Bedeno is higher among households having higher number of economically active population and relatively more land. The difference is not however statistically significant. It is not the same with livestock and ox ownership in these woredas. Stunting prevalence is lower with households having more livestock and oxen.

(3) Health:

- Stunting is higher with mothers who dropped breast feeding earlier than the desired time and also in the case where supplementary feeding started earlier or later than normally recommended lengths of period. It is observed that the differences are statistically significant (Kurfachele breast-feeding P=.003 and .000 supplementary feeding, Gubakoricho breast feeding P= .008 and .001 supplementary feeding).

- The proportion of stunting among children from households using safe water supply is higher than those using unprotected water source in Bosset and Gubakoricho. In the rest of the CARE projects the association between stunting and safe water use corresponds to the conventional wisdom. The difference is not statistically significant (P > 0.05), except in Grawa (P= .024).

To sum up, stunting in children was lower in 2000 compared to the base year, in all CARE projects, an improvement in the nutritional status of children in 2001 compared to 1997. This could, at least in part, be due to Title II interventions.

Food Shortage Duration and Application of Severe Coping Strategies

Table 3.57 reveals that there has been improvement in terms of households that had to live without adequate food in 2000 over 1996 in the project communities. The improvement could be due to good harvest in 2000 in most projects. But it should also be noted that those projects that did not have particularly good 2000 meher rains (Grawa, Gubakoricho and Kuni) also achieved notable results. Evidently, the projects must have had their own contribution towards the reduction of the length of period of food shortage.

Whether this could be sustained under less favorable weather conditions is difficult to tell. It could be argued that household food security in all projects is not yet secure.

Table 3.57: Length of Food Shortage and the Extent of Use of Severe Coping Strategies in 2000 in CARE Title II Projects

Projects	Food shortage months		Use of Coping Strategies (Percent, base year 1997)	
	1996	2000	All Coping Strategies	Severe Coping Strategies
1. Bedeno	5.6	4.23 (3.97)	151	125
2. Grawa	7.1	5.13 (4.41)	146	120
3. Kurfachele	7.2	5.09 (3.97)	130	106
4. Chiro	6.8	3.08 (3.0)	124	71
5. Gubakoricho	6.0	0.49 (.44)	225	111
6. Kunni	6.6	0.63 (.05)	118	95
7. Adama	3.3	2.49 (1.88)	317	130
8. Bosset	5.6	1.24 (.86)	449	149

Source: The 1997 baseline and 20001 evaluation surveys

Attempt was made to see whether there is some association between food shortage and some selected key factors considered to have influence on reducing food shortage at the CS level. The main results include:

(1) Households having large economically active persons (more labor) had shorter food shortage months and the difference was statistically significant (P=.001). This clearly underscores the significance of labor to rural household food security.
(2) Households having more land, livestock, oxen, and household assets have less food shortage months, and for most of them the difference is statistically significant. (P=.000).
(3) Fertilizer, improved seed and improved cultural practices users seemed better in food availability and access than non-users. The difference was statistically significant. The finding suggests that CARE should strengthen its support to enable farmers use the low-cost technology of improved cultural practices wherever the prevailing objective conditions allow.

The table indicates that, except in Chiro and Kunni, the CARE projects have not been able to reduce the use of severe coping strategies. For example, in Bosset, additional 49% of the sample population used severe coping strategies in 2000 compared to 1997. It is not easy to explain inter-project variability in the application of severe coping strategies. The prevalence of cash crops and rainfall condition seem to influence the extent of the use of severe coping strategies.

These findings (both food shortage and coping strategies) strongly suggest that future projects should focus on providing assistance to farmers that will enable them use improved farming practices. Since a priori they are cost-effective and they contribute meaningfully to reduce food shortage and the application of severe coping strategies, aggressively promoting these practices could be rewarding.

3.4.5 SO Results- CRS

Stunting

Among the cooperating sponsors, it is CRS that sponsors a large number of Title II projects. 11 of them, many of which are located in highly marginalized areas. Survey results indicate that in all projects but Hundene and Sire Dodota child stunting improved in 2000 compared to the base year Table 3.58 Dire Dawa and Dugda Bora where stunting looks considerably lower than the country average of about 50% (CSA Demography and Health, 2000). Notwithstanding the improvement there was decline in the nutritional status of children in 2001 compared to 1997 in three rural projects – Hundene, Adama and Sire Dodota.

Table 3.58: Child Stunting in 2001 Compared to 1997 for CRS Title II Projects

Project Woredas	Stunting (percent)[22]	
	1997	2001
1. East Hararghe:		
▪ Fedis	68.8	48
▪ Goroguttu	56.0	17.8
▪ Kombolcha	56.0	49.3
▪ Jarso	55.2	43.3
▪ Meta	53.5	15.0
2. Dire Dawa	39.2	24.2
3. Hundene – Harari	42.9	43.0
4. East Shoa:		
▪ Adama	52.1	51.3
▪ Duga Bora	66.7	32.9
▪ Sire Dodota	66.9	68.8
5. Gulomekeda	75.4	25.3

Sources: 1997 Baseline and 2001 Evaluation Surveys

The lack of improvement in Sire Dodota could be low agricultural productivity. Teff and maize are the main crops in the woreda. Survey results and also data obtained from the woreda agricultural office indicate that yields of the two main crops were low (650kg/ha maize and teff 550 kg/ha) in 2000; good production year. Sire Dodota is located in low altitude area where crop productivity is low due to erratic rainfall, and poverty is more pronounced.

Some Results of Cross-tabulation Analysis

The following results emerge from the analysis of association between stunting and key nutritionally important variables.

[22] CRS sources consider stunting figures in Gorguttu and Meta for 2000 unacceptably low. Data processing (from entering to cleaning) was re-checked, but there was not change in the results.

(1) Demographic characteristics:

- In Fedis, Jarso, Goroguttu, Hundene, and Sire Dodota stunting prevalence was higher among male-headed households, while in others the reverse was true. In all cases the difference was not statistically significant.

- One would expect that, other things being equal, households with larger family size would have higher stunting prevalence. That was not the case in Sire Dodota, Kombolcha and Hundene.

(2) Asset ownership:

- Level of stunting did not show a significant variation by land, livestock and ox ownership in all the CRS projects but Gorogutu and Fedis where stunting was low for households having more livestock and oxen. In both cases the difference was not statistically significant.

- On the other hand, households having more labor and physical assets showed lower stunting prevalence in most projects, although the difference was not statistically significant.

(3) Health:

- Prevalence of child stunting was very high in Kombolcha (83%) and Fedis (42%) compared to others among households that reported higher rates of episodes of child illness. The difference was statistically significant (P=.0003 Kombolcha and P = .021 Fedis)

- Households with vaccinated children showed lower stunting, in most projects. But in Duga Bora and Kombolcha the reverse was the case and the difference was statistically significant in both cases (Dogda Bora P = .002, Kombolcha P=.002). With several projects (Sire Dodota, Gorogutu, Dire Dawa) there was no association between stunting and vaccination.

- The prevalence of child stunting was high among those who started supplementary feeding earlier (0-3 months) and among children who continued exclusive breast feeding after seven months. The association was statistically significant in Dugda Bora P= .002, Sire Dodota P= .000, Kombolcha P= .026, Fedis P= .016, and Hundene P= .0002. The situation was similar with households who stopped breastfeeding early and continued exclusive breastfeeding for long.

- The situation with safe water is perplexing. In six projects (Dugda Bora, Sire Dodota, Kombulcha, Meta, Gorogutu and Hundene), households using safe water sources showed higher stunting. This could indicate a major utilization problem.

Food Shortage Duration and Application of Severe Coping Strategies

There have been remarkable achievements in respect to reducing food shortage months in all projects but Gulomekeda. The problem in the latter must have been the Ethio-Eritrea war that caused a considerable disruption in production and other livelihood means (Table 3.59).

Table 3.59: Length of Food Shortage and the Extent of Use of Severe Coping Strategies in 2000 in CRS Title II Projects

Projects	Food shortage months		Use of Coping Strategies (Percent, base year 1997)	
	1996	2000	All Coping Strategies	Severe Coping Strategies
Gulomekeda	6.6	7.03	96	94
Fedis	4.6	0.41	132	134
Kombolcha	7.0	1.00	181	153
Jarso	7.2	0.74	94	101
Hundane	6.3	0.70	133	107
Goroguttu	6.6	0.66	302	157
Dire Dawa	7.5	0.21	346	157
Meta	6.5	0.02	233	156
Adama	1.7	0.03	232	187
Dugdda Bora	4.3	0.20	444	102
Sire Dodota	-	0.61	NA	NA

Source: The 1997 baseline and 20001 evaluation surveys

An attempt was made to observe whether food shortage has association with selected key variables that are thought to have influence on food availability and access. Some of the more important findings are presented below:

(1) At the CRS level, female-headed households had longer food shortage months. This is in conformity with empirical observations in the country. The difference was statistically significant (P= .000).
(2) No meaningful association was observed with land or ox ownership.
(3) Households having more of their farms in 'woina-dega' climatic zone faced longer food shortage months than others.
(4) Non-users of fertilizers and improved seeds had longer food shortage months than users and the difference was statistically significant (P=.001).
(5) Farmers using improved farming practices had shorter food shortage months than non-practitioners, and the difference was statistically significant (P=.000). The result underpins the importance of aggressively pursuing the promotion of this low-cost means of enhancing food production.

On the other hand, weighted aggregate indices on coping strategies indicate that, except in Gulomekeda, the percentage of farmers using severe coping strategies increased in 2000 compared to the base year. For example, in Duga Bora it nearly doubled. This is an indication of lack of progress in reducing poverty or improving household food security.

It is also observed that there is meaningful association between using severe coping strategies and female-headedness, asset ownership, use of improved inputs and farming practices.

To sum up, CRS projects made an impact on reducing food shortage but not in decreasing the application of severe coping strategies. This could mean that in the food shortage months (2000), the intensity of the shortage could have been more than in the base forcing more households to revert to the severe coping strategies. Also, analytical findings strongly suggest that CRS should increase its support for promoting improved farming practices, since it can be judged a prior that the practice is low cost and it has the potential to reduce food shortage and the use of severe coping strategies.

3.4.6 SO Results – EOC

Stunting

Nutritional status of children was high in all the four Title II Projects in 2001, even though there was some improvement since the base year (Table 3.60).

Table 3.60: Child Stunting in 1997 and 2001 in EOC Title II Projects

Project Woredas	Stunting Prevalence (percent)	
	1997	2001
1. North Wello:		
▪ Mekedela	52.0	62.7
▪ Wadla	39.1	50.0
2. Endemahoni	56.7	73.5
3. Sodo	60.9	70.9

Source: 1997 Baseline and 2001 Evaluation

Stunting was the highest in Sodo. There are not credible reasons to explain it. Households in Sodo own relatively more land, more livestock, generally receive more rainfall, and operate in less rugged terrain, and land degradation is less severe. Moreover, there are more reliable and diversified income sources.

It is not the improvement between 1997 and 2001 but the magnitude of stunting at the time of the survey that should be of concern. By any standards, the stunting figures are disturbingly high in all projects including Wadla where stunting is a bit lower. This however corresponds quite well with the kind and level of Title II interventions. Activities to increase crop production were limited, if any. The irrigation programs did not materialize. The focus was placed on soil and water conservation. While this might be an acceptable strategy, it should be clear that any impact on stunting from the conservation measures cannot be achieved in a period of three years.

It is worth noting that in almost all discussions held with all groups of beneficiaries, participants held strong views that welfare in general and stunting in particular would have been worse without the projects, and this evaluation is supportive of the view.

Analysis of Relationship

Cross-tabulation analysis was made to observe any association between stunting and some selected variables. The results are presented below.

(1) Demographic characteristics

- While there seems to be little association between stunting and sex of the head of households in northern projects, there is association in Sodo where female-headed households showed considerably higher stunting, although the difference is not statistically significant (P = .592). There are observations indicating that gender problems are more acute in Soddo where traditions tend to bar women from participation in FFW employment, decision making role, etc. It was observed during focus group discussions that generally awareness is low in Sodo about gender issues, an area requiring more attention in future interventions.
- Households having very small (≤ 1 person) and very large family size (≥ 6 persons) showed lower rate of stunting prevalence in the northern projects, especially Endemahoni and Mekedela. The difference is statistically significant (P = .048). Since resource base is very poor in these areas, future interventions need to pay much more attention to family planning services.

(2) Asset ownership:

- Stunting shows no association with land, livestock and ox ownership, labor and household assets. That is, households having more of these assets did not have lower stunting as conventional wisdom would have suggested. This could stem from critical shortage of cultivable land and limited non-farm income generating opportunities. Conventional methods used to increase cereal productivity such as fertilizers, improved seeds, draft animals might not produce results towards improving nutritional status. Other options such as a structural change in the cropping pattern (more towards perennial crops and away from annual crops, feed development together with introduction of improved animal breeds, improved apiculture production, fuel wood for the market, and consciously assisted inter- and intra-regional migration need to be seriously considered if change is sought in earnest.

- There has been an attempt in the northern projects to introduce backyard farming, notably vegetables production for consumption. Although activity in this respect remains at demonstration level, there were some adopters. The adopters had higher stunting in Endemahoni, Wadla and Sodo. There were no replicators in Mekdela.

(3) Health:

a. Households who reported episodes of child illness had higher stunting rates in Wadla (P = .25) and Mekdela. That was not so in Endemahoni and Sodo where households who reported no illness had higher stunting. In both cases the difference was not statistically significant.

b. Households reportedly using safe water had higher rate of stunting in Wadla indicating that there could be some sort of utilization problem.

c. Those households who started supplementary feeding at the age group of 4 –6 months had lower stunting in Endeinahoni and Mekdela . Households with longer breast-feeding showed less stunting prevalence in all projects. Most mothers stopped breast-feeding after the first three months (majority of Ethiopian women breast feed for longer period).

These results seem to suggest that there is need to pay more attention to health education, family planning services and household food processing in future programs.

Food Shortage Duration and Application of Severe Coping Strategies

The constraints are many and formidable to reduce household food shortage in the project areas EOC has been operating, especially in the north. The project activities have not been measuring up to the situation at hand at the time. Neither could they because of the gigantic nature of development problems: severe land degradation, acute shortage of agriculturally suitable land, persisting weather irregularity (inadequate and poorly distributed rainfall, frost, etc.,), horrendous topography, lack of access to market due to very poor provision of roads, etc. Yet, the survey results show that there has been reduction (Table 3.61). The reduction holds even when food obtained from FFW employment is excluded. This is indeed encouraging. But, can the situation be sustained or is it a kind of fluke resulting from the favorable 2000 meher season? It seems likely it is the latter.

Table 3.61: Length of Food Shortage and the Extent of Use of Severe Coping Strategies in 2000 in EOC Title II Projects

Projects	Food shortage months		Use of Coping Strategies (Percent, base year 1997)	
	1996	2000	All Coping Strategies	Severe Coping Strategies
Endemahoni	6.3	1.42	62	85
Mekdela	6.7	6.42	442	109
Wadla	5.9	2.96	230	64
Sodo	3.1	0.32	287	51

Source: The 1997 baseline and 20001 evaluation surveys

Cross-tabulation analysis is made to see the relationship of food shortage with selected variables. Some of the results are presented below.

(1) Female-headed households had longer food shortage months and the difference is statistically significant (P= .002).
(2) Households having small family size (≤ 2 persons) and those having less economically active persons had longer food shortage months. This confirms the empirical observation that labor is an important livelihood source.
(3) As it could be expected, the vulnerable groups such as oxless and landless had longer food shortage months (oxless 3.56 months, one ox 2.76 months, ≥ 2 oxen

1.5 months: landless 4.61 months, ≥ 1 ha 2.63 months). The difference in the case of land ownership is not statistically significant.

(4) Fertilizer and improved seeds users had less food shortage months.

(5) Interestingly, use of improved farming practices and practicing soil and water conservation did not result in shorter food shortage months as it would have been anticipated. That is, those households practicing improved farming techniques had actually longer food shortage months (P=.000), and the same with those who practice soil and water conservation (P=.000).

Table 3.61 shows that except Mekdela the rest of the EOC projects have decreased the percentage of farmers who used severe coping strategies.

3.4.7 SO Results – FHI

Stunting

Malnutrition of children seems very high in FHI projects (except Gubalafto), although available data show that there have been some improvement since the 1997 baseline survey as shown below:

Table 3.62: Child Stunting in 1997 and 2001 in FHI Title II Projects

Projects	Stunting Prevalence (percent)	
	1997	2001
(1) Lay Gayint	85.6	54.6
(2) Tach Gayint	85.5	65.6
(3) Simada	86.9	65.0
(4) Gubalafto	Not available	29.8

Source: 1997 Baseline and 2001 Evaluation

In the four FHI projects, the use of fertilizer and improved seed significantly dropped in 2000 compared to 1997. There could be valid reasons for the decrease like lack of financial incentive to farmers. The decline could also be for no good reasons in which case it is considered unfortunate for household food security. On the other hand, more households have put into use improved crop management practices in 2000 than in 1997 and this is very encouraging. It is unlikely, however, that the incremental production, if any, from the latter would offset production lost because of the reduced use of fertilizers and improved seeds. In spite of this, cereal yields increased and crop production per household showed a slight improvement in 2000, indicating a high likelihood that the production and productivity increase could be due to the good meher season the project areas experienced. The improvement in children nutritional status could very well be due to the projects' diversifying crop production through the introduction of tubers that seem to be more appropriate to the areas. The findings also show that child under-weight, prevalence of diarrhea occurrence and proportion of households using safe water improved, implying that the improvement in stunting could also be due to this.

The gains might or might not be sustained. Whichever way it goes, it cannot be denied that nutrition remains a big threat to welfare and child development in the project areas.

Analysis of Relationship

An analysis was made to observe the association between stunting and selected livelihood variables. The results are presented below.

(1) Demographic characteristics:

- Female headed households showed lower stunting rate in Lay Gaint , while male-headed households in other FHI projects had less stunting In all cases the difference was not statistically significant.

- Households having very low (≤ 2 persons) and very high (≥ 6 persons) showed very high stunting rates in Lay Gayint and Tach Gayint. This might indicate lack of labor, and high rate of population growth could encourage stunting among marginalized households.

(2) Asset ownership:

- Land, livestock and labor are the critical livelihood sources in the project areas. Yet, there was not significant difference between child stunting in those households owning more labor and land and in those that own less or none of these assets. There was no meaningful association between stunting and asset ownership in general. This could be largely due to critical shortage of cultivable land and the prevalence of unfavorable conditions for cereal-based crop production. Conventional methods used to increase cereal productivity such as fertilizers, improved seeds, draft animals might not produce the desired results on improving nutritional status. Other options such as a structural change in the cropping pattern (more towards perennial crops and away from annual crops), feed development together with introduction of improved animal breeds, improved apiculture production, fuel wood for the market, and consciously assisted inter- and intra-regional migration need to be seriously considered if change is sought in earnest.

- Households having more revenue from non-farm sources had lower stunting in all projects. This indicates that future interventions need to pay more attention to supporting non-farm income generation opportunities.

(3) Health:

- Households reporting no episodes of child illness had significantly lower stunting rates in Lay Gayint (P= .005), Tach Gayint (P= .75), and Gubalafto (P= .021). In Simada households reporting no episode had more stunting.

- In Lay Gayint and Tach Gayint and Simada, households using safe water sources had less stunting. The difference in all cases was not statistically significant. In Gubalafto, safe water users had higher rates of child stunting.

- Households who started supplementary feeding in the age groups of 0-3 and 4-6 months had considerably lower stunting in Lay Gayint (P = .0168). It was not so, however, in Simada. In Tach Gayint those who started in 4-6 months had the highest stunting rate.

- Households where breast-feeding was stopped in the age group of 0-6 months and those where it was extended up to 25-36 months had greater stunting incidence in all the four projects.

- There was no association between stunting and vegetable production.

Food Shortage Duration and Application of Severe Coping Strategies

FHI projects have reduced the length of food shortage period and decreased the use of severe coping strategies for the beneficiaries (Table 3.63).

Empirical observations abound to remind one the enormity of destitution in FHI projects communities. Livelihood sources are fragile and very poorly provided for. Still, the frighteningly high food shortage months recorded during the 1997 baseline survey considerably declined in 2000, although it was still very high in Gubalafto in 2000. Observations made during the field visit and results of discussions made with diverse groups imply that food shortage remains a very serious problem in all the projects. In many focus group discussions, especially those held with resource poor and women, views were expressed that food shortage was as solid as it was in 1997. But the empirical results from the survey reveal that there has been some positive changes, most probably influenced by the favorable meher rains in 2000 and also by the crop diversification efforts of the project.

Table 3.63: Length of Food Shortage and the Extent of Use of Severe Coping Strategies in 2000 in FHI Title II Projects

Projects	Food shortage months		Use of Coping Strategies (Percent, base year 1997)	
	1996	2000	All Coping Strategies	Sever Coping Strategies
Lay Gayint	8.9	3.95	134	81
Tach Gayint	9.1	3.8	122	85
Simada	8.4	2.3	167	97
Gubalafto	-	6.12	NA	NA[23]

Source: The 1997 baseline and 20001 evaluation surveys

FHI projects have had some provisions of technological inputs, introduced root crops to diversify crop production and spread food risk, and irrigation schemes were made operational in the period.

[23] Gubalafto was not included in the 1997 baseline survey, thus unable to monitor change.

Cross-tabulation analysis performed to observe any possible association between food availability and key factors considered to have a role in food supply reveal the following results:

(1) Female-headed households experienced longer food shortage months (4.45 months against 4.02 months for male-headed). This confirms the conventional wisdom that in marginal locations and in situations where labor is a critical factor female-headed households are more vulnerable.
(2) Households with larger family size (≥ 6 persons) and those having more labor had less time of food shortage (P=.202 for labor and P= .011 for family size).
(3) Oxless farmers had longer food shortage period than those owning one or more (oxless 4.5 months, one ox 4.07 months, 2 or more oxen 2.70 months). The same situation prevailed with livestock and land ownership.
(4) Farmers with no non-farm income had significantly longer food shortage than those who had off-farm income (no non-farm income 4.89 months, 100-500 Birr 3.2 months). This underscores the importance of promoting the access part of household food security, given opportunities exist.

In the case of coping strategies, there was a reduction of nearly 20% in Lay Gayint, 15% in Tach Gayint and 3.0% in Simada in the number of households who used severe coping strategies.

3.4.8 SO Results - REST

Stunting

Stunting results from the evaluation survey indicate that there has been a significant improvement, especially in Were leke, (see Table 3.64 below):

Table 3.64: Child Stunting in 1997 and 2001 in REST Title II Projects

Project Woreda	Stunting Prevalence (percent)	
	1997	2001
Dega Tembien	73.1	57.4
Were leke	71.9	45.6
Mereb leke	n.a	37.4
Adi Ahferom	n.a	56.8

Source: 1997 and 2001 Evaluation Surveys
n.a means not available

Where data are not available for comparison it is conjectured that the status with stunting could be better in 2001 compared to 1997. The bases for making such a statement are the results obtained during field visit from various sources: focus group discussions with different groups of beneficiaries, interviews with community leaders and local authorities, and personal observations of members of the evaluation team. Some of the more important observations include:

- There is relatively more focused, demand-driven, goal-oriented and coordinated effort at conservation work. In many instances it is linked to

conserving moisture to increase crop and feed production. There are already encouraging signs: gullies have been converted into agricultural land, feed supply from enclosures is increasing, woody biomass supply is increasing in spite of fuel wood extraction from enclosures, water bodies are recharged.

- There is a concerted effort to diversify livelihood systems: horticultural development through provision of fruit seedlings, vegetable seeds and running of promotional trials, introduction of better producing local livestock breeds (cattle and goats), spirited support towards increasing apiculture productivity and also making the sector market-oriented, consciously promoting private wood lots intended for the market.
- There is more cohesiveness, unity of purpose and being output-or result-oriented among development actors: communities, government offices and REST. There is relatively more organizational (institutional) capacity at the community and local levels.
- There has been a tremendous effort to increase the stock of community assets such as rural roads constructed using labor-intensive technologies, social infrastructures, drinking water supplies, and irrigation schemes.
- Tigray suffered of an immense loss of productive resource base. Drought-like condition is becoming a permanent feature. There is relatively more awareness about these and other formidable development challenges at all levels: household, community, woreda, zone and regional level. This should not be interpreted to mean that there is no awareness problem. There is, but it cannot be denied that the level of awareness is sharper in the region than elsewhere in the country.

It is based on these evidences that the evaluation holds a strong impression that the Title II projects have impacts on improving nutritional status of children. These same reasons lead one to believe that, other things being equal, the improvements made to date could be sustained.

Despite the likely improvement, stunting prevalence is worrisome in the project areas, notably in Degua Tembien and Adi Ahferom where livelihood resources seem to be better.

In the following paragraphs a few cross-tabulation results between stunting and key factors of significance to nutrition are presented.

(1) Demographic characteristics:

- Female-headed households had relatively more stunting in all projects but Degua Tembien. In all cases the difference was not statistically significant. The occurrence of stunting among female-headed households was higher with REST projects than other Title II projects. There are no empirical data to explain the finding. This evaluation suspects that it could be linked to the relatively high women participation in FFW. Participation is believed to increase women's overall workload and this might have nutritional implications. The lower stunting prevalence among female-headed households in Degua Tembien could be due to the presence of day-cares where children are supplied with supplementary ration.

- Households with large family (≥ 6 persons) showed higher rate of stunting in all of the projects, although the difference was no statistically significant. Households having very small size (≤ 2 persons) also had high child stunting. This might suggest that labor availability could be an important nutrition factor.

(2) Asset ownership

- Households relatively more endowed with labor, land, livestock and ox ownership, and physical assets did not have lower stunting as it would be expected in Adi Aheferom and Mereb Leke. In Dega Tembien, the association was as expected except with labor in which case there was no association with stunting. That is, households having more persons in the age group of 15-65 years did not have lower child stunting than other clusters. At Were leke households with more land, livestock and oxen had less stunting.

- REST actively promotes diversification of livelihood sources. The introduction of improved local livestock breeds, support to modernize apiculture, eucalyptus production intended for the market, promotion of horticultural crops, and feed development endeavors are all geared to earn revenue from sources other than the traditional crop and livestock farming. The higher the income earned from these sources the lower was stunting incidence in all projects but Adi Aheferom (P= .009). This finding corroborates REST endeavor in this regard.

(3) **Health**

- Households reporting episodes of child illness exhibited lower stunting occurrence in Mereb Leke and Adi Aheferom. This is not unexpected, while the reverse was true in Dega Tembien and Wereleki. In all cases the difference was not statistically significant.

- In all projects but Dega Tembien, households using safe water sources had higher stunting prevalence: This is not also expected. This indicates that there is need to focus more on what happens in the handling of water from the water points to the final consumption.

- It was only in Mereb Leke where households that started supplementary feeding in the age group of 4-6 months had lower stunting (P= .03).

- Households who terminated breast feeding in the age group of 0-6 months and those that extended it beyond 24 months had higher stunting in Dega Tembien, Mereb Leke and Were Leke than other groups. The difference, however, was not statistically significant.

- Maternal education and production of vegetables for consumption did not have any meaningful pattern of association with stunting prevalence in any of the REST projects.

Food Shortage duration and application of severe coping strategies

No investigator of rural development of any sort could escape being overwhelmed by two factors in Tigray. The first is the severe damage done to renewable natural resources. Secondly, the region has had more than its share of weather variability, notably rainfall, and long-drawn conflicts and civil unrest. This and the legacy of development policies of the previous government in the region makes obtaining results from a development project like Title II more challenging. In spite of this, Table 3.65 shows that there has been some positive development as regards reduction in the length of food shortage time and decrease in the use of severe coping mechanisms since the 1997 baseline survey.

Table 3.65: Length of Food Shortage and the Extent of Use of Severe Coping Strategies in 2000 in REST Title II Projects

Projects	Food shortage months		Use of Coping Strategies (Percent, base year 1997)	
	1996	2000	All Coping Strategies	Sever Coping Strategies
Doga Tembien	2.9	1.77	155	124
Adi Ahferom	4.6	3.75	NA	NA
Were Leke	4.7	2.42	117	91
Mereb Leke	5.03	4.95	NA	NA

Source: The 1997 baseline and 20001 evaluation surveys

Notwithstanding the improvement, food availability and access to food remain precarious in the Title II project communities. The 2001 survey results show that sources other than FFW and relief on average covered only abut 7.0 months food need in Were Leke, 4.33 months in Mereb Leke, 5.92 months in Adi Ahferom, and 5.41 months in Dega Tembien in 2000. Relief supply in the same year covered household food need for 4.35 months in Mereb Leke, 3.26 months in Adi Ahferom, 1.68 months in Dega Tembien, and 1.16 months in Were Leke.

Still, there are evidences suggesting that Title II Project had some achievement in respect to the two SO indicators. For example:

(1) Results of focus group discussions and interviews with key informants and government experts indicate that project activities such as honey production, tree planting (eucalyptus), livestock development including feed improvement enabled households to earn more revenue.
(2) A big majority of surveyed households reported that they have access to feed and fuel wood from rehabilitated areas.
(3) A large number of farmers have started vegetable production in their backyard to augment food supply.
(4) There has been increased milk production from the introduction of genetically superior local breeds of cattle and Nubian goats.

Cross-tabulation results indicate:

(1) Female-headed households experienced longer food shortage months (4.06 months against 2.98 for male-headed). The difference is statistically significant (P= .000).
(2) Households located in 'kola' climatic zone had longer food shortage months (4.26 months, 2.90 months 'woina degas' and 2.19 months 'dega').
(3) About 36% of the sampled population were oxless, and this group experienced longer food shortage months (4.08 months against 3.12 for one ox and 2.37 months for ≥ 2 oxen), and 100% of the oxless resorted to using severe coping strategies. These findings suggest that being oxless is an important food security factor.
(4) Food-for-work employment is an important livelihood source. Accordingly, one would expect labor availability would have a strong association with food shortage time. But the survey results did not corroborate this.
(5) Soil and water conservation is a major economic activity in the region. About 90% of the households surveyed participated in soil and water conservation programs of the projects. The non-practitioners had longer food shortage months (4.87 month against 3.05 for the practitioners). The difference is statistically significant (P=.000).

3.4.9 SO Results – SCF/USA

Stunting

Stunting in 2001 improved compared to 1997, in the SCF projects (Table 3.66). The 1998/99 drought decimated livestock, the single most important livelihood source, in both project areas. It normally takes quite sometime to build on livestock following a devastation of the magnitude of 1998/99. In spite of this, nutritional status of children at the time of the survey compared favorably as shown below:

Table 3.66: Child Stunting in 1997 and 2001 in SCF/USA Title II Projects

Project Woreda	Percent Child Stunting	
	1997	2001
(1) Filtu (Somalie)	53.0	42.2
(2) Liben (Borena)	39.3	48.4

Source: 1997 Baseline and 2001 Evaluation Surveys

Analysis was made to see how stunting relates to some variables. The results are presented below.

(1) Demographic characteristics:

- The proportion of female-headedness is high in Filtu (perhaps due to semi-permanent male migration) and female-headed households had relatively lower child stunting, 40.2% against 44.0% for male-headed households. The

situation is even more remarkable in Liben where stunting is 27.3% with female-headed households (36.9% male-headed).

- Households having very low (≤ 2 persons) and large family size (≥ 6 persons) had more child stunting. In both cases the difference was not statistically significant.

(2) Asset ownership:

- In pastoral systems livelihood almost wholly depends on livestock ownership. Because of this one would expect an inverse association between child stunting and size of livestock ownership. The survey results indicate that it was not the case in the projects. Households owning more livestock did not have lower stunting. This could mean livestock productivity as well as off-take or production of livestock for the market leave a lot to be desired.

- Very few households in both projects reported no amount of income from non-agriculture sources. Those who reported did not demonstrate better nutritional status of children.

