



Strengthening the humanity and dignity of people in crisis through knowledge and practice

Impact Assessment of the Chical Integrated Recovery Action Project, Niger

John C Burns • Omeno W Suji
November 2007



**Impact Assessment of Innovative Humanitarian projects in Sub-Saharan Africa
The Feinstein International Center in partnership with the Bill and Melinda Gates Foundation and
Africare**



Acknowledgements

The Feinstein Center (FIC, Tufts) would like to acknowledge the support provided by all in achieving the objectives of the exercise. Specifically we would like to acknowledge the Prefet de department of Filingue – Mr Mohamed Abdou Assaleh for his support and for his time and his feedback on the assessment findings. We owe a debt of gratitude to the entire Africare head office – Moustapha Niang’ Mousa Channo, and Marie Aughenbaugh, as well as the Chical Integrated Recovