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JIJIGA INTEGRATED COMMUNITY DEVELOPMENT *PROJECT*

External Evaluation of Second Phase funded by ICA

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March 2014

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ABBREVIATIONS

AIC	Arish Church Aid
AIG	Alternative Income Generation
CAHW	Community-based Animal Health Workers
COLTA	Community Organization and Leadership Training for Action
EECMY	Ethiopian Evangelical Church Mekane Yesus
FGD	Focus Group Discussion
ICDP	Integrated Community Development Project
IEC	Information, Education and Communication
IGA	Income Generating Activities
LWF/DWS	Lutheran World Federation/ Department of World Service
NGO	Non-Governmental Organization
USD	United States Dollar
PLWHA	People Living With HIV/AIDS
TBAs	Traditional Birth Attendants
VCT	Voluntary Counseling and Test
VSLG	Village Saving and Credit Group
WASH	Water Sanitation and Hygiene

ACKNOWLEDGEMENT

The assessment is sponsored by ICA through LWF. The author highly acknowledges the participation in the assessment of LWF staff working with the Jijiga ICDP, and the intellectual contributions of ICDP participants. The contribution of senior staff of LWF based in Addis Ababa to this report is highly acknowledged. Finally, I would like to thank the Jijiga ICDP coordinator Mr. Tesfaye Kassa for all the necessary supports provided to the field-level evaluation work. The useful discussions held with program coordinator and project coordinator in Addis Ababa and the comments of Program monitoring and evaluation staff of LWF are highly appreciated.

EXECUTIVE SUMMARY

This report documents the findings of an external evaluation of an integrated community development project (ICDP) Financed by ICA in the Jigjiga district, Ethiopian Somali region. The design of the assessment is based on the LWF's learning agenda involving livelihoods, impact and gender dimensions. The evaluation has been conducted by an independent consultant with the overall objective of assessing impacts, as well as informing the design and implementation of the subsequent phase through identifying project successes, weaknesses and provisioning practical suggestions for future refinements. The overall goal of the ICDP is to contribute to the equitable and sustainable socio-economic development of the rural communities of Jijiga district of Somali region.

With a view to informing the subsequent phase implementation, the evaluation set out to identify the major opportunities and constraints to production and marketing of agricultural products in the study area and to investigate what productive resources are currently available and how these are being utilized. The evaluation also set out to investigate the role of communal birkas, cisterns, relative to private birkas with the objective of understanding how the project can better water security the target communities. As such, the evaluation aimed to estimate the current utilization of different water sources from the perspective of project participants largely depended on private water sources. This was done to assess the availability, accessibility, affordability and quality of existing water sources to inform programming of the third phase of ICDP. The evaluation also looked at changes in household food security period from own production before and after project interventions.

The evaluation was conducted during the first week of March 2014 in five ICDP intervention kebeles in Jigjiga district viz. Gedanod, Jamo Bahad, Debelweyne, Mude and Hara II. These are kebeles selected based on a presumption that project achievements could vary by distance to have focused on remotest kebeles, and using list of kebeles where the key assessment interventions viz. water and food security were implemented during the second phase as sampling frame. In each sample kebele, focus group discussions were carried out in all villages using semi-structured interviews complemented by participatory exercises like proportional piling exercises. The evaluation also involved a number of key informant interviews mostly with women informants.

Highlight findings:

Water development: At the end of the first phase it was evident that the project could not address the critical water shortage problem facing the rural communities with brika construction alone¹. However, the project was not in a position to finance deep boreholes involving a relatively huge initial investment cost while the very deep water table of the Jigjiga area forced to abort the hand dug well construction planned to promote backyard vegetable production. As the ICDP was

¹ Lutheran World Federation and Ethiopian Evangelical Church Mekane Yesus (LWF/EECMY): Jigjiga District Integrated Community Development Project Document Phase II, July, 2010.

forced to continue constructing birkas (cistern) in Jigjiga area, the evaluation focused on assessing changes resulted due to additional birkas constructed in the second phase. In all assessment kebeles, the main water sources were identified as the private birka, government deep borehole locally known as rig and brikas constructed by LWF.

Some specific assessment findings were as follows:

- All communities decided to use birkas constructed by ICDP only for people that the livestock population solely depended on the private birkas and government managed deep boreholes. In Jigjiga area, constructing birka for income is a very common practice of wealthier community members or their urban-based relatives. In a normal dry season, the private birka water is charged at a rate of 0.75 Birr per cattle or 4 small ruminants (around 0.20 Birr per sheep) and 0.30 Birr per 20 liters gallon on average.
- Whereas the maximum water use period of brikas constructed by ICDP was estimated to around 75 days, this water use period will decrease to 30 days if the birka would be used continuously even for household consumption.
- The main role of project birkas was to complement the other water sources involving full cost recovery through contributing around 50% of water used for drinking, cooking, etc at time of this evaluation in the first week of March 2014, the last month of the long dry season.
- The evaluation also identified reduced household expense and women's workload limited to water as more direct impacts of birkas constructed by the Jigjiga ICDP.

In general, access to water especially for livestock still needs to be ensured for populations that are otherwise unable to afford access mainly in terms of price at source and these may require addressing the poverty dimension of household water insecurity. However, many of the ICDP interventions designed to ensure food security of poor households can also play critical role of reducing the economic scarcity of water too. Typically the improved female poultry foundation stock distributed under the food security improvement component of the ICDP that the poor women highly acknowledged for continuously producing egg is a livelihood-based intervention with direct impact on household water security.

For instance, in the Jigjiga market the price of egg is 3 Birr and this is equivalent to the price of water used for 4 cattle or 16 small ruminants from private birka often charged at a rate of 0.75 Birr per cow or 4 small ruminants per watering event. Therefore, the two red highland females secured per household from ICDP can cover the water expense of a herd comprised 8 cattle or 32 small ruminants. Furthermore, there is at least one day interval between consecutive livestock watering events in Jigjiga area and this helps the owners to use around 50% of their income from sale of egg from the two red highland chickens for other purposes. As such, the promotion of more private birka construction specifically through creating market for the water by way of improving the financial capacity and livestock holdings of poor people seems a more cost-

effective and sustainable approach of water securing poor households than constructing communal birkas.

In conclusion, the evaluation findings that livestock were totally excluded from the project constructed birka and the 21% of total income derived from sale of poultry products spent on water purchased for livestock suggested that the ICDP should save the scarce resource for income generating activities by not investing on birka construction. However, it is essential that the ICDP allocates meaningful amount of money as contingency fund that would be used for water trucking during drought, in order to protect the life and livelihoods of the poor including the chicken.

Crop production: This represented by far the largest opportunity to the ICDP's food security strategy comprised natural resources conservation, crop and livestock development interventions. Generally, the two-month maturity period of the improved maize varieties especially Melkasa (white) variety did fit with the erratic rainfall of the Jigjiga area better than the local variety that requires three months. In this regard, the proportional piling exercises conducted with representatives of the Gedano Kebele ICDP intervention kebele showed that the household food security from own production to have increased from 7 months before to 14 months after the ICDP intervention on average. This positive change was attributed solely to the improved maize variety and farming tools as well as maize Sheller secured from the ICDP.

On the contrary, the role of drought tolerant beans introduced by ICDP has critically been undermined by worm/pest problem that the communities had little or no interest in beans production, partly due to their dislike to the color of the beans. Given the drought tolerant nature and good nutritional value of the beans, there may be a need to further assess the possibility of worm/pest problem being controlled through a combination of crop management and chemical means to then influence the communities to accept the color of the beans.

With respect to the project initial plan of introducing improved crop harvesting and storage technologies aborted due to price escalation reason, the communities especially better off and middle wealth categories have already been using modern crop harvesting technology/combiner from private sources. It is obvious that many of the poor farmers cannot afford the cost of services being used from private sources, but they may not need the improved crop harvesting technologies given their low production volume. In the third phase, perhaps it would be worth considering the introduction of an improved storage facility that helps reducing post-harvest crop loss due to weevils. As the communities highly acknowledged maize Sheller for reducing seed damages as well as wastage associated with traditional threshing practice, there is also a need to introduce a similar technology for sorghum uses if available at reasonable price.

Concerning the maize seed resulted in such an apparent household food security improvement, unfortunately, it was not possible for the project to reach significant portion of the targeted communities due to various natural and planning related factors. For example, there were more than three droughts affected the Jigjiga area during the ICDP period, and there was significant

loss of livelihood including seeds documented following each drought by aid agencies and local government. This impeded the farmers to farmers seed transfer process.

An equally important limiting factor was the government research and academic institutions failed to supply inputs considered as a means to achieve the project objective. This constraint also questions the efficiency of the project planning process failed to accurately measure the seed supply capacity of the Haromaya Agriculture University, as well as the Fedis research centre relied on for farming tools.

A more critical planning problem was perhaps failure to appreciate the critical shortage of improved seeds existing in the country. The point is that the project was supposed to look at an alternative way of supporting the poor farmers lacking Draft Animals/plow oxen who could not also afford the private Tillage Services being used by their better off counterparts to improve their capacity of producing local seed varieties.

Livestock development: This component of the ICDP food security package intended to improve availability of animal feed and health care through establishing CAHW system and supporting government disease control programs, and promoting forage development respectively. In the Somali Region as well as other lowland areas of the country livestock disease is, and has always been among the key factors reducing herders benefit from livestock production along with water and feed. CAHW system helped development organizations to work more closely with communities to ensure local ownership and address peoples' priorities in practical and sustainable manner. Therefore, the ICDP animal health interventions designed to establish CAHW system while also improving the coverage of government veterinary campaigns were very appropriate.

Currently, the free supply of inputs during drought is the only important constraint to sustainability of CAHW systems established in the Somali region, suggesting the importance of livelihoods-based approaches that supported rather than undermined local service providers. There is also a long history of veterinary interventions during droughts in this region throughout the last decade although the impact on livestock health or people's livelihoods remained unknown. Typically, government responses and those of the United Nations Food and Agriculture Organization (FAO) were based on vaccination or prophylactic treatments of livestock using government or aid agency staff, and based on free or heavily subsidized service provision. As CAHWs became established, they were used in drought response in pastoral areas such as Somali region, but were usually given short-term employment or per diems, and were required to give free or subsidized services.

The best example of the above described practice is the ICDP funded vaccination and treatment campaigns coordinated by government animal health professionals led-to the collapse of the CAHW system established by project. More specifically, the free treatment campaigns implemented with project drugs by government professionals and CAHWs jointly that resulted in communities mistrust of their CAHWs mistakenly blamed of selling project drugs meant for free.

Eventually, the problem of livestock disease is compounded by absence of government animal health services and ICDP trained CAHWs lack of veterinary drugs in all assessment kebeles.

Village saving and credit group (VSLA): On a more positive note, the establishment of VSLA groups has gone smoothly, and the results indicate that these groups have helped women to derive considerable income from small ruminant and consumable goods trading activities. Interestingly, women were investing their profit on production animals and tillage/tractor service used for crop production.

As such, this component of the project has probably helped them to build assets by preventing stress sales as well as enhancing investment in crop and livestock production. The main reason for this was that the amount women used to borrow was quite large to invest in high return income generating activities. On average, each saving and credit group members collected around 8, 500 Birr in three rounds. One of the most salient findings from the evaluation was the profitability of small ruminant trading activity. Not only was fattening male animals was considered the most profitable income generating activity, investing on production females represent another most sustainable important income generating activity.

Although the challenges involved in sustaining income generating schemes are considerable, the findings indicated that the women were highly interested in income generating activities specifically small ruminant trading that provided them with attractive profit. Unfortunately, the project was not able to establish a revolving fund for women's saving and credit groups organized in each kebele perhaps due to funding constraint, as the credit money used to revolve between kebeles.

At time of this assessment, almost all members of groups consulted were operating at a very low scale while some stopped investing on their profitable income generating activities due to lack of enough working capital and confidence on the project both. The later factor was further explained in terms of women's lack of access to their own contribution saved into bank account in the Jigjiga town as well as their bank books kept with the project created great distrust that the women decided not to repay part of the loans collected last.

Finally, having engaged in a number of sectors with limited resources including the highly overstretched project team, the sustainability of ICDP interventions have, and will continue to face a number of challenges, and the income generating component was not unique with this respect. Also limited coverage and poor exit strategy remain a major internal challenge to the sustainability of project interventions. Failure to focus on interventions with direct and immediate impact on livelihoods and assets of participants will continue to undermine future ICDP's supports, and prevent the project from attaining its objective of ensuring food security of participants.

1. BACKGROUND

1.1 Project Overview

The LWF-DWS/EECMY Ethiopian Program has been working to the maximum of its capacity to support the Jijiga communities since started implementing an Integrated Community Development initiative in 2008. The ICDP is a two-phase project implemented in Jijiga district by LWF-DWS/EECMY Ethiopia in collaboration with the Government of the Ethiopian Somali region. Following the first phase of the JICDP (2008-2010), end line surveys were carried out to assess changes resulted during intervention period. The results suggested that addressing the entire humanitarian and development assistance needs of the targeted communities has not been possible for the first phase due to increased drought frequency and limited capacity of the regional government.

As a consequence, the second phase of the JICDP (January 2011 - December 2013) was needed to consolidate the achievement of the first phase and extend its intervention into the most needy communities in the neighboring kebeles of the district. The second phase of JICDP aimed to improve economic and social wellbeing of communities of Jijiga district living in 14 rural Kebeles including 10 kebeles benefited from the first phase through improving their coping capacity, improved access to food and social services. The second phase of the project was financially supported by ICA.

The anticipated results were as follows:

- 1) 76,050 populations residing in the 14 project rural kebeles of Jijiga district able to access adequate potable water for human and livestock consumption.
- 2) Improved food availability and reduced seasonal shortfalls in household food supplies through improved production and productivity of crops and livestock & better soil and water conservation practices.
- 3) Improved health service delivery and reduced stigma through better maternity and community based primary health care services & enhanced awareness towards HIV/AIDS.
- 4) Inequality between men and women in terms of socio-economic measures in 14 kebeles (rural and urban) of Jijiga district reduced as a result of women economic empowerment and enhanced understanding of women's rights.
- 5) Improved access to basic education and enhanced primary education enrolment in rural Jijiga district.
- 6) Capacity of the target communities (men & women) and key local government employees/instructions built in managing project results.

In order to realize the above anticipated results, the LWF-DWS carried out various activities, the major ones include: Rural water development, Agriculture- crop, environmental and natural resource development, Health and HIV/AIDS, Women Empowerment, Primary education and Institutional capacity development of communities and local institutions.

1.2 Purpose and objectives of the JICDP evaluation and impact assessment

Based on the agreement entered with the funding agency and for own internal learning purpose, LWF-DWS Ethiopia sought to recruit potential consultant to conduct the final evaluation of the project. Learning from own practice is always a critical determinant of success, and facilitating independent evaluations and impact of assessments of the interventions was among different mechanisms that the LWF-DWS has been using. The current evaluation and impact work was also part of LWF-DWS Ethiopia learning process. Therefore, the findings of the JICDP evaluation and impact assessment work must help the LWF-DWS/EECMY Ethiopia and the donor, to understand how the overall design of the JICDP contributed to the results and to learn how they can improve the food security and resilience building initiatives in future integrated community development programs.

The overall objective of the JICDP evaluation and impact assessment was to determine the extent to which the proposed goal, objectives and anticipated results of the JICDP have been met and the impact that JICDP interventions had on the participants. This required measuring project performances in terms of percentage accomplished of the planned interventions. The assignment focused on second phase of JICDP to identify key knowledge from the project intervention, documenting best practices & key lessons and sharing to internal users as well as wider circulation to external stakeholders.

The specific objectives of the assignment were:

- To assess the relevance and appropriateness of the project and its interventions.
- To assess the efficiency and effectiveness of the project in meeting its target.
- To establish the extent to which the key objectives and results outlined in the project document were achieved and how this contributed to overall household economy.
- To assess the sustainability of project interventions and their outcomes.
- To assess the extent to which project interventions have been incorporated into existing system and coordinated with other food security and community development programs operating in its intervention kebeles.
- To assess the benefits of second phase project interventions for women, poor households and other most disadvantaged groups.
- To briefly describe the management system and how it affected the project implementation and achievements.
- Identify external factors coincided with project intervention that might have affected the implementation process and/or their impacts positively or negatively.
- To draw lessons and evidence-based suggestions that can be used by the LWF-DWS/EECMY Ethiopia and the donor to make some critical decisions concerning the JICDP initiatives and beneficiary communities.

Accordingly, the consultant strongly believes that this evaluation report will help the LWF-DWS/EECMY Ethiopia and the donor to:

- Understand and recognize quality and accountability issues in the JICDP interventions.

- Inform the design and management of future ICDP interventions to highest possible quality.
- The minimum standards and key indicators in community development programs in the context of drought prone areas and agro-pastoral production system like the Jigjiga district of Somali region.

2. DESIGN AND METHODOLOGY

2.1 Evaluation Design

The evaluation design was based on two main approaches viz. a desk review, and field-level assessment. The desk review was conducted before and after field assessments, focusing on project document and progress report. The field-level assessment comprised three main activities viz. focus group discussions with intervention participants, meeting with project staff and visits to water birkas and animal watering troughs, and settlement sites where poultry products, granaries and fodder trees were visualized. The evaluation was carried out in March 2014. An initial literature review was followed by field mission in Jigjiga, February 28 to March 6, 2014.

2.2 Methodology for Field-level Assessments

This activity used standardized participatory methods to collect community perceptions of the ICDP interventions. Key questions include the overall history of the ICDP interventions in the assessment kebeles and measurement of the accessibility, availability, acceptance, adequacy and quality of the water facilities relative to pre-ICDP intervention period. Men and women were participated in contributing community perceptions separately, and were asked about both WASH and livelihood supports to their communities. In each group (men and women), informants were interviewed using a semi-structured interview method.

Each informant group was asked about their participation in the planning, implementation and monitoring of project interventions, farmers and natural resource management related refresher trainings, skills gained from the trainings and practices, etc. Income Generating Activity (IGA) participants were asked amount of money received from the project, how the money has been utilized, amount invested on each of the identified expenditures and profits obtained, challenges encountered followed by suggestions for future improvements. Levels of income from income generating activities initiated with the support of ICDP were also assessed. The interviews covered the description of ICDP interventions, and the participants' views on the key benefits and limitations of the project achievements.

Community informant selection and samples: In each kebele, focus group participants were invited based on history of being direct beneficiary of ICDP interventions implemented during the second phase. Participants in the focus group discussions and subsequent individual interviews were invited by LWF staff through community leaders, and individual's participation was voluntary. Field-level key informants were identified among the FGD participants based on

history being benefited from project inputs like improved poultry foundation stock, credit money, improved seeds, modern farming tools, etc.

The overall intention was to conduct participatory community sessions with 10-15 direct beneficiaries of the food security and water development interventions. In total, around 180 community representatives (around 80 women and 70 men) were interviewed. LWF experts and officials who were involved into the design, implementation and monitoring of the ICDP at both Jijjiga and Addis Ababa levels were also interviewed over a half day period.

Table 1: Characteristic of community informants

Location	FGD participants			Individual respondents		
	Women	Men	Total	Women	Men	Total
Gedanod	20	21	41	8	2	10
Jamo Bahad	17	26	43	5	2	7
Debelweyne	25	23	48	6	3	9
Hara II		18	18		2	2
Mudale	19	13	32	3	3	6
Total	81	101	182	22	12	34

3. KEY FINDINGS

3.1 Introduction

The key findings are a combination of results from interviews conducted with project participants and project information from desk review. Concerning the gender dimension of the evaluation, it was noticeable that women and male informants tended to provide a similar assessment of project interventions and achievements, and therefore the results presented in this report are combined results from men and women. Where interviews were limited to one gender group, I described the gender of the informant in the text.

The major findings are covered under the six anticipated results (see section 1.1) although the field assessment findings were limited to interventions designed to improve water and food security as well as women's economic empowerment. Each section of the evaluation report presents a short history, summary of initial plan and achievements, and the main evaluation findings followed by conclusions and suggestions for future refinements.

3.2 Birka and Hand-dug Well Construction

Table 2 illustrates activities planned and accomplished under the water component. Almost all activities considered under the water resource development component were accomplished as per the initial plan, apart from two hand dug wells replaced for school roof catchment construction initially envisaged. On average, the achievement was 99.8% of the initial plan with the highest and least achievement percentages of 133% and 76% calculated for the village water

management committee training, and both community awareness meeting and dry toilet construction activities respectively.

Table 2: Water resource development interventions, plan vs. achievement

Activity	Unit	Plan	Achievement, %
Community meeting on water sanitation and hygiene	Round	84	76
Establishing village water committee	Number	7	100
Train and equip care takers with essential materials	Person	14	100
Train members of the VWC on water management	Round	3	133
Introduction of simple dry latrine and other sanitation materials	Number	25	76
Cistern construction (birka)	Number	5	100
Construction of hand dug wells	Number	2	100
Construct roof catchment at school, converted to had dug well	Number	2	90
Water rationing	Truck	60	123

3.2.1 Relevance and effectiveness of birka construction intervention

As hand dug wells were limited to Fafen river basins, the relevance of water related interventions was limited to birkas (cistern) evaluated largely based on the role of birka constructed by ICDP relative to private birkas and government deep boreholes. Some specific indicators measured were the accessibility, affordability, quality, adequacy and use period of birka water, and the longevity of this flood water storage facility. Change in relative importance of a wide range of water shortage related problems after the construction of birka was also assessed as an impact. As informants provided a similar assessment of project birkas, the evaluation findings are combined results from the five communities consulted during the field-level evaluation.

Key factors driving patterns of demand for water in Jigjiga and other water insecure areas of the Ethiopian Somali region include rapid human and livestock population growth, and the impact of climate change². This is both in a direct sense in terms of changes to the timing, and amount of rainfalls. As the first phase of the Jigjiga ICDP commenced, it was also evident that the project could not address the critical water shortage problem facing the rural communities with brika construction alone³. Nonetheless the ICDP did not have the capacity to finance deep boreholes involving a relatively huge initial investment cost. As would be expected, the water supply problem of the rural community especially the long distance travelled to deep boreholes by women has persisted despite the additional brikas constructed in second phases of the Jigjiga ICDP.

In all assessment kebeles, the main water sources were identified as the private birka, government deep borehole locally known as rig and brikas constructed by LWF. In Jigjiga area, constructing birka for income is a very common practice of wealthier community members or

² Somali Regional State of Ethiopia. (2012). Good Practice Guidelines for Water Development. Office of the president, Somali Regional State of Ethiopia, Jigjiga, Ethiopia, 56 pp.

³ Lutheran World Federation and Ethiopian Evangelical Church Mekane Yesus (LWF/EECMY): Jigjiga District Integrated Community Development Project Document Phase II, July, 2010.

their urban-based relatives. In a normal dry season, the private birka water is charged at a rate of 0.75 Birr per cattle or 4 small ruminants (around 0.20 Birr per sheep) and 0.30 Birr per 20 liters gallon on average. In this assessment, there were households who purchased the whole birka water for around 3,000 Birr for one season. At present the private birkas lacking silt trap have low levels of storage capacity and most owners' lack financial capacity to effectively improve the storage capacity, and the project birkas were buffering water deficits to some extent.

In kebeles where the project constructed birkas in both phases of ICDP, the distinction between the beneficiaries of brikas constructed during the first and second phases was not clear for the evaluation. All communities decided to use water from birkas constructed by ICDP only for people and at one day interval. All informants agreed that the 80 - 120 liters of water collected for two days could not meet even their daily water demand especially of large size families. The livestock population depended on the private birkas and government managed deep boreholes locally known as rigs, with the small ruminants and cattle depended more on private brika and rigs respectively.

Finally, the evaluation concluded that the main role of project birkas was to complement the other water sources involving full cost recovery. Based on the communities' water use method in which the ICDP constructed birkas and the other sources were visited on different days, the former source was contributing around 50% of total amount of water used for the purposes of drinking, cooking, etc, at time of this evaluation in the first week of March 2014, the last month of the long dry season. On average, the water use period of birkas constructed by ICDP in both phases was estimated to around 75 days and the maximum water use period will decrease to 30 days, if the birka would be used continuously. The communities' decisions of using birkas constructed by ICDP only for people and regardless of family size did favor the poor households with relatively small size herd and family, therefore, sound.

The evaluation also identified reduced household expense and women's workload limited to water as more direct impacts of birkas constructed by the Jigjiga ICDP. As a consequence, access to water especially for livestock still needs to be ensured for populations that are otherwise unable to afford access in terms of price at source; distance and time-cost dimensions and these may require addressing the poverty dimension of household water insecurity. However, the water from privately owned sources is always available to livestock of poor households as the social network requires the birka owner and better-off clan members to share the water expense of their small size herd.

Generally, the distance and time-cost dimensions seem more important than the price of drinking water sourced from the private birkas and government rigs in the rural kebeles of the Jigjiga district. The question is whether the construction of more private birkas can improve the water security of family members and livestock herds of all wealth groups in a sustainable manner or not. It should be noted that the regional government was so critical about water in identifying water development as priority number one, two and three intervention. However, the Gedanod kebele members requested the ICDP to support fixing a communal birka constructed by the

government in 2013 during this evaluation, and the crack was attributed to poor quality construction work.

In terms of management, there is no question that the private birkas are more sustainable than the community birkas constructed either by the government or NGOs. The initial cost of birka construction is also expected to decrease if would be invested by individual owners, therefore; the main concern related is the quality of drinking water consumed in large quantities.

With respect to water quality issue, the water of private birkas lacking silt trap did contain more soil than the ones constructed by ICDP with silt trap facility. On the one hand, the color of the water was very green for majority of the birkas constructed by the project perhaps due to the comparatively large volume of water contained per birka that the communities decided to use over a long-period unlike the small size private birkas served upon demand. Therefore, there was no major difference perceived between the private and community birkas in terms of water quality being poor.

However, water treatment interventions like distribution of Woha-agar chemical and promotion of the practice of boiling drink water at least for young children are less costly than brika construction. In Jigjiga area, the minimum initial cost of constructing medium size birka is around 26,315 USD. In contrast, a 250 milliliters sachet of the Woha-Agar water treatment chemical recommended for 1,000 liters (5 milliliter per 20 liters of water) costs only around 0.11 USD.

Excluding the water quality concern will reduce the potential risks associated with the private birkas to affordability of the water to poor households, as this has direct negative impact on the size of their already small size herd to then make them poorer. However, many of the ICDP interventions designed to ensure food security of poor households can also play critical role of reducing the economic scarcity of water too. Typically the improved female poultry foundation stock distributed under the food security improvement component of the ICDP that the poor women highly acknowledged for continuously producing egg is a livelihood-based intervention with direct impact on household water security.

In the Jigjiga market the price of egg is 3 Birr and this is equivalent to the price of water consumed by 4 cattle or 16 small ruminants from private birka charged at a rate of 0.75 Birr per cow or 4 small ruminants at a time. Therefore, the two red highland females secured per household from ICDP can cover the water expense of a herd comprised 8 cattle or 32 small ruminants. Furthermore, there is at least one day interval between consecutive livestock watering events in Jigjiga area and this helps the owner to use around 50% of their income from sale of egg for other purposes.

Overall, promotion of more private birka construction specifically through creating market for the water by way of improving the financial capacity and livestock holdings of poor people seems a more cost-effective and sustainable approach of water securing poor households than constructing communal birkas.

Finally, the question is whether the ICDP supports to the Jigjiga rural kebeles should focus on scaling up income generating activities like poultry production that can easily be prioritized to poor people or continue spending the largest portion of the scarce resource on a single communal birka. Given the fact livestock were totally excluded from the project constructed birka and the fact 21% of total income derived from sale of poultry products (see Figure 1) spent on water purchased for livestock, the ICDP should save the scarce resource for income generating activities by not investing on birka construction.

In the long run, it is essential that the ICDP solicits fund for borehole construction. The project must allocate meaningful amount of money as contingency fund for water trucking drought response, in order to protect the life and livelihoods of the poor including the chicken. The fund utilization period should also be fixed as project period instead of physical year.

3.2.2 Ensuring sustainable use of the water facilities

The project established birka water management committees that were provided with all the necessary tools and training, too. The agreed on responsibility of the birka water management committees included raising income from sale of the birka water and managing the water facility and mobilizing their community to fence, maintain hygiene of the vicinity, fix damages, remove silt, etc.

As the communities decided to use the birka water for free, the water management committees' was not selling the birka water despite the project supplied receipts. It also appeared that the communities have a strong culture of joining efforts and raising fund required to construct birkas. For example, the community leaders did not face problem with raising fund used for renting tractors and additional hired labor required for excavating birkas constructed by ICDP, as well as a whole of private birka water purchased and generator rented to pump water to new birka constructed with supports used from the project to avoid risk of creaking.

In all areas visited, the community members did contribute at least 500 Birr per household used for lunch and tea while excavating the birkas constructed by ICDP. For this reason, the evaluation decided not to judge the sustainability of the birkas constructed with the support of ICDP by the absence of cost recovery system. As discussed, the current practice of communities using water from birkas constructed with the support of ICDP only for people as well as fixing household water quota regardless of family size did benefit the poor households tending comparatively small size herd more than their better off counter parts with larger herd size and better financial capacity to consume much more water had the water been served on cost.

Although the communities failed to fix minor damages like leaking birka and silt trap, this weakness of the community could be due to insufficient community dialogue. The evaluation confirmed that the communities and their WASH committees were informed the fact the responsibility of managing the birkas belongs to them by the project and woreda water office staff mostly on the birka inauguration event. However, the more practical approach was to mobilize the communities to raise fund and purchase cement, and encourage the trained care

takers to fix cracks from the very beginning instead of the project getting into such activity. It has long been recognized that formal handing over of water resources developed with their support of NGOs to the communities alone is not enough, as many of such facilities were lost to either silt or physical damages. Therefore, the communities' failure to repeat their past practices of joining efforts and raising fund required for excavating new birkas for removing silt and fixing minor damages was partly due to poor exit strategy means project weakness.

Generally, it did not take long for the evaluation meeting to reach consensus that the communities should not expect the project to continue investing on their birkas suggesting a project closure meeting with the community to transfer responsibilities once and for all. In fact, some of the defects reported like the Debelwyne community brika leaking water after maintained by the project could be irreversible. Otherwise, lack of skill required to maintain birkas would not be a major constraint given the very similar private birkas constructed by members of the communities.

In conclusion, the project succeeded implementing interventions considered under the water component as per the initial or amended plan. The birkas constructed by ICDP contributing 50% of home used water is expected to reduce stress caused to women who are the main body responsible for fetching water from boreholes located at around 6 hours walking hours on average. The evaluation findings also suggest that the ICDP should invest more on cost-effective interventions with both food and water security benefits for poor people who could not afford the cost of water served from private birkas.

3.3 Improving household food security

The ICDP food security package comprised three main components viz. crop production, livestock development, and natural resource conservation and environmental protection. Project achievements on crop production, livestock development and natural resource conservation components are shown in Tables 3, 6 and 8 respectively.

3.3.1 Relevance and effectiveness of the ICDP crop production package

Food insecurity in Jigjiga area has been attributed to unreliable rainfall, short rainfall, low rainfall and pests like army worm. Drought due to partial or complete rain failure represents by far the biggest threat to crop production. Since the LWF started operating in Jigjiga area there were more than three droughts encountered, each resulting in complete harvest failure. Poor harvests during the second phase of ICDP were typically attributed to inadequate rainfall or unreliable rainfall and early cessation of rainfall. Excessive moisture was also mentioned as contributing factor to crop loss particularly in case of the red variety/Katomale of the early maturing maize introduced to the area by the project. High temperatures and strong winds also limit optimal crop production with an associated increase in evaporation and transpiration through decreasing soil moisture content and dehydrating plants respectively. In this assessment, there was a direct correlation existed perceived between poor performance of rain and high prevalence of crop worms.

Despite these constraints, crop production is still essential to people’s food security and represents an important component in the Jigjiga rural area. For example, the communities have long experience in crop farming and land shortage is not an important production constraint. In a good year, crop harvesting activity often requires hiring additional labor because the soil is very suitable for maize and sorghum production. Generally, the potential for crop production in Jigjiga area appears to be relatively good in comparison to other districts in the Somali Region, even Shebelle river basin where irrigated farming is practiced. Being conducted with rain water, cereal production in Jigjiga area is somewhat opportunistic and grains are primarily grown for human consumption, and in the event of a poor harvest, crop residues are utilized for livestock feed.

In good years, surplus grains are sold both to Jigjiga and Somaliland markets, which is often used as payment for tillage service as well as hired labor (although this mostly applies to middle and better-off households with greater productive capacity in terms of labor and draft animals). Maize and sorghum are important food crops and there may be potential to promote the drought tolerant beans introduced to the area by ICDP, too. Vegetables such as onions, tomatoes, watermelon and pumpkins are also grown and provide a small source of income for people particularly in kebeles with relatively better moisture.

Table 3 shows production inputs deployed under the crop production component of the ICDP package designed to improve food security of the targeted communities. The ICDP approach involved provisioning early maturing maize seeds and drought tolerant beans along with more effective farming tools and trainings on improved crop production methods among other technical and material supports such as maize Sheller. On average, the project achievement stood at 75.3% of the initial plan with the highest and least achievement percentages of 167% and 20% recorded for improved hair coat beans and chick pea distribution, and introduction of post-harvest crop management technologies explained in terms of high price inflation characterizing the country respectively. The second least achievement of 33% of the initial plan recorded for distribution of vegetable seeds was partly due to limited demand existed for the inputs.

Table 3: Project progress for the crop sub sector

Activity	Unit	Plan	Achievement (%)
Consultative meeting with community	Number	84	60
Refresher training for farmers on selected cereal crops	Person	100	119
Introducing post-harvest technologies on harvesting, trashing, transporting and safe storage methods to model farmers	Number	25	20
Distribution of improved maize and wheat seeds	Quintal	96	97
Distribution of improved haricot beans & chick peas	Quintal	21	167
Introduce fertilizer & compost making technique to model farmers	Quintal	39	36
Introduce different vegetable seeds	Kg	99	33
Provision of improved farm tools	Person	200	70

The evaluation aimed to assess the suitability of the newly introduced seed varieties and technology to the production environment and system. This was based on five evaluation criteria viz. accessibility, affordability and acceptability of the source of inputs to users, availability of the inputs from the source and effectiveness of the mechanism devised to ensure proper management of project inputs during and after the project period. The amount of inputs deployed and the extent to which the inputs and skills injected directly by ICDP have been transferred between first and second level beneficiaries was also assessed to measure the significance of supports provided to the communities and adaptability of the technologies introduced to the area respectively. Finally, sustainability of the project interventions and achievements were judged by a combination of the above evaluation parameters.

The evaluation findings varied by interventions, and locations to some extent as follows:

- Generally, the two-month maturity period of the improved maize varieties did fit with the erratic rainfall of the Jigjiga area better than the local variety that requires three months.
- Although acknowledged the Katomale (red) variety for its early maturing and higher production volume including maize stalk required for livestock superior merits over its local and Melkasa (white) variety counterparts respectively, the communities rejected the Katomale particularly due to its susceptibility to excessive moisture resulted in crop failures when the rain performed well. All informants agreed that the project should limit the improved maize seeds to the white variety.
- In all kebeles visited with the exception of Mudale, the drought tolerant hair coat beans introduced to the area was not welcomed by the communities due to culture and pest reasons. Informants explained that the drought tolerant beans do not fit with the communities' food habit mentioning *shuro* concentrated porridge as traditional dish adding that they did not like the zebra color of the beans, too. In contrast, the Mudale kebele members said that the beans to have enhanced digestion through increasing gastrointestinal motility.
- In all assessment sites, worm/pest problem was identified as main bottleneck in beans production, as such; the project needs to further evaluate the feasibility of this component of the food security package mainly from worm point of views.
- When asked about the role of fertilizer distributed by the project, farmers explained that fertilizer/manure increases moisture stress if the rain performance poor also the soil was said enough fertile. Therefore, it seems that there is no good incentive to the farmers from using fertilizer.
- As the communities acknowledged maize Sheller for reducing seed damages as well as wastage associated with traditional threshing practice, there is a need to introduce a similar technology for sorghum uses if available.

- With respect to the project plan of introducing improved post-harvest technologies such as improved harvesting methods said aborted due to price escalation reason, the communities were already using private services means rental combiners, so it is the affordability to poor people who may not need this service as much as the better off farmers particularly due to their low production capacity that matters most.
- Perhaps post-harvest crop losses associated with weevils is a more important concern that worth project attention with respect to the project plan of introducing improved post-harvest technologies. I understand that the Mercy Corps, Haromaya Agriculture University and Tufts University had assessed the impact of weevils based on seed damage, moisture content and seed germination rate in Jigjiga district in 2013. This was a study designed to compare traditional granaries with modern grain storage facility means plastic bags for the impact of weevils on maize and sorghum.

3.3.2 Impact of the project crop production package

Essentially, rain-fed crop production has and will continue to be a risky prospect for the majority of people in Jigjiga community, but especially for poor households whose productive capacity is constrained by labor shortages, draft animals and the lack of resources for inputs who could not plant on time and then suffer crop failure due to early cessation of rain. Nonetheless, the Jigjiga district still has huge potential for the crop farmers to food secure their family from own production with the support of the ICDP especially when the rain performs well.

In this regard, the proportional piling exercises conducted with representatives of the Gedano Kebele ICDP intervention kebele showed that the household food security from own production has increased from 7 months before to 14 months after the ICDP intervention for all wealth categories on average. More interestingly, the number of months the poor and middle income households were food secured from own production has increased from 4.5 months before to 9 months now on average (see Table 4). The positive change was attributed solely to the improved maize variety and farming tools as well as maize Sheller secured from the ICDP.

Unfortunately, it was not possible for the project to reach significant portion of the targeted communities with the maize seed resulted in such an apparent household food security improvement due to various natural and planning related factors. As discussed, there were more than three droughts affected the Jigjiga area during the ICDP period, 2008 to 2013, and there was significant loss of livelihood including seeds documented following each drought by aid agencies and local government.

An equally important limiting factor was the government research and academic institutions failed to supply inputs considered as a means to achieve the project objective. This constraint also questions the efficiency of the project planning process failed to accurately measure the seed supply capacity of the Haromaya Agriculture University, as well as the Fedis research centre relied on for improved farming tools. A more critical planning problem was perhaps failure to

appreciate the critical shortage of improved seeds existing in the country. The point is that the project was supposed to look at an alternative way of supporting the poor farmers lacking Draft Animals/plow oxen who could not also afford the private Tillage Services used by their better off counterparts to improve their capacity of producing local seed varieties.

Another planning problem noted was the farmer to farmer seed transfer arrangement that required the F2 and F3 maize seed generations recipients passing respectively the F3 and F4 generations to their neighbors, which appeared the most important factor for declined yield reported across the assessment kebeles. Households in assessment kebeles have already seen a decline in maize yields over time. While the project experts advised farmers not to plant the local variety within 10 meters radius to reduce the risk of cross-fertilization between the improved and local maize varieties, a participant in Debelweyn kebele was furious about the local variety lost to the improved one from which critical yield reduction was perceived overtime.

Finally, the evaluation findings suggest that:

- The crop production component of the food security package should focus on provisioning the white variety of the early maturing maize along with the maize Sheller said very useful.
- Targeted tillage service may be through voucher system involving the privately owned tractors operating in the area will help the poor household to increase their production volume while also enabling them to use the modified traditional oxen plow introduced to the area by the project said could not be used on raw lands.
- It is also imperative that the project starts supporting local people involved into tools manufacturing income generating activity to produce the improved oxen plow as a replacement for the distant located research centre failed to meet the demand even with raw materials received from the project.
- The most important suggestion is that the project crop production strategy should support the poor farmers' effort of increasing land cultivated with local crop varieties per household while also increasing yield per unit of land through improved seeds.
- The lack of agricultural extension services (training) was also an apparent problem to be addressed. The ICDP succeeded training additional 19 farmers to the 100 targeted initially though the refresher training mostly seemed to be very basic stuff such as plowing during cold hours and terracing mainly to conserve soil moisture.
- With respect to the venue, organizing farmers training within the villages will help the ICDP to address many more farmers in addition to excluding the farmers' compliant of the project per-diem being too small said to have forced farmers who lacked relatives in the Jiggiga town to interrupt the course.

Table 4: Wealth and household food security from own production in Gedano kebele

Wealth status	Number of months food secured from own production			Remark
	Proportion	Before	Now	
Better off	10	12	24	From one plantation season
Middle	21	6	12	
Poor	39	3	6	
Use of tractor tillage service		29	41	

Table 5: Method of using crops

Method	Before	Now	Remark
Home consumption	36	40	
Sale	19	17	Mainly for tractor service charge
Zeka	11	8	Zeka is paid only from 10 or more sacs
Gift to relatives	4	5	

3.3.3 Relevance and effectiveness of livestock development interventions

Table 6 shows project achievement for the livestock development component of the food security package. On average, the overall level of achievement obtained under this component stood at 91.6% of the initial plan with the highest and least achievement percentages of 116% and 50% recorded for mass education and construction of cattle trough respectively. Not only the cattle troughs construction achievement stood at 50% of the initial plan, but also the ones constructed have not been utilized as the community decided to use the project constructed birka water only for people.

Table 6: Project achievement for livestock sub sector

Activity	Unit	Plan	Achievement (%)
Awareness creation on disease prevention and treatment	Session	6	116
Train and equip CAHWs	Person	14	100
Farmers training in forage development, hay making and introducing improved forage seed	Person	150	82
Introduction of improved poultry breeds for female-headed and poor households	Person	150	110
Construction of cattle troughs	Number	4	50

As discussed, the risk of drought and crop failure in Jigjiga area is extremely high and this is particularly concerning given that poor people are becoming more dependent on crop production as a result of increasing inequity in livestock ownership. Evidence from studies carried out in similar production systems suggests that in drought-prone areas people who are more dependent on crop production are at far greater risk from drought than those who obtain a substantial part of their income from livestock production. Perhaps the biggest constraint to livestock production in Jigjiga area is the shortage of water.

Criticism of the government development policies and strategies prioritizing crop production to livestock production in agro-pastoral and pastoral areas is not new although it seems to be

largely ignored. For example, the national settlement program is all about making the pastoralists and agro-pastoralists more and more dependant on crop farming although rain-fed crop production has long been recognized as a risky prospect especially for poor households whose productive capacity is constrained by a number of factors even in a good year. In the pastoralist and agro-pastoralist livelihood zones such as the Jigjiga district disparities in wealth are still largely linked to livestock holdings despite the government poverty reduction strategy and extension services prioritized to the crop sub sector.

In Jigjiga area, livestock are not only representative of wealth and status but have been described as ‘the measure of all things’ for a clan by the community. The importance of livestock cannot be underestimated – and not just in terms of financial capital. The allegiances, identities and social fabrics that define the clans revolve around their livestock although the increased drought problem led-to inequity in livestock ownership, and therefore wealth, has resulted in a shift to a more stratified and individualized form of livestock ownership. The symptomatic of increasingly larger herds being concentrated in the hands of better off community members in Jigjiga area is the large number of privately owned birkas constructed during the last decade.

Although more and more people are investing on birkas constructed for income mostly from livestock, the poor people who are depending on their better off counterparts for small size herd they normally tend could not afford the water expense of large size herd. As much as water shortage appears one of the main bottlenecks in the ICDP food security improvement program that requires building livestock asset of the poor participants, it is also possible to address this challenge without investing on birka construction, and this can be seen in section 4.1.1.

If we consider livestock to be the key determinant of ‘wealth’ and take account of the fact almost all women invested credit money secured from ICDP on small ruminants, then it could be argued that either a failure or increase in crop yield would have little to no impact on the project participants’ wealth status. While this may seem a little extreme, we must not argue against the fact that livestock development package matters at least as much as crop production in the effort of improving food security of rural communities in Jigjiga area.

The biggest constraint to livestock production in Jigjiga area could be the shortage of water and the herds belonging to the poor households who could not afford cost of private birka are more vulnerable with this respect. Therefore, the poor need external supports to initiate reliable income generating activities that provide them with cash needed for purchasing water for livestock like their better off counter parts. As such, it is essential that the ICDP revises its approach, and with a view to supporting the poor households to initiate effective income generating activities instead of constructing more and more communal birkas that benefits the wealthier community members as much as poor, if not more.

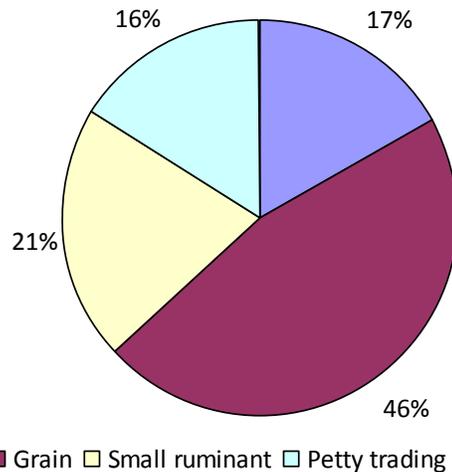
Of the interventions already considered, poultry production was the most promising intervention with direct economic impact at household level. This was also one of the most profitable income generating activities that provided the participants with quite considerable amount of income. Although around 41.2% (7/17) of the female foundation stock specifically very young females

collected by six women interviewed during this evaluation died immediately, the remaining red highland females, one per household, were continuously producing egg on daily basis and the women were able to multiply using local females as an incubator. As of March 1, 2014, those women were rearing a total of 39 pure red highlands despite additional 20 chickens lost to disease and predator, and 10 male red highlands sold for a total of 655 Birr (see Table 7). Almost all deaths were attributed to Pneumonia and Chicken mite.

While livestock are watered at one day interval at least, the price of egg is four and eight times higher than the price of birka water charged at a rate 0.75 Birr per cow and 0.38 Birr per sheep. The price of egg was 2.50 Birr on average, i.e. 2 Birr in the village and 3 Birr in the Jigjiga market. Therefore, an improved female chicken producing egg on daily basis can easily cover water expenses of a cattle or small ruminant herd consisted of 8 and 16 animals respectively, if are watered at one day interval.

Figure 1: Role of poultry production

Proportion (%) Income Derived from Different Livelihood Activities



Proportion (%) Use of income Derived from Poultry Production Activity

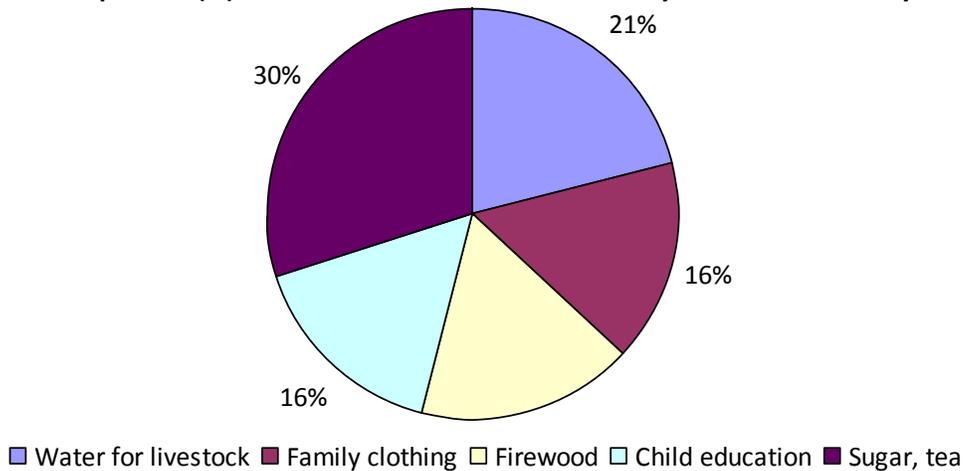


Table 7: Dynamics of red highland poultry foundation stock

Respondent	Received	Existing	Died	Sold	Price
Asha Hassen	3	15		3	180
Fos Abdi	3	3	2	3	195
Roon Mohamed	3	5	2		
Rahma Abdi	3	10	13		
Meryema Aden	3	3	8	3	180
Fadumo Hamid	3	3	2	1	100
Total	18	39	27	10	655

On the one hand, the members of Jama-bahad women saving and credit group who invested a total of 29,400 Birr credit money received from ICDP on 34 small ruminants confirmed to have obtained 12,000 Birr gross profit from 27 small ruminants marketed despite 5 small ruminants purchased for a total of 2,550 Birr died due to disease problem (see Table 11). Another woman who purchased to female sheep for 1,200 Birr had 5 sheep including the 2 parent stock on the date of interview.

3.3.4 Impact of livestock development interventions

Given the 41% (27/60) and 14% (5/36) mortality loss incurred from disease problems to the women involved respectively in poultry production and small ruminant fattening, disease related mortality represents another biggest challenge to livestock production in general and women's income generating activity in particular. Livestock disease has always been a challenge to livestock production and in the assessment kebeles this is compounded by absence of government animal health services and ICDP trained CAHWs lack of veterinary drugs.

At the international level the World Organization for Animal Health (OIE) confirmed that veterinary para-professionals - including CAHWs - were an important adjunct to improving the quality of veterinary services, as long as their roles, levels of supervision and reporting relationships were clearly described and administered (OIE, 2003). This was a key milestone in enabling CAHW systems to be institutionalized, and meant that countries could no longer prevent these systems because of lack of recognition at the OIE level.

In 2002, the Government of Ethiopia issued an Animal Diseases Prevention and Control Proclamation that recognized CAHWs as a cadre of 'Animal Health Representative'⁴. The same proclamation committed to the establishment of an Ethiopian Veterinary Council plus renewed efforts to privatize veterinary services. Concurrently, the Ministry of Agriculture established a CAH unit within the Veterinary Department, which prepared CAHW Minimum Standards and Guidelines⁵, and established a program for training the trainers of CAHWs.

Within Ethiopia the Somali National Regional State stands first in terms of the large number of CAHWs trained and effectively integrated into the public veterinary service. Due to the huge

⁴ Defined as a 'person trained in basic animal health care' representing a community

⁵ <http://sites.tufts.edu/capeipst/files/2011/03/Anon-Ethiopia-Minimum-Standards.pdf>

efforts of NGOs created the opportunities for private sector veterinary services in Somali region, today there is at least one private veterinary drug shop operating in each woreda of the region and this helped ensuring the sustainability of the CAHW system. Currently, the free supply of inputs during drought is the only important constraint to sustainability of CAHW systems, suggesting the importance of livelihoods-based approaches that supported rather than undermined local service providers.

There is also a long history of veterinary interventions during droughts in this region during the last decade although the impact on livestock health or people's livelihoods remained unknown. Typically, government responses and those of the United Nations Food and Agriculture Organization (FAO) were based on vaccination or prophylactic treatments of livestock using government or aid agency staff, and based on free or heavily subsidized service provision. As CAHWs became established, they were used in drought response in pastoral areas such as Somali region, but were usually given short-term employment or per diems, and were required to give free or subsidized services.

The best example of the above described practice is the ICDP funded vaccination and treatment campaigns coordinated by government animal health professionals led-to the collapse of the CAHW system established by project. More specifically, the free treatment campaigns implemented with project drugs by government professionals and CAHWs jointly that resulted in communities mistrust of their CAHWs mistakenly blamed of selling project drugs meant for free.

In all kebeles visited during this evaluation, the main role of CAHWs trained by the ICDP lacking veterinary drugs throughout was to implement the project funded veterinary campaigns under close supervision of the government professionals. Interestingly, even though the CAHWs lacked drugs, evaluation participants consistently mentioned CAHWs trained as one of the main benefited secured from the ICDP. Although CAHWs participate in periodic mass vaccination and free treatment campaigns funded by the project, this was not a primary purpose of establishing CAHW system. Eventually, the problem of livestock disease is compounded by absence of government animal health services and ICDP trained CAHWs lack of veterinary drugs in all assessment kebeles.

In some ways, the CAHWs lack of veterinary kit also relates to the ICDP's failure to conduct regular supervision and refresher trainings, as well as formally linking to private input suppliers operating in Jigjiga town. However, it is less likely that the CAHWs business survived the unnecessary free treatment services provided to their clients even if properly supervised and linked to the private input sources.

In general, it is essential that the project revitalizes the CAHW system and this requires:

- Screening the CAHWs to identify one or two best candidates among the five trained per kebele to then provide them with strong refresher training that covers poultry diseases and standard veterinary kit particularly to those who are willing to share cost as part of key criteria to screen them;

- As women are more linked to small ruminants that predominant livestock population of the area, it essential to ensure their participation in the delivery of animal health service;
- The participation of private animal health professionals in the refresher training is also essential as an exit strategy for this activity;
- As common reasons why many CAHWs collapse included free drugs injected into their area through veterinary campaigns, the ICDP must limit the campaign to vaccine.
- Finally, the evaluation strongly suggests that the ICDP should recruit an experienced animal health assistant to reduce the impact of disease on the high potential income generating activities like poultry production and small ruminant fattening while also ensuring the sustainability of CAHW system.

3.3.5 Relevance and effectiveness of the natural resource conservation interventions

Table 8 shows project achievement for the natural resource conservation and environmental protection component of the food security package. On average, the overall level of achievement obtained under this component stood at 82.3% of the initial plan with the highest and least achievement percentages of 130% and 33% calculated for terrace construction and farmer experience sharing visits.

Distribution of forage trees such as Sesbania was one of the key activities carried out under the natural resource conservation and environmental protection component of the Jigjiga ICDP food security in the second phase. In addition, tree seedlings have been transplanted to selected sites with soil and water conservation importance. Training on forage production and seedling management was also an integral part of the natural resource conservation and environmental protection. In all areas visited the communities confirmed to have received around 15 seedlings per household per year until 2013.

In general, it is strongly believed that the ICDP strategy of linking environmental conservation to household food security is the most appropriate approach to ensure sustainability of natural resource conservation programs in Jigjiga area. For example, the project approach of targeting settlement sites with the seedlings of Sesbania a fodder tree that can also serve as shade and wind break was sound, as it makes nursing like watering of seedlings an easy task. The project approach of promoting forage development is also consistent with its objective of improving the productivity of livestock.

It is also recognized that there are bottlenecks in environmental conservation programs such as drought, frost and the free grazing based livestock production system that forestation program has and will continue to be too slow with these factors in place. Frost is one of the key reasons for poor vegetation coverage of most rural kebeles of the Jigjiga district, and the Sesbania seedlings were not unique with this respect. As a consequence, the evaluation has little or no progress to report in forage production component except the huge effort made by the project.

Despite this constraint, the multipurpose trees (agro-forestry) can have environmental and household economic/nutritional benefits for the Jigjiga communities. Neem tree is one of the frost tolerant multipurpose trees (shade, mosquito repellent and human medicine) that worth promoting. Also the LWF’s innovation of promoting the Aw-bre and Sheder refugees use of a drought tolerant plant locally known as kinchib/ink transported from Jigjiga area as a live fence seems relevant to Jigjiga area as wind break. The project should also continue distributing fodder trees to less frost prone kebeles or sites, and Elephant grass to all kebeles. Fortunately, frost is not a common problem of all rural kebeles of the Jigjiga district; even within a kebele it may not involve sites located at comparatively higher elevation.

As part of the natural resource conservation and in response to chronic firewood shortage problem faced by the rural communities, the project also introduced energy saving stoves to selected areas such as Mudale village. Based on the findings of interviews conducted with Mudale kebele women who constructed a fuel saving stoves with mold and cement provided to them by the project and those who did not, the evaluation concluded that the project succeeded injecting skill required to construct standard energy saving stoves into the Somali women. Of the 40 households comprised the Mudale village, only 10 women who were waiting for the project to supply cement did lack the energy saving stove and they confirmed that lack of skill is not a problem. All respondents including the ones lacking the fuel saving stove agreed that the technology to have reduced the amount of firewood specifically dry maize stalk required for cooking.