(3) Health:

- In Liben households reporting child illness had higher stunting, while in Filtu the reverse was the case. The difference was not statistically significant in both projects.

- In Liben households using safe water sources had higher stunting, while in Filtu the difference in stunting rate was small (users 37.3% and non-users 46.3%). As with almost all Title II projects, Liben and Filtu need to give more attention to the utilization aspect of 'safe water'.

- Households that had complete vaccination experienced lower stunting corroborating the significance of EPI program to improving child development.

- Very high stunting rates were observed for households that started supplementary feeding late (≥ 7 months) in Liben in particular.

- Extended breast feeding beyond 24 months (probably for lack of supplementary feeding) meant high stunting in both projects. The difference was statistically significant in the case of Filtu (P = .001).

Food Shortage duration and application of severe coping strategies

The food gap in SCF projects was very high in 1997 and it did not yield much in 2000. In fact, in Liben it aggravated as Table 3.67 shows. But the situation with the use of severe coping strategies is different. There was a considerable decrease in 2000 compared to 1997. In Liben the percentage of farmers who used severe coping strategies decreased by some 46% and in Filtu by 73% (Table 3.67). This could be

due to the fact that there was recovery from the devastating drought of 1998/99 and re-stocking of livestock materialized in 2000.

Table 3.67: Length of Food Shortage and the Extent of Use of Severe Coping Strategies in 2000 in SCF/USA Title II Projects

Projects	Food shortage months		Use of Coping Strategies (Percent, base year 1997)	
	1996	2000	All Coping Strategies	Sever Coping Strategies
Liben	4.6	7.54	53	54
Filtu	9.6	8.45	27	27

Source: The 1997 baseline and 20001 evaluation surveys

3.4.10 SO Results – WVI/E

Stunting

Child stunting was very high in 1997 among all WVI/E Title II projects. Although there have been improvements in some (East Shoa projects and Sodo Zuria) remarkable, stunting remained disturbingly high in East Tigray in 2001 (Table 3.68).

Table 3.68: Stunting Prevalence in 1997 and 2001 in WVI/E Title II Projects

Title II Projects	Stunting (Percent)	
	1997	2001
(1) East Tigray:		
▪ Atsbi Woberta	82.1	82.9
▪ Lay Lay Tsed Amba	n.a	69.7
(2) Walaita:		
▪ Sodo Zuria	55.3	18.5
▪ Humbo	62.3	39.0
(3) Bada Wacho	61.4	6.4
(4) East Shoa:		
▪ Adama	67.0	42.6
▪ Kersa Kondaliti	73.1	37.7

The high stunting prevalence in East Tigray woredas could be attributed to the Ethio-Eritrean war that caused loss of productive labor, dislocation, destruction of productive assets, and lack of security at the community level, all with negative implications for the livelihood systems at the household level.

In south (Wolaita and East Shoa) communities and local authorities, especially the latter, have been very critical of WVI/E approaches to operating the projects. Some openly wondered whether there was any purpose in the continuation of the programs, especially if program integration and sustainability beyond WVI support, were to be underpinned.

In spite of all of this, in focus group discussions and interviews these same sources admitted that without the WVI/E programs, Title II projects included, the nutritional status of children would be worse off considerably.

Some of the more nutritionally important survey findings as they associate to child stunting are presented below.

(1) Demographic characteristics:

- Stunting among female-headed households was relatively more severe in Kersa Kondaliti, Atsbi Woberta, Tsedamba, and Humbo. This is expected on ground of empirical observations that female-headed rural households are resource poorer and more vulnerable. In the rest of the projects, stunting was higher among male-headed households. This also could be possible because empirical observations indicate that male dominance in the allocation of household income exists, and the tendency is that allocation to conspicuous expenditures (alcohol, 'chat', and the like) is disproportionately high compared to expenditures on food. It should, however, be noted that the household survey reveals that there is shared decision making while selling coffee (main cash crop in south), (joint decision 61%, husband only 29%, wife only 10%). Joint decision dominates in livestock sale also (husband only 31%, wife only 11% and jointly 58%). On the use of sales proceeds, the decision making role changes. In the case of coffee joint decision increases, 75%, husband only 17% and wife only 8.0%. It is the same with livestock revenue; joint decision dominates, 71%. The survey results do not corroborate the empirical experience in respect to male dominance in decision making on sale and use of income from cash crops.

- Households having very low (≤ 2 persons) and very large (≥ 6 persons) have greater stunting occurrence with all projects. The latter was particularly high in Atsbi Woberta, Tsedamba, and Humbo. This is also expected. Small family size means economically active persons are not available, and large family size means more mouths to feed. This underscores the need to emphasize family planning services in future interventions.

(2) Asset ownership:

- Households owning more land and livestock including oxen did not have less child stunting in East Tigray communities, Sodo Zuria, Humbo, and Adama. This is expected since in these areas rainfall is very irregular, good agricultural land exceedingly short, feed shortage very critical. The latter (feed development) is critically important and should feature more prominently in future programs. In Kersa Kondaliti, households with more land, livestock and oxen had lower stunting. In all cases the difference was not statistically significant.

- All surveyed households in Sodo Zuria and Humbo did not have oxen, and this is not significant to nutrition because animal draft power is not important to food production in the woredas.

- Households in all projects, but Humbo and Sodo Zuria, with higher income from non-farm sources had better child nutritional status. In Sodo Zuria and Humbo

there was no reported income from non-farm sources. It is another area that requires close attention in the future similar interventions, since it has important implications for household food security and nutrition.

(3) Health:

- Households reporting no episodes of child illness in Adama and Tsed Amba had more stunting prevalence. In both cases, the difference was not statistically significant.

- In all projects but Tsed Amba, the difference in child stunting is marginal between households using safe water sources and those not using.

- Those households that started supplementary feeding in the age group of 4-6 and ≥ 7 months had lower stunting than other groups in Kersa Kondaliti, Adama, and Humbo. In Sodo Zuria households who started supplementary feeding after 7 months had higher stunting, perhaps indicating no impact from health education interventions.

- When extending breast-feeding above 19 months (perhaps not complemented with supplementary feeding) resulted in higher stunting in Tsed Amba, Atsbi Wombera, and Kersa Kondaliti.

Food Shortage duration and application of severe coping strategies

Household survey results in Table 3.69 below show there were remarkable changes for the better in 2000 compared to 1997 in respect to achieving these two aspects of SO. Food shortage period decreased in all projects, while only in Humbo and Adama the percentage of farmers who used severe coping strategies actually increased.

Table 3.69: Length of Food Shortage and the Extent of Use of Severe Coping Strategies in 2000 in WVI/E Title II Projects

Projects	Food shortage months		Use of Coping Strategies (Percent, base year 1997)	
	1996	2000	All Coping Strategies	Severe Coping Strategies
Atsbi Wombera	6.4	5.59	84	82
Lay Lay Tsed Amba	6.1	4.58		82
Sodo Zuria	5.6	3.21	113	97
Humbo	6.2	4.69	148	121
Baddo Wacho	6.5	2.81	NA	NA
Kersa Kondaliti	3.5	2.72	52	20
Adama	2.8	0.69	468	138

Source: The 1997 baseline and 20001 evaluation surveys

Other major findings relating to the two SPO indicators include:

(1) Female-headed households constituted 20% of the surveyed households in the WVI/E projects, about the same as the national average. This group experienced more elongated food shortage, 4.4 months against 3.24 months for male-headed households.
(2) Households with more labor had shorter food shortage time (2.74 months against 3.5 months in the case of those having less labor).
(3) Households having less livestock had, as would be expected, more extended food shortage (4.14 months for those owning ≤ 1 TLU against 1.94 months for those having ≥4.0 TLU). The difference is not statistically significant.
(4) About 61% of the surveyed households were oxless and a further 26% had one ox per household. These two groups had longer food shortage months (3.78 months oxless and 3.70 owning one ox).
(5) Households who employed improved farming practices of one type or another had considerably less food shortage time (3.33 months against 4.8 months for non-practioners). The difference is statistically significant (P= .000).

3.5 Other Title II Results

3.5.1 Community Participation

Community participation means d m(.Uifferent things to different people. To some, it is the involvement of people in development by free contribution of labor. To others, it includes the contribution of material resources. Participation is also perceived as synonymous to people's contribution of free labor and money for the implementation of blue-print development plans or projects. Still to some, participation is letting people provide information needed to design development projects.

While all these things may not be unrelated to participation in development context, conceptually community participation means much more. It means the consultation of beneficiaries and communities in the formulation of projects and programs and the fixing of priorities. Above all, it means letting people make decisions on all aspects that affect their lives. Community participation is a development strategy that places the focus of attention on equity (improved access to productive resources for the poor) and self-reliance at the community and household levels.

To sum up, community participation is a process in which the poor themselves become more aware of their own situation, of the socio-economic reality surrounding them, of measures they themselves can take to begin changing their situation. In a project environment, participation means the involvement of the beneficiaries in deciding in all aspects of project design – from the inception to post-project evaluation.

The results of the PRA surveys this evaluation has carried out reveals that the communities believe, in most cases strongly, that they have had active participation during need assessment and implementation. From these discussions the following results emerge:

- In the 123 focus group discussions held with beneficiaries in 39 rural Title II projects, participation in the form of labor and/or material contribution was mentioned in all of them.
- Participation in tree species selection was cited in 27 FGD
- There were twelve cases asserting that it is the communities who decide on areas to be enclosed and utilization there-from.
- In some 37 cases mention was made that communities participate in the selection and mobilization of people for involvement (free labor) in project activities.

Success with community participation in Ethiopia rarely advances beyond extractionist participation characterized by labor and material contribution. This is largely due to the absence of viable grass roots organizations. In rural Ethiopia, there are formal and informal sector village-level organizations. The former include the kebele system, an integral part of the government structure. The kebeles perform political as well as development functions. In most kebeles, there are development committees in charge of development for the kebele administration. Empirical experiences indicate that the development arm of the kebele organization lacks capacity (manpower, finance and logistics).

In addition to kebeles or peasants' associations (Tabias in Tigray), there are agricultural cooperatives. These are farmers' grass roots organizations. They provide input supply, credit and marketing services to members. At present, as will be the case in the future, as well cooperatives provide a window of opportunity to effect authentic beneficiary and community participation in project planning.

There are also informal sector grass roots institutions. They are set up to perform social and religions functions. These organizations lack development orientation, experience and capacity to be used as forums to bring about effective community participation. There are, however, experiences, albeit limited and mostly urban, in the involvement of informal organizations like 'idirs' as partners in development programs. Although there have been some promising results, yet it seems too early to form any opinion on the potential of the informal sector organizations for use as the channel to bring about meaningful community participation.