Finally, the evaluation suggests that the project should redefine the objective of promoting the energy saving stove as reducing workload on women from distance travelled to collect firewood and pressure put on the scarce shrubs by them. This requires the project to train and provide molds required for making stoves to all women in all target kebeles where the technology appears relevant. The current objective is to reduce gender inequality related to income through enabling women to generate income from sale of the stoves. The more sustainable option is to identify potential individuals and support them to produce the stoves as private income generating activity.

Table 8: Project achievement for natural Resources Conservation & Environmental Protection

Activity	Unit	Plan	Achievement (%)
Training farmers in natural resources & environmental protection in 6 sessions	Person	200	54
Constructing terraces	Km	20	130
Tree seedling production and distribution	Seedling	60,000	112
Facilitating farmers experience exchange visit & field days	Round	3	33

3.4 Improve Health Care

Table 9 shows project achievement for the health care related interventions. The main approach applied was to create awareness through training government health professionals and

distribution of IEC materials on HIV/AIDS prevention and control measures, and equip TBAs with training and kits (hand gloves, disinfectant and scissors along with bag).

As there has been no major amendment made to the health care component since the mid-term review of the Third Country Strategy carried out in September 2012 by same consultant. However, the evaluation confirmed that all project trained TBA to have continued replenishing their kit (hand gloves and antiseptic) from private source. From the desk review, the overall level of achievement obtained under this component stood at 93.6% of the initial plan on average.

Table 9: Project achievement for health care

Activity	Unit	Plan	Achievement (%)
Produce and distribute IEC materials on HIV/AIDS prevention and control	Piece	450	56
HIV/AIDS mass mobilization	Session	3	133
Material support to HIV/AIDS school clubs	Number	3	100
Train district government staffs on HIV/AIDS mainstreaming	Person	30	116
Construct and equip health post	Number	2	100
Support for PLWHA to establish self-help groups	Number	3	67
Train and equip TBAs	Person	30	83

3.5 Reduced Gender Inequality

The Somali women are well know for undertaking a number of income generating activities such as sale of teas, dairy products, consumables, etc, in addition to various household tasks carried out by most Ethiopian rural woman that covers cooking, child nursing and other routine activities like milking small ruminants, gathering firewood and fetching water. In case the husband is shared with another woman or women, each woman is also responsible for managing own livestock herd.

Also it is widely recognized that unlike their men counterparts blamed of spending large portion of income from livestock and trade items marketed by them on food and chat in towns, the Somali women are very effective in funding household expenses related to consumables like tea and sugar, child medical, education and clothing, etc. In terms of the project performance assessment objective of this evaluation, the ICDP's approach of prioritizing credit facility to the women directly relates to planning efficiency.

However, there was no evidence of the women and youth groups organized around fuel saving stove income generating activity making income from sale of the stove. On the one hand, there was no direct relationship noted between the project objective of reducing gender inequality and the activities of training women in better home management practices and nutrition. Excluding the fuel saving stove and home management practice and nutrition activities, therefore, reduced the list of assessment interventions to loan disbursement and related activities. From Table 10, the project achievement for loan disbursement, training of credit facilitators and women on IGA and credit management activities was 147%, 50% and 45% respectively.

Table 10: Project achievement for Women empowerment & vulnerability reduction

Activity	Unit	Plan	Achievement (%)
Consultative meeting with the community on women empowerment	Session	50	140
Train women in IGA & credit management skills	Trainee	200	45
Disburse loan to rural & urban poor women	Women	73	147
Organize women & youth into fuel saving stove enterprise groups	Group	15	100
Produce mold and distribute	Mold	36	114
Train women in production of fuel saving stoves	Trainee	115	87
Train women credit facilitators	Session	4	50
Train women in better home management practices and nutrition	Trainee	70	407
Provide material support for district women affairs office to strengthen implementation capacities	Round	1	100

3.5.1 Relevance and effectiveness of loan delivery

This section intends to briefly describe the design and implementation of loan service, and the history of the Gedanod and Jamobahad kebele women's saving and credit groups as summarized in Table 11. Within a saving and credit group, there were variations on the membership period as well as amount of credit money collected per person between the 20 women organized per kebele. Typically the approach was to organize a total of 20 women selected into a saving and credit group in three rounds. The step was follows:

- In each target kebele, first 6 women who contributed 650 Birr per person were organized into saving and credit group and their money was saved into bank account established in Jigjiga town, and each woman collected 2,000 Birr credit money in return.
- Additional 6 and 8 women who contributed 350 Birr per person joined the group 12 months and 18 months later respectively. These members collected around 1,500 Birr per person for the first round.
- The second and third credit was uniform between the foundation members and those who joined them later, being 3000 Birr and 4000 Birr per person respectively, and all women completed the repayment of preceded credit as well as saved a total of 1,300 Birr per person in two rounds, 650 Birr before the second and third credit each.
- On average, the total amount of money saved into the bank account of the group was around 1,800 Birr per woman (1,650 - 1,950 Birr) totaling 36,000 Birr (33,000 – 39,000 Birr) for 20 women comprised each group.
- The evaluation confirmed that all groups to have completed the repayment of the first and second round credits on time. Also all members of the groups evaluated did repay around 50% of the final credit before they stopped repaying about 9 months ago, and it

seemed that they were not prepared to repay the remaining portion of the loans, as they were demanding the project to handover their bank book.

Generally, having embarked on too many independent results with limited resources including the highly overstretched project team, the sustainability of ICDP interventions have, and will continue to face a number of challenges, and the income generating component was not unique with this respect. Also limited coverage and poor exit strategy remain a major internal challenge to the sustainability of project interventions. Failure to focus on interventions with direct and immediate impact on livelihoods and assets of participants will continue to undermine future ICDP's supports, and prevent the project from attaining its objective of ensuring food security of participants.

3.5.2 Impact and sustainability of project credit fund

As is expected to be, it was not easy for the women to derive direct impact indicators showing changes resulted in gender inequality due to the loan service. For this reason, the evaluation applied the economic and social benefits of income generating activity initiated with project credit facility for recipient women and their family, as well as the technical capacity and commitment of the women's credit and saving groups organized by the project as proxy indicators.

One of the most salient findings from the evaluation was the profitability of small ruminant trading activity. Not only was fattening male sheep was considered the most profitable income generating activity, investing on production females represent another most sustainable important income generating activity. In this evaluation, the 50% least profit margin reported by an informant was associated with early disposal of the trade animals. Consistent with this, women who kept their trade animals until the end of the credit repayment period reported to have repaid 100 per cent of their credit with the profit alone.

On a more positive note, the establishment of VSLA groups has gone smoothly, and the results indicate that these groups have helped women to derive considerable income from small ruminant and consumable goods trading activities. Interestingly, women were investing their profit on production animals and tillage/tractor service used for crop production. As such, this component of the project has probably helped build assets by preventing distress livestock sales as well as enhancing investment in crop and livestock production. The main reason for this was that the amount women used to borrow was quite large to invest in high return income generating activities. On average, each saving and credit group members collected around 8, 500 Birr in three rounds.

Nonetheless, the project was not able to establish revolving fund for women's saving and credit groups organized in each kebele, as the credit money used to revolve between kebeles, perhaps due to funding constraint. In Ethiopia, NGOs are not allowed to directly involve into revolving fund management, including the practice of revolving fund between kebeles. In the groups assessed, the interval between the repayment of the first and second batch credits and arrival of

second and third batch was 6 and 12 months respectively. As a consequence, the women used to remain ideal or operate at a very low scale for such a long period. At the time of the assessment, the women’s investment was limited to the production animals purchased earlier before the credit money was repaid to the project. Therefore, lack of sustainability had been realized from this component. However, the evaluation findings indicated that access to own savings could have potentially translated into sustainable benefits for project participant women.

Although the challenges involved in sustaining income generating schemes are considerable, the findings indicated that the women were highly interested in income generating activities specifically small ruminant trading that provided them with attractive profit. As such, establishing revolving fund for each women group represents an important opportunity for the ICDP, and one that could potentially yield significant impacts.

Table 11: Profit derived from credit money spent on small ruminants

Variable	Number of animals purchased and prices						Total
Number purchased	4	11	4	5	8	4	36
Average purchase price	250	500	250	500	800	250	2550
Total purchase price	1000	5500	1000	2500	6400	1000	17400
Number sold	4	8	3	5	7	4	31
Average sale price	500	1200	667	1200	1000	550	5117
Total sale price	2000	9600	2001	6000	7000	2200	28801
Number died		3	1		1		5
Gross profit in Birr	1000	4100	1001	3500	600	1200	11401

3.6 Improve access to basic education and primary education enrolment

As stated in the project document, the project need assessment identified low enrolment rate, poor quality of education and parents’ limited participation in school management process as key bottlenecks in primary education program in rural kebeles. As schools made of local construction materials lacked maintenance, children were also forced to attend session under tree shade. Being convinced that the community could not maintain the buildings, the project decided to rehabilitate few of those schools to create a favorable teaching and learning environment to improve the quality of education (see Table 12). In many remote areas of the Somali Region including the Jigjiga district, it is not uncommon to see children learning under shade sitting on stones especially in the Alternative Basic Education (ABE) supported by NGOs. Although it is essential that the formal schools are attractive both to students and their teachers, the LWF may be need to prioritize food security of the school children with the limited resources, as this directly contributes to its objective of increasing student enrollments and education quality.