The situation in the Title II project areas with regard to formal and informal community-based organizations (CBO) is similar to the country picture. It seems in recognition of this that in some DAP provisions were made to set up task forces (one each for agriculture, conservation, water and sanitation). Members of a task force were to be drawn from the community, kebele and the project. The objective was to widen community participation in a sustainable manner, and the task force was intended to be the medium. Major decisions pertaining to project implementation and benefit sharing were to be effected by the task force.

Therefore, it would be naïve to expect enhanced community participation at the decision making level, simply because of the lack of strong and development-oriented CBOs and also because of the lack of democratic tradition. The envisaged task forces have not emerged in most places. Where they did, they were not what they were supposed to be in form and mandate. The major complaint one could level against the projects in this regard would be the scope of program and resource provision for improving capacity at the community and local levels were not commensurate with the need.

Finally, it is important to note at this point that future DAP should consider the possibility of using existing informal sector institutions in its endeavor to build up local and village level capacity.

3.5.2 Gender Aspects

From the outset gender-based programs, more specifically activities consciously planned to enhance women empowerment, were few and far between. Credit provisions to promote income generating activities focusing on women were planned, but they did not materialize. Women's compounded responsibilities in the household economy were not seriously considered in FFW employment, (e.g. same norms are used for men and women) food shortage, household food processing and preservation, etc. One should not thus expect much women empowerment results. However, the following results are important:

- In nutrition, food shortage and use of severe coping strategies, female-headed households benefited less than male-headed households
- Women participation in FFW programs was high, especially among projects in Tigray.
- Women hold high appreciation for the project-supported water programs in all project areas.
- In decision making, the role women play is encouraging on such issues as what and when to sell, how to use the income from sale. Joint decision on cash crop sale is over 60% for all CS. The joint decision is equally strong (55%) on the application of revenue from cash sales.
- Women participation in existing CBOs leaves much to be desired.
- There is a tremendous appreciation for health care and mobile EPI programs the projects assisted. This would benefit women by bringing the facility to their locality, avoiding long distance travel.

3.6 Operating Environment

3.6.1 External

This evaluation has not been able to find the major assumptions DAP has made in order to effectively realize its strategic objective. Nonetheless, there have been some external elements factors that have restrained project achievements.

These factors came from three sources: Government policies, notably government-NGO relationship; conditionality that surrounds the external assistance to the projects; and nature-imposed constraints.

Government – NGO relationship: There is a very good team work between the government offices and project management in REST projects. The relationship and team spirit in the projects EOC operates is not at the REST's level, but it is positive. CRS has also good working relation with local government offices. This seems to stem from the fact that CRS is not directly involved in project operation; rather, implementation is through partners, mostly indigenous NGOs. Africare does not have any relation problem because it operates in Gambella where every external assistance

is considered a novelty. It is in the projects the international NGOs operate that this evaluation observed poor project – local government relation. The lack of legislation that clearly stipulates the roles of NGOs, especially international NGOs in development as well as relief seems to account for the poor relation. It seems it is because of this that the perception of NGO role differs from region to region and from woreda to woreda.

Another important issue this evaluation would like to flag is that the government Disaster Prevention and Preparedness Management strategy does not make a distinction between FFW and relief-oriented Employment Generation Schemes (EGS). FFW could be a powerful means of development if used judiciously, especially in relatively more marginalized areas. Its purpose should not only be asset creation at the community level and improving household access to food. It should also be directed at creating asset at the household level. FFW has not been doing the latter in the project areas because of the absence of clearly stipulated directives on the application of FFW resources.

The Proclamation to Regulate Micro Finance issued in 1996 was not anticipated at the time of designing DAP, and that must have had implications on the first and second Intermediate Results. The attainment of these results was contingent on the provision of credit for agricultural inputs and for income generation activities focusing women. These were not implemented because of the micro finance regulation.

Conditionality of the external assistance: It could perhaps be more appropriate to call it the nature instead of conditionality of the USAID support to the projects. Most of the finance of the project operation came from monetized food aid commodities. All CS's reported availing the fund has been irregular and inadequate. Table 3.70 below shows they have had an ax to grind, so to speak. One even wonders how some of them-like EOC- were even able to operate at all.

Table 3.70: Project Funds and Resources Actually Availed Compared to Plan

(Percent)

CS	1998		1999		2000	
	Monetized Earning	FFW (Relief Commodities)	Monetized Earning	FFW (Relief Commodities)	Monetized Earning	FFW (Relief Commodities)
CARE	72	100	69	100	93	93
CRS	63	74	94	89	85	78
EOC	29	9	27	55	56	50
FHI	76	101	32	100	51	100
REST	-	-	80	100	57	100
WVI/E	41	29	70	77	76	108

Sources: Cooperating Sponsors

N.B: Africare provided a plan figure for one year only and SCF/USA did not provide any data on the subject.

The main reason the projects in all CS gave in all instances for output shortfalls is the irregularity of project fund flow. The implications of this for the realization of intermediate results and the strategic objective is evident. The donor is aware of the

problem and it is learnt that a study team is already set up to review issues associated with monetization of food and resources in Ethiopia.

Nature-caused constraints: Drought, shortage and irregularity of rainfall seriously constrained performance with ramifications for impacts almost in all project areas, but more visibly on REST, SCF/USA, East Shoa CARE/CRS WVI/E projects.

3.6.2 Internal

Internal environment here refers to the CS management capacity and the extent to which they have been able to link up and coordinate well activities with communities and other stakeholders, notably relevant government offices. The CS own management capacity (quality and quantity of expertise at project sites, logistics support to staffs, responsibility and authority delegation, capacity of head office to backstop field staffs, staff motivation at all levels, and availability of operating systems and procedures) was found adequate, although understandably variation existed among the CS.

With regard to community participation, there is still much to be desired. Participation did not exceed labor and material contribution, collaboration in the provision of information to monitoring and evaluating groups, and membership in various functional committees (water, health, irrigation, etc.).

The **Task Force** idea contained in the DAP proposals to bring about authentic participation did not materialize in many of the projects. Community-based organizations are lacking and where available they are not strong to warrant authentic participation (decision making). It is observed that the projects operate with and through formal sector organizations like development committees, but the approach is only formality rather than objective or goal-oriented. The efforts the projects have made to enhance the capacity of grass roots organizations or institutions (formal and informal) have been wanting, based on observations made during field assessment.

IV. Lessons Learnt: Some Discussion

The discussion in this section is premised on three questions: (1) have there been interventions that were not included but should have been considered in the DAP in order to better achieve the strategic objective? (2) has there been any missed opportunity to better integrate Title II activities into the main development stream? And (3) could the projects that had FFW component done better to enhance capital or asset formation at the household level?

4.1 Relevance and Appropriateness

This evaluation held discussions with 123 rural beneficiary groups involving over 1230 persons (over 35% women)[24]. Among the major topics raised in these discussions were the relevance and appropriateness of the activities of Title II Program. The discussion on relevance was made to focus on whether the activities were appropriate to reduce poverty and improve household food security, whether they were compatible to the resource base of the communities and individual households, and whether the interventions were affordable. The discussions were also made to focus on whether the projects were designed to enhance community capacity, enable households to increase assets, improve access to social infrastructures and market.

The results demonstrate that some 87% of the participants felt that the Title II activities have been relevant to improve food security in a sustainable manner and consistent with the socio-economic realities in the project areas. There was a consensus that the projects addressed priority development needs. The remaining 13% are those who were not sure or unable to distinguish whether the interventions were indeed most wanted to solve food problems. The results of key informant interviews (123 women and 123 men) and discussions with government offices at the woreda level confirmed the views of the group discussions. The only departure in this respect was reported in the Hararghe CARE projects where woreda government officials as well as experts did not agree with the choice of the project sites. They believed that there were more marginalized locations.

Communities and government are supportive of the projects' strategies: (1) focus on food security and being poor-focused; (2) emphasis on conservation-based development; (3) sensitivity to gender aspects of development; (4) emphasis on promoting appropriate and cost-effective technologies; and (5) attention to local capacity building.

While this evaluation agrees to the opinions expressed above, it believes that there were some missed opportunities that could have made important contributions to achieve the SPO. In the opinion of the team, a typical Title II projects should have had activities shown in Figure 4 below. Figure 5, on the other hand, tries to depict the actual situation as the team observed it. The activities that look particularly conspicuous omissions in the latter are:

[24] Types of beneficiary groups used in the data collection stage are explained in the methodology section.

- Food processing (flour mills in particular)
- Food preservation at the household level (awareness raising)
- Family planning and maternal education (some projects have had some interventions)

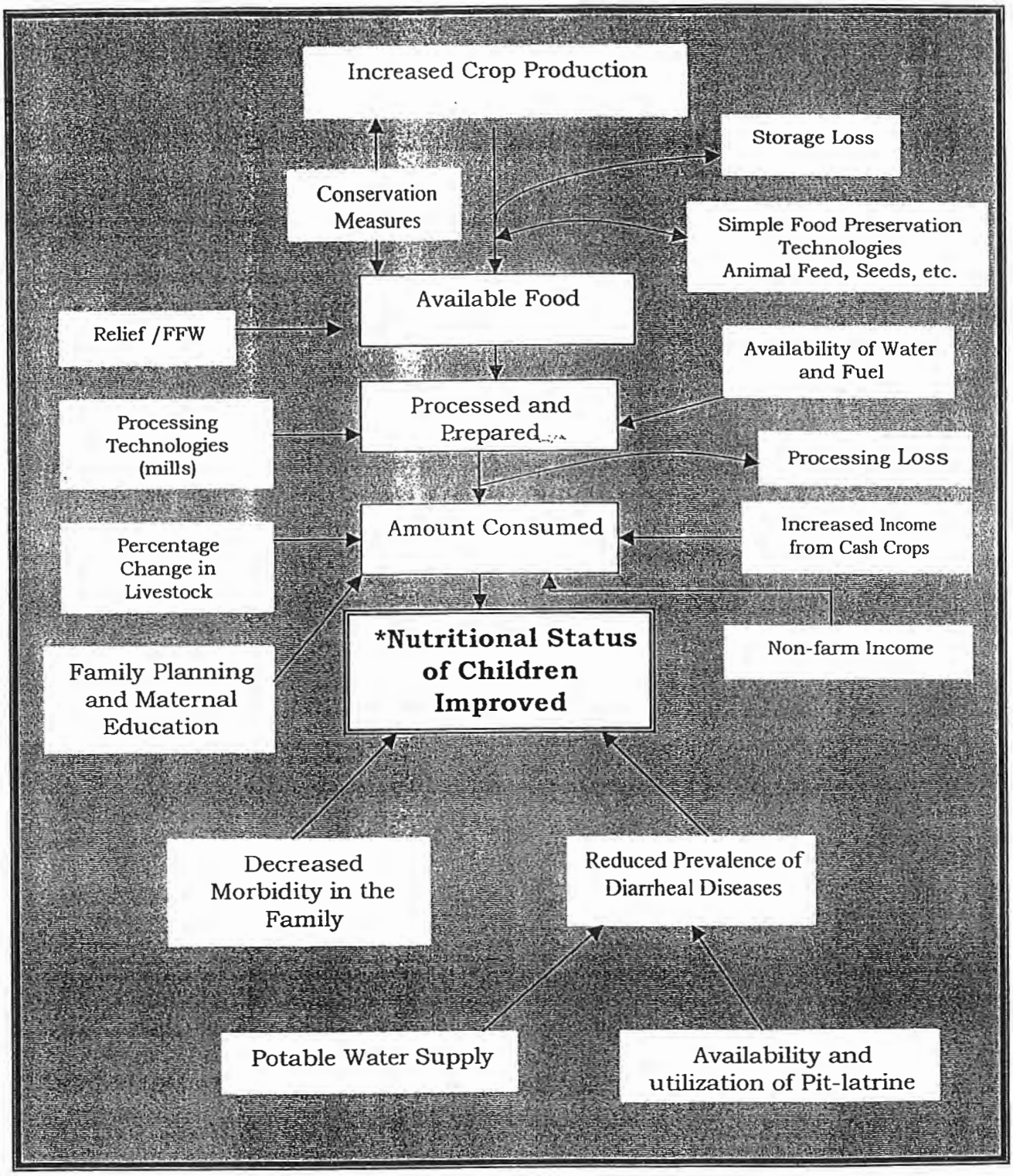
These and other gaps in DAP of significance to future similar programs are reviewed below by sector.

4.1.1 Crop and Livestock Production[25]

1. Title II projects in the Amhara Region and Tigray have a unique problem. Long years of abuse in the use and management of renewable natural resources rendered cereal crop production under the existing farm management practices non-feasible. The gradual phasing out of the production of cereals in the weredas seems imperative. This is because of the fragility of soil (most of the top soil already gone), increasingly erratic rainfall, acute shortage of land that forces farmers to cultivate steep slopes, land preparation requirement of cereals (soil being disturbed several times annually), etc. The question of what then was denied a serious consideration in the DAP. This evaluation believes agricultural development problem, notably in these northern weredas, is big requiring a big solution. The most tempting solution is to stop all cereal production under rainfed conditions, significantly reduce livestock population, enclose all areas with slopes exceeding 15 degrees and undertake enrichment tree planting. This cannot, however, be considered a realistic short-to medium-term solution, but it certainly deserves a serious consideration in any long-term development strategy. Courageous and visionary land use policy, consciously facilitated intra-and inter-regional resettlement or permanent migration need to be seriously considered. The Government development strategy underpins that agriculture should play the lead role. But can this be realistic across the country, especially in highly marginalized parts (making up about 50%)? Measures such as resettlement, issuing and implementing land use regulations, and facilitating a major change in land use may not be suitable for NGO operation or Title II. While appreciating this, it is felt that DAP preferred not to articulate the most fundamental agricultural development problems in such areas, and it did not give sufficient consideration to non-cereal production options.
2. DAP was formulated in 1997. Regional micro finance companies (Dedebit in Tigray, ACSI in Amhara) have been operative at the time of DAP formulation. Yet, the implications of such policy for the administration of input and income generation credit, key to achieving the first and second intermediate results of the special objective, had not been analysed. This prevented the implementation of input supply envisaged in the DAP. While this evaluation is aware that there is need to be cautious in the use of fertilizers in the project areas, inputs such as fertilizers and improved seeds might be justified on financial and sustainability terms in some project areas. Input credit provision may have to be limited to farms with well-drained soils, having adequate rainfall or where there is supplementary irrigation.

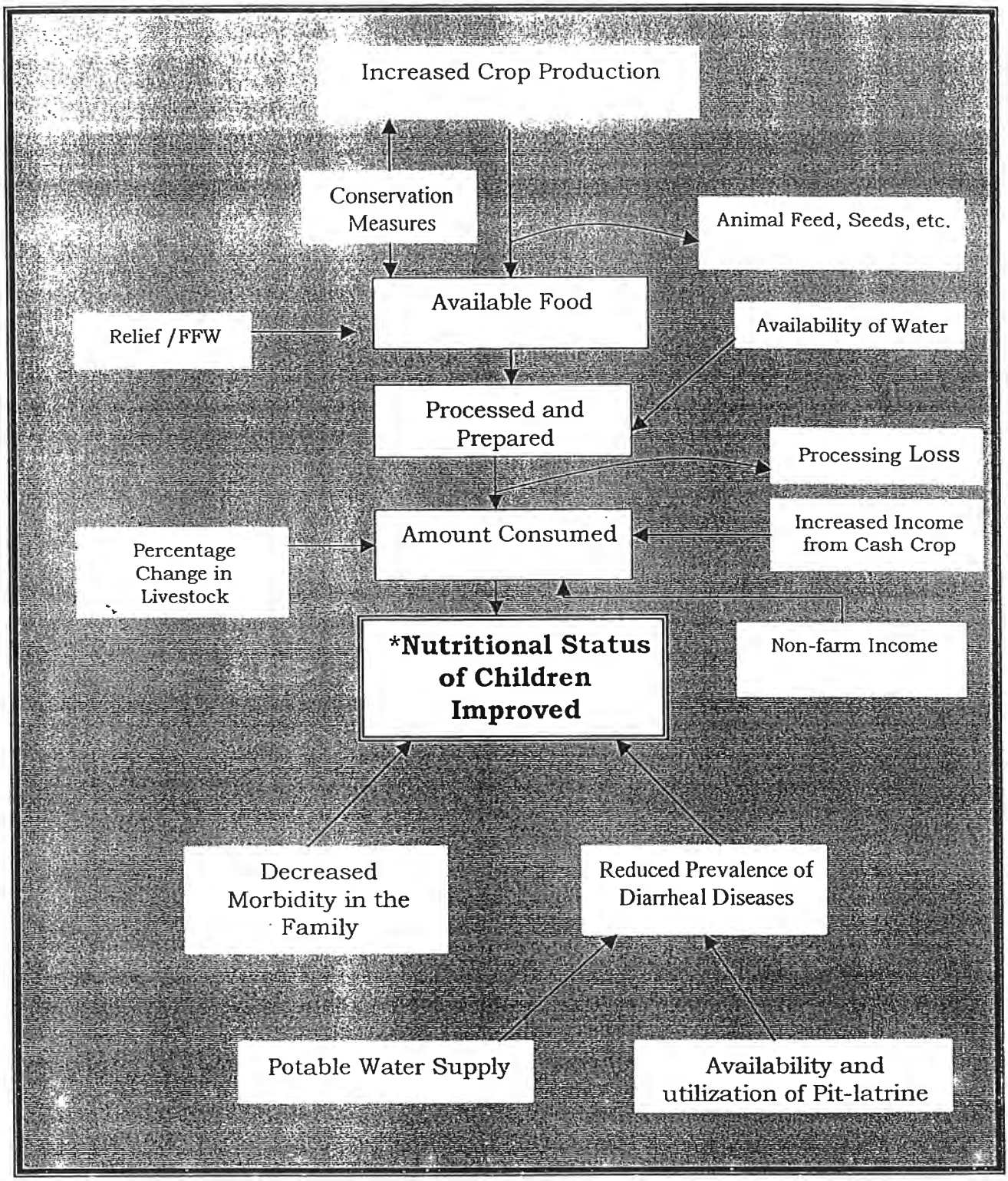
[25] This evaluation strongly contends that in rural communities where mixed farming (crop and livestock) prevails, household food production is pivotal to household food security. Strengthening the former is enhancing and sustaining the latter. This contention is the basis of the discussion in this sub-section.

Figure 4: Factors Influencing Nutritional Status of a Typical Ethiopian Rural HH and Their Inter-relationships



* The core elements of Title II Program Strategic Objective measured by level of stunting

Figure 5: DAP Activities under Implementation to Improve Nutritional Status of a Project Household



* The core elements of Title II Program Strategic Objective measured by level of stunting

3. Crop diversification that revolves around the introduction of Irish potato as a partial replacement to barley, introduction of improved sheep breeds in the high altitudes and production of trees including fruit trees as an alternative to cereals and pulses should have been given a more serious consideration. At the minimum such enterprises could have been included as pilot programs in the DAP. There should have been a proposition for a more aggressive promotion of backyard farming targeting vegetables during the meher season for household consumption[26]. Food availability ebbs in July to October in the project areas. Rainfed vegetable production could help to ease food supply shortage at this period.

4. Varieties of improved seeds to be distributed to farmers in these drought - prone areas are not characterized based on days to crop maturity to fit into the length of growing season of the project area. Nearly all the project areas have chronic and transitory shortage of rainfall. The proxy indicators need to consider whether a household is using varieties of the correct crop maturity group tuned to the length of growing season. The already existing indicator '**percentage of households using improved seed**' should have read '**percentage of households using improved seed varieties tuned to the length of growing season**'.

5. Irrigation intervention seems to concentrate on tapping perennial rivers and springs. Possibilities of water harvesting during the main rainy seasons have not been considered in the DAP. Title II projects focused mainly on irrigation schemes involving the construction of micro-dams and diversions that could be costly and location-specific. Though rainfall in these project areas is erratic and of short duration, the amount during the peak period is considerable to enable storage and utilization. Other water harvesting techniques such as ponds, roof catchmet, etc., with the object of promoting vegetables production, have not been emphasized sufficiently.

6. Livestock constitute an important part of the livelihood systems of rural households in all project areas. It plays a critical role in the household food security. Although it yields little at present, its potential to contribute to household income and food security could be considerable. The existing extremely low livestock productivity is due to pervasive provenance of preventable and controllable diseases and lack of feed. Communities identify shortage of feed and diseases as priority development needs. Yet, several Title II projects were nearly oblivious of this.

4.1.2 Health

1. Impression is gathered that relevant health interventions have been compromised on the belief that efforts to enhance agricultural production and increase income will have positive implications for health. While accepting the truism, there should have been more but appropriate health interventions to strike a better balance between health and other sector development interventions. For example, in Lay Gayint in one PA, of the observed 37 women 17 had goiter, and yet it was

[26] DAP have activities on the promotion of vegetable production with the aim of improving the quality of diet at the household level. This evaluation would like to note that the activities planned and resources allocated for the promotion work should have been wider in scope.

not identified as a development problem nor has there been any initiative to reduce the incidence.

2. Africare is not as yet involved in direct health interventions, but its consideration of food processing, through support for grinding mill, is encouraging. It is very likely that this will contribute to improved women's health status through reduction of workload. The lack of grinding mill has been identified as a priority in many of the women FGD. Its omission where felt need is strong is conspicuous.