Table 12: Project achievement for primary education

Activity	Unit	Plan	Achievement
Awareness raising workshop on girls education	Person	100	92
Establish parents school committees to strength management	Committee	14	100
Rehabilitate/construct and furnish low cost primary schools*	School	4	475
Rehabilitate and equip primary schools in the project Kebeles	School	1	100

3.7 Build Local Capacity of Managing Project Achievements

The key activities from which this result was anticipated were establishing strong COLTA teams, training of COLTA members and experts working with district line offices and community development facilitators (CDFs) and training of community leaders in prevention of Harmful Traditional Practices (HTPs, see Table 13). A mid-term review conducted for the LWF Third Country Strategy in the first year of the second phase in September 2012 showed that COLTAs were responsible for mobilizing the communities and supervising project interventions with the material and technical supports of the ICDP and its experts. As the COLTAs were more accountable to the government and the projects than to the communities, the consultant still has a critical concern related to the participants in different project interventions not being well represented.

Table 13: Project achievement for community and local government capacity building

Activity	Unit	Plan	Achievement (%)
Establish and train COLTA teams	Kebele	14	100
Consultative meeting on development challenges of the community and ways forward	Session	70	75
Train district staffs in Participatory Project Cycle Management and LFA	Trainee	50	54
Train community leaders in prevention of Harmful Traditional Practices (HTPs)	Trainee	50	144
Train Community development facilitator (CDFs)	Trainee	28	96

4. CONCLUSIONS AND RECOMMENDATIONS

One of the key findings of the evaluation is that private birkas are too many and users have choices and this may regulate the price of water. The evaluation appreciates this reality and does not expect the ICDP to continue investing on birka construction rather soliciting fund for borehole construction. The evaluation findings also highlight a limited role of the communal birkas both in terms of number and water use period in the project area. From these findings, a number of alternative interventions of funding importance that will have more impact on poor households water security have been suggested or proposed throughout this report and many of these mirror the 'indicative' activities presented in the third phase's proposal. The feasibility of some of the proposed interventions will have to be carefully assessed with project participants at kebele level before implementation. Some interventions will be suitable in some kebeles and not in others, example poultry production. Similarly, some people will have the capacity and resources to take advantage of some interventions such as crop production and others will not.

The major constraints to production include drought, rain-failure and animal disease. The lack of inputs and services also undermines production and marketing and in many ways these can be attributed to the poor government extension services. In the past four years, the extension service has somehow improved following the ICDP interventions, however the impact of external

factors such as drought and the poorly implemented CAHW system along with planning related problems has and will continue to question the sustainability of project achievements.

Many of the ICDP interventions also need a long-term and pro-poor development strategy being designed to take advantage of existing resources, capacities, opportunities and trends. Some of the constraints to production and marketing (such as rain-failure) will never be addressed and may even become more pronounced year after year given the climate change problem facing the globe. Others may be beyond the scope and capacity of the ICDP (such as the construction of deep boreholes). Nonetheless, many of the constraints that have been identified can be addressed within the project framework although from a development perspective some of these constraints are formidable, as much as some of the opportunities.

The Jijjiga community has a fertile land and long experience in crop farming that can be utilized for improving food security, support livelihoods and build household livestock asset. At present, the livestock sector represents the greatest economic potential for the district and the ICDP should focus on developing this sector above crop. Demand for meat and livestock products along with an increasing livestock price will continue to increase role of this sector in the future. The district is comparatively much better suited to livestock than crops and the Somalis are experts in livestock production especially small ruminants. However, in recent droughts and through the loss or concentration of livestock in the hands of few people, their interest in this livelihood activity is being decreased and perhaps to some extent it is even being lost.

The active promotion of crop production at the expense of transhumant livestock production threatens this resource and could potentially cost the communities huge amounts of money in lost revenue over the next few years or so. The ICDP can play a critical role in promoting and developing this sector through animal health service delivery and animal feed production, thereby ensuring that this resource is efficiently utilized for the benefit of the local economy and people. However, large portion of the community has already lost their herds to recurrent droughts and the establishment of effective income generating activities and alternative livelihood opportunities like improved poultry production for these people will represent an enormous achievement for ICDP.

Also agriculture will continue to provide jobs and livelihoods for people, although drought and frequent rain failure will continue to limit the potential of this sector and total dependency on rain-fed crop production will only result in greater levels of poverty and vulnerability in area like the Jijjiga district. However, improvements in input supply and early maturing and drought tolerant crop varieties and effective extension services including pest control programs will be needed to improve crop production along with terracing that helps conserving moisture.

There is also some potential for the promotion of certain cash crops, particularly in the relatively moisture rich kebeles already identified by ICDP. However, this sub sector should only be promoted in situation and kebeles where it has a proven comparative advantage over cereal production or as a complementary activity to cereal production that provides livestock with crop-

by products in moisture rich areas. There is also an opportunity for the production of animal feeds such as Elephant grass in all kebeles.

As discussed, there will be a need to identify and tailor activities and interventions to the characteristics of different households and different intervention kebeles. Once these activities and interventions become clearer, it will be important to define sub-objectives for each intervention articulating a clear causal pathway from objective to activity to anticipated impact.

Depending on the type of activities and the interventions, improved food security result could potentially impact anyone in the intervention area. On the other hand, there is a risk that attempting to address all members of the communities could reduce the impact of the project. Realistically, addressing the project participants with improved seeds will take much longer than four years to achieve.

Nonetheless, if well designed and well implemented, the activities under the food security result can have an impact well beyond the life of the project. For this to happen, a diversified and systematic approach to implementation is needed, as opposed to past practice of distributing improved seeds and farming tools to few farmers in more than ten kebeles each year. A better approach would be to focus on a few specific kebeles and looking for positive changes, and this requires addressing all package contents (poultry, credit, seed and animal health) to same participants and delivering interventions on time, test if they are complementing each other during the first year, correct any mistakes, scale up in the second year and then consolidate in the subsequent years.

The project approach for reducing gender inequality specifically organizing youth and women around fuel saving stove is new and seems does not work in the Jigjiga context. Therefore, the objective should be redefined as reducing workload on women from distance travelled to collect firewood and pressure being placed on the scarce shrubs to then train and provide molds required for making the stoves to all women in all target kebeles where this technology appears appropriate. The more sustainable option is to identify and support one or two individuals who can produce and market the energy saving stoves in Jigjiga town.

The health and nutrition interventions should be left for the government because the achievement was characterized by low impact and lack of sustainability. Therefore, an emphasis on food security and quality over quantity in the design, planning and implementation of the livelihoods and income generation components is essential if this opportunity is not to be wasted.

The evaluation findings also suggest that:

- The ICDP should invest more on cost-effective interventions with both food and water security benefits for poor people who could not afford the cost of water served from private birkas otherwise.

- Although the challenges involved in sustaining income generating schemes are considerable, establishing revolving fund for each women group represents an important opportunity for the ICDP, and one that could potentially yield significant impacts.
- The crop production component of the food security package should focus on provisioning the white variety of the early maturing maize along with the maize Sheller said very useful.
- Targeted tillage service may be through voucher system involving the privately owned tractors operating in the area will help the poor household to increase their production volume while also enabling them to use the modified traditional oxen plow introduced to the area by the project said could not be used on raw lands.
- It is also imperative that the project starts supporting local people involved into tools manufacturing income generating activity to produce the improved oxen plow as a replacement for the distant located research centre failed to meet the demand even with raw materials received from the project.
- The most important suggestion is that the project crop production strategy should support the poor farmers' effort of increasing land cultivated with local crop varieties per household while also increasing yield per unit of land through improved seeds.
- The lack of agricultural extension services (training) was also an apparent problem to be addressed. The ICDP succeeded training additional 19 farmers to the 100 targeted initially though the refresher training mostly seemed to be very basic stuff such as plowing during cold hours and terracing mainly to conserve soil moisture.
- With respect to the venue, organizing farmers training within the villages will help the ICDP to address many more farmers in addition to excluding the farmers' compliant of the project per-diem being too small said to have forced farmers who lacked relatives in the Jigjiga town to interrupt the course.
- Redefine the objective of promoting the energy saving stove as reducing workload on women from distance travelled to collect firewood and pressure put on the scarce shrubs by them. This requires the project to train and provide molds required for making stoves to all women in all target kebeles where the technology appears relevant. The more sustainable option is to identify potential individuals and support them to produce the stoves as private income generating activity.
- Neem tree is one of the frost tolerant multipurpose trees (shade, mosquito repellent and human medicine) that worth promoting. Also the LWF's innovation of promoting the Aw-bre and Sheder refugees use of a drought tolerant plant locally known as kinchib/ink transported from Jigjiga area as a live fence seems relevant to Jigjiga area as wind break. The project should also continue distributing fodder trees to less frost prone kebeles or sites, and Elephant grass to all kebeles. Fortunately, frost is not a common problem of all rural kebeles of the Jigjiga district; even within a kebele it may not involve sites located at comparatively higher elevation.
- Screening the CAHWs to identify one or two best candidates among the five trained per kebele to then provide them with strong refresher training that covers poultry diseases and standard veterinary kit particularly to those who are willing to share cost as part of key criteria to screen them;

- As women are more linked to small ruminants that predominant livestock population of the area, it essential to ensure their participation in the delivery of animal health service;
- The participation of private animal health professionals in the refresher training is also essential as an exit strategy for this activity;
- As common reasons why many CAHWs collapse included free drugs injected into their area through veterinary campaigns, the ICDP must limit the campaign to vaccine.
- Finally, the evaluation strongly suggests that the ICDP should recruit an experienced animal health assistant to reduce the impact of disease on the high potential income generating activities like poultry production and small ruminant fattening while also ensuring the sustainability of CAHW system.
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