3. Family planning services and food processing at the household level were not given the attention they deserved. Empirical experiences indicate that normally there is a strong relationship between household food security and family size. More mouths to feed means less per capita food, especially for poor households. In both cases, women are central: women give birth, they produce and process food to feed the people. The impact of multiple births is not just too many mouths to feed, but also a source of ill-health to women. Another important cause of women's illness is overwork, especially from tasks related to feeding the family like water collection, stone grinding and fuel wood collection. Health interventions that are meant to impact food security should be those that have a bearing on health as well as on food processing and consumption. In this instance, family planning and assistance to simplify workload would have brought improved women's health and better and more food to the family.

4.1.3 Natural Resources

1. Although rehabilitation of natural resources through physical and biological measures constitute the major operational area for most Title II projects, yet there are a few that did not have any conservation activities in the first cycle of DAP. This was in spite of the existence of a huge demand for soil and water conservation. Since potential exists in these project areas to improve HH food security through soil and water conservation practices, the lack of focus in this regard is considered a missed opportunity to enhance further household food security.

2. The Title II projects provide support for the establishment of communal and private woodlots, or tree planting. In this regard, tree seedling supply in a cost-effective and sustainable manner is critically important. In appreciation of this, the approach one CS followed was to establish and strengthen private nurseries. Technical, material support and training was given to individual farmers willing to run nursery activities. This strategy should have been pursued, at least on a trial basis, in other Title II projects.

4.2 Sustainability of Title II Activities and Results

Sustainability in terms of project is a function of integration of project activities into the regular development stream, and development of local capacity that is capable of sustaining capital assets created with the support of the project. It is essentially the result of the following six factors.

- Authentic community participation in the planning and management of the project, which determines ownership;
- Capacity enhancement at the community and local levels;
- Gender sensitivity of the project activities, or the role the project plays in empowering women;
- The capability of the project to network with its major stakeholders;
- The capacity to generate and make good use of critical information about the performance of the project; and
- Having a well-thought out phasing out strategy

Ownership, capacity and phasing out strategy are particularly significant for sustainability. While duly noting that there is considerable inter-project and inter-activity variability, there are empirical observations that tend to suggest that sense of project ownership among communities is not at the level it should be, especially with conservation and physical infrastructures. In most projects, communities consider the conservation programs as an employment outlet. This should not be understood to mean that the communities and individual farmers lack appreciation or are not supportive of the conservation activities. Such appreciation exists. The projects might in fact have contributed to enhancing the appreciation. What is observed here is that perhaps farmers and community contribution towards the conservation programs is not at the level to generate commitment or sense of ownership.

There are remarkable achievements to the credit of the Title II programs both in conservation programs and rural roads. If the Title II support were to be withdrawn, evidences are lacking in support of either the continuation of the conservation programs, at least at their current level, or in sustaining (maintaining and repairing) the project results (outputs) to date.

Two reasons stand above others to explain the situation. The first is inadequate stakeholder involvement, especially local government and relevant line agencies. In the majority of woredas in which Title II projects operate, dissatisfaction was voiced, in several places strongly, about the role of government as a major stakeholder in the projects. Local authorities including agricultural offices reported poor to very poor planning and working relations in their respective woredas. The most often mentioned complaints are lack of information sharing, poor networking, poor coordination, absence of agreed forums to discuss common problems and solutions, lack of appreciation of the fact that both parties seek the same objective, etc.

DAP consciously or otherwise did not have any defined initiative to enhance productive participation of local government in the project. This in the judgment of this evaluation was a missed opportunity.

The second reason is that there is little, if any at all, difference between pre-Title II period and the present time in terms of organizational capacity at the community level. DAP had at least one good idea – setting up of task forces -. but it failed to provide enough resources to ensure their successful emergence. It does not also seem that there was awareness of the need to provide mechanisms to monitor the successful evolution of the task forces.

4.3 Self-reliance at the Household Level

It is common understanding that household food security is a derivative of household self-reliance. It is also true that most of the project activities such as income generation and food-for-work have been the main Title II tools towards enhancing household self-reliance. Yet, there are observations that indicate dependency continues to surge. It means household self-reliance has not been evolving. The issue this evaluation flags in this regard is the lack of clarity that surrounds the use of food aid resources channeled in the form of FFW. FFW could be a powerful means of development if used judiciously, especially in relatively more marginalized areas. Its purpose should not only be asset creation at the community level and improving household access to food. It should also be directed at creating asset at the household level. FFW has not been doing the latter in the project areas because remuneration-wise it is considered the same as employment generation scheme (EGS). FFW wage rate is survival-based as it is in the EGS and not market-based as it ought to be. The Title II projects have not been able to positively impact asset ownership of the beneficiaries mainly due to the under-pricing of labor employed in FFW activities.

The rationale for non-application of the going wage rate for FFW employment is not clear. Government Disaster Prevention and Preparedness Management directive was quoted in a few cases as the reason for not basing FFW enumeration on market wage rate. But a close review of DPPM shows that there is overtly expressed provision to this effect in the policy document. Rather the reason seems to be that the relevance of this aspect of FFW escaped attention while designing DAP.

V. Conclusions and Recommendations

Title II projects seek across the country the same strategic objective, the same strategies. Similarities of project interventions are considerably larger than their differences. Because of this the major conclusions of this evaluation are common to all, especially the rural projects. This should not be understood to mean that conclusions specific to a project are lacking. There are, but they are not brought out in this summary section. The section is summarized under four headings.

(1) Assumptions violated;
(2) Main findings
(3) Lessons learnt
(4) Main recommendations

5.1 Assumptions Violated

5.1.1. The inability of some projects to implement credit component of DAP was harmful to food availability and access.

5.1.2. The projects experienced cash flow problems arising from monetization of food aid commodities, in some projects the problem was very serious. Quite a few projects did not have a conducive operating environment due to poor relation with line ministries and local governments. There were harsh weather conditions, notably severe irregularity of rainfall. Security was lacking in a few project locations. In spite of these and other operating constraints the performance of the projects (realization of planned outputs) was satisfactory.

5.1.3. Food availability in Ethiopia depends heavily on 'belg' and 'meher' rains. The 'belg' rains in 2000/01 were poor, but not the meher rains. The latter accounts for over 80% of the grain production. FAO and CSA figures tell that the 2000 meher production was the highest recorded in the country. Most project areas had good meher rains and this possibly improved availability. This fact could have bearing. The message here is the evaluation lacks concrete evidences to suggest that the change in the nutritional status of children can be sustained.

5.2 Main findings

5.2.1. The nutritional status of children looked better in 2000 compared to 1997 in many of the Title II projects. There is reason to believe that project activities such as promotion of vegetable production, feed and other livestock programs, improved access to water, health services, and improved access to markets contributed to the improvement in the reduction of stunting prevalence. However, there are no strong evidences in support of sustaining results like reduced stunting (see Table 5.1).

5.2.2. In the overwhelming majority of the projects, the length of the period households experienced food shortage had decreased significantly in 2000 compared to 1997. The basis for the decrease might not be structural changes in the production systems or sustainable income rise from dependable sources. Rather, it could be because 2000/01 was relatively a better agricultural year. In other words, better food availability, access and the attendant reduction in food shortage in 2000 is difficult to wholly attribute to the projects, and it is not certain whether it can be sustained (see Table 5.1).

5.2.3. There has not been any significant change over the life of the projects in terms of the use of severe coping strategies. In fact, the overall picture is that (all projects considered) the situation in 2000 worsened compared to 1997 in this regard.

5.2.4. Agricultural productivity improved in 2000 compared to 1997. In most projects, cereal yields were considerably higher in 2000. But this did not come from wider and higher use of fertilizers and improved seeds. In fact, the percentage of farmers using fertilizer and improved seeds has declined in 2000 over 1997 in most projects. Grain production to a household decreased in 2000 compared to 1997. The findings of this evaluation indicate that there was decrease in the cropped area per household. This together with the likely increase in the number of households accounted for the shortfall in per household gain production.

5.2.5. Livestock ownership declined in most projects. Some of the planned income generating initiatives did not materialize due to the Government micro finance policy.

5.2.6. Child under-weight, wasting, prevalence of diarrhea occurrence, access to safe water sources and morbidity have shown a declining trend in most project communities in 2000 compared to 1997. The improvement is mostly attributed to the project interventions, especially the water programs.

5.2.7. On the other hand, in most cases households reporting access to safe water sources did not have lower stunting rates implying that there might be problems deterring the use of the sources or the manner in which the water is used domestically. Moreover, contrary to expectation, the amount of water used per household decreased significantly in most project areas.

5.2.8. The most visible strength of Title II projects (in most areas) is the contribution they are making to maintaining the natural resource base. The qualitative aspects of soil and moisture conservation measures and work outputs are impressive. In many of the focus group panels, farmers expressed that the conservation practices are already positively impacting crop productivity and increasing feed and fuel wood supply.

5.3 Lessons learnt

5.3.1 CS stakeholders communities and relevant government offices alike strongly believe that project interventions address the priority development needs and have a strong relevance to improving household food security.

5.3.2 While this evaluation is in agreement with the stakeholders' views, it is in contention that there were activities not included (flour mills, family planning services), which could have made important contributions to food utilization aspects of household food security.

5.3.3 Food availability, the crucial constituent of food security in rural Ethiopia where mixed farming system prevails, could have been more enhanced if livestock feed development, perennial crops such as fruits, private woodlots intended for the market, irrigation, and horticultural crops were more emphasized in terms of program scope and resource allocation.

5.3.4 The main strategies the projects pursued are focus on food security, emphasis on conservation-based development and targeting the poor. While accepting the appropriateness of the strategies, it is argued that the inadequate attention given to capacity building at the local and community levels is not consistent with the strategies.

5.3.5 Gender sensitivity has generally been taken to mean women's participation in activities, especially FFW, and it was not clear whether it was linked to benefit sharing and the level of involvement in community-based organizations. Interventions that could have empowered women more like family planning, cooking fuel supply, and food processing technologies have not been adequately focused or not included at all among the interventions.

5.3.6 Community participation, support for community-based organizations, and initiatives to bring about better coordination between the project and government programs have been weak, as a result sustainability of the project interventions and outputs is doubtful.

5.3.7 There are observations attesting that farmers are accepting that it is they who should assume the lead role in conservation development now more than before, and this is attributable to the role the projects have been playing to raise awareness.

Table 5.1: A summary of SO and IR results of Title II projects by CS

IR# 2: Increased Household Income	Unit	Africare		CARE		CRS		EOC		FHI		REST		SCF		WVI		All CS	
		1997	2000	1997	2000	1997	2000	1997	2000	1997	2000	1997	2000	1997	2000	1997	2000	1997	2000
1. Strategic Objective																			
Stunting*	%	NA	18.6	52.2	43.7	56.8	34.3	66.6	54.5	85.9	56.5	71.9	46.1	45.4	40.5	65.9	39.6	61.1	39.5
Use of severe coping strategies	WAI 1997-2000	-	-	-	124.6	-	118.5	-	78.1	-	80.0	-	96.9	-	58.3	-	90.4		99.4
Length of period households had food shortage	Month	NA	5.7	5.6	5.1	5.2	4.6	5.5	5.7	8.8	5.3	4.1	3.6	2.2	1.4	5.5	4.3	5.6	4.7
2. IR1-Increased Agricultural Production																			
Barely yield	Kg/ha		NA	NA	532	690.9	942.7	390.25	923	386	885	532	668.8	NA	872.7	201.3	747.1	366.74	796
Wheat "	"		NA	NA	8.67	630	825.7	437.7	884	416	923.9	532	8.47.3	NA	584	222.4	542	447.62	782
Teff "	"		766.6	5.53	612.7	636	651.6	322.5	674.2	263.7	793.4	532	797	NA	693	165	591.5	320.8	698
Maize "	"		581.5	6.10	601.9	332.7	988.6	274.25	758.7	206	946.3	532	998.6	NA	322.3	238	647.8	365.5	836.5
Sorghum "	"		512.2	8.55	639.6	354.5	1051	248.7	628.7	-	833.7	532	788.8	NA	148.4	72	743.4	412.4	763.7
Overall cereal production	Kg/hh	NA	581	NA	522	NA	446	NA	516	NA	361	NA	345	NA	329	NA	427	NA	435
Household used fertilizers	%	NA	1.3	16.5	31.6	29.8	25.5	13.25	22	22.6	6.7	-	42.5	-	16.1	40.7	40.1	21	26.6
Household used improved seed	%	NA	0.6	38.5	22.9	3	7.9	2.9	7.3	17.8	0.82	-	12.2	-	1.65	7.2	21.5	5.9	12.5
Used improved farming practices	%	NA	21.1	-	44.2	NA	44.1	53.4	47.8	29	53.3	NA	44.4	NA	16.7	21.3	83.1	35	48.0
Irrigated area	Ha.	NA	-	-	145.48	-	3.3	55.3	229	5.1	9.7	NA	1.75	NA	0.75	-	8.4	60.4	398.4
3. IR2 – Increased																			
Livestock ownership	TLU	-	-	2.63	1.60	2.73	1.49	2.82	1.94	1.81	1.40	3.98	2.14	2.61	6.09	2.83	1.80	2.66	2.17
Physical asset ownership of HH																			
Radio	No.	-	0.05	0.08	0.19	0.2	0.18	0.04	0.16	0.01	0.02	0.11	0.26	0.33	0.40	0.05	0.20	0.12	0.18
Table	"	-	0.08	0.03	0.08	0.12	0.10	0	0.08	0.01	0.07	0.02	0.14	0.50	1.01	0.03	0.27	0.08	0.16

* Stunting figures are as it June 2001

IR# 2: Increased Household Income	Unit	Africare		CARE		CRS		EOC		FHI		REST		SCF		WVI		All CS	
		1997	2000	1997	2000	1997	2000	1997	2000	1997	2000	1997	2000	1997	2000	1997	2000	1997	2000
Wooden framed bed	"	-	0.01	0.01	0.06	0.07	0.07	0.19	0.17	0.01	0.26	0	0.04	0.35	0.70	0.25	0.55	0.11	0.24
Cart	"	-	-	0.01	0.00	0.01	0.07	0	0	0.01	0	0	0.28	0.01	0.04	0.01	0.01	0.01	0.05
Plough	"	-	0.62	1.42	0.83	1.06	0.42	0.83	0.79	0.69	0.52	1	1.17	0.12	0.97	0.79	1.14	0.99	0.80
Watches	"	-	0.05	0.11	0.25	0.25	0.15	0.05	0.08	0.02	0.03	0.14	0.21	0.35	1.79	0.13	0.49	0.18	0.38
Blankets	"	-	0.17	0.84	0.48	0.39	0.51	0.33	0.34	0.11	0.08	0.46	0.71	0.63	0.80	0.79	0.67	0.54	0.48
HH that didn't add any luxury food items	%	NA	8.0	64.4	62	62.5	62.0	82.2	80.5	98.2	91.8	65.6	61.7	47.3	43.7	72.8	72.5	69.6	67.7
4. IR3 -Improved Health Status																			
Prevalence of diarrhea occurrence among children 0-59 months old	%	NA	NA	13	7.7	14	4.8	8.8	6.2	17.7	4.2	1.2	6.6	24.1	6.7	9	11.9	12.7	5.3
Children under weight	"	NA	NA	42.7	44.9	41.7	24.2	47.7	50.8	63.9	38.4	57.9	51	33.2	44.9	48.1	37.9	45.4	41.1
Households using protected water source	"	NA	NA	77.44	30.8	42.32	42.5	50.7	81.9	24.94	26.1	29.79	58.3	35.67	36.1	33.18	60.6	36.3	44.2
Deliveries attended by TTBAs	"	NA	NA	-	36.7	-	61.8	-	31.6	-	50	-	39.5	-	69.45	-	32.1	NA	40
HH that visited health posts twice in last six months	"	NA	NA	-	27.2	-	21.9	-	18.2	-	17.8	-	25	-	26.35	-	27.6	NA	20.5
Amount of water used	Lit/day/ hh	NA	NA	44.42	45.8	41.51	34.8	36.29	31.2	32.19	27.2	39.62	39	55.42	38.5	37.54	34	40.63	35.7
5. IR4 –Natural Resource Based maintained																			
1. Communal land reclaimed through physical and biological means	Ha.	-	-	-	-	NA	150	NA	160	NA	32	NA	21,446	-	-	-	-	-	-
2. Soil deposited behind check dam		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3. Soil deposited behind hillside terrace		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6. IR5 -- Emergency Response Capacity Enhanced																			

IR# 2: Increased Household Income	Unit	Africare		CARE		CRS		EOC		FHI		REST		SCF		WVI		All CS	
		1997	2000	1997	2000	1997	2000	1997	2000	1997	2000	1997	2000	1997	2000	1997	2000	1997	2000
1. Appreciate updated disaster plan in place		NA	Yes	NA	Yes	NA	Yes	NA	Yes	NA	Yes	NA	Yes	NA	Yes	NA	Yes	NA	Yes
2. Access to early warning		NA	Yes	NA	Yes	NA	Yes	NA	Yes	NA	Yes	NA	Yes	NA	Yes	NA	Yes	NA	Yes

Source: Baseline survey 1997 and Evaluation Survey

5.4 Recommendations

This evaluation understands there will be future DAP. One was at the design stage while the evaluation was in progress. The following points are raised hoping they could be useful and relevant to such future programs.

5.4.1. Land degradation is perhaps the single most important development problems in Ethiopia. There are reliable sources that claim that economic livelihood based on agricultural production may cease to exist over the next 50 years in most project areas unless the process of degradation is reduced and eventually halted. There is strong rationale to continue placing the focus of attention both in terms of scope and resource allocation on rehabilitation of natural resources.

5.4.2. Conservation-based development in Ethiopia requires a structural change. Land use and farming practices that aggravate land degradation need to be controlled through appropriate measures, mostly action programs and policy, especially in the highlands of the Amhara and Tigray Regional States. This would require a huge investment in road infrastructure, incentives to move from annual to perennial crop economy, long term investment credit targeting livestock feed and breed development, a shift to hoe culture with the attendant change in crop program once again away from field crops to root crops, etc. The DAP programs in North Wello, South Gonder, Tigray and similar other places should be designed in this spirit.

5.4.3. Results of the household survey demonstrate that nutritional status of children is positively associated with on-farm conservation measures, vegetable production, and improved farming practices. These are appropriate technologies with a huge potential to improve food availability and access. They have to be provided with more financial allocation with the object of covering more households.

5.4.4. Rainfall irregularity characterize Title II project areas. This requires exercising care on the types of technologies being promoted. Seeds developed for high rainfall area would not work. Neither would chemical fertilizers unless supported with supplementary irrigation. Irrigation is critically important in the project areas and every opportunity to actualize a potential should not be overlooked. The performance of the on-going DAP with respect to irrigation was sloppy. This is to suggest that the promotion of improved seeds and chemical fertilizer should be linked with irrigation, and irrigation should be given more attention.

5.4.5. An element of vital importance for sustainable irrigation is the training of farmers in various techniques of irrigation water management including proper timing and methods of application, amount required, supply schedule, water budgeting, and choice of crops and agronomic techniques. Although the degree varies, sloppiness was observed in projects where there are operating irrigation schemes. Capacity building of CBOs is

critically important in such schemes, and this needs to be focused in future programs.

5.4.6. There are signals indicating that communities are not making good use of protected water sources. One such signal is the lack of association between stunting prevalence and use of protected water sources. The same is true with households reporting vegetable production. This calls for intensified health education that any future programs need to duly note.

5.4.7 Gender needs to be mainstreamed from the very early stage of project initiation and gender expertise should be involved at the design stage. That did not seem to have happened in the on-going DAP, a thing that should not be allowed to occur again

5.4.8. Project sustainability is a function of (1) active and authentic community participation and (2) the existence of close relationship and coordination with other agencies, including government, implementing programs similar to that of the projects. Both areas require increased attention. In the case of the first, the measures involve training, frequent follow-on training programs, leadership training, experience sharing visits, technical assistance, putting in place systems and procedures, etc. In the second it is largely having the will, determination and commitment to develop good working relation. There should be willingness on the part of the project staff to assume the lead role. Regularly held forums to discuss common problems, seek joint solutions and draw follow-on action plans could help.

5.4.9. There is acute scarcity of good agricultural land in most project areas, especially in northern and southern areas. There is strong rationale for practicing intensified agricultural production. Accordingly several projects have been promoting crop diversification with emphasis on vegetables and root crops. Results obtained were encouraging. There is need and purpose to further strengthen the intensification of target crops like vegetables that have the capability to reduce malnutrition.

5.4.10 Farm management practices such as crop rotation, intercropping of mutually complementing crops, moisture conserving measures, etc., are critically important to strengthen household food security. The projects have been actively promoting these activities. There is need to redouble the effort in this direction.

5.4.11 In some project locations potatoes are planted along the contour in rows between ridges and terraces. It is a good example of conservation-based farming practice that need to be promoted wherever possible.

5.4.12 Construction of soil bund on grazing land that has little or no erosion problem was observed in some projects. Since it practically serves no purpose, such practice should be discouraged.

5.4.13 Indicators specified to measure project results pertaining to the IR4 are not practical and, therefore, not applicable. It is suggested that the following indicators should be opted for in the future DAP.

1. Percentage of trees planted that established well in the communal woodlots;
2. Vegetation cover attained;
3. Native species of trees regenerated in the enclosed areas; and
4. Depth of soil trapped inside checkdams

5.4.14 Child stunting is still a big problem in the project areas. Programs such as MICAH and vitamin A distribution should be strengthened.

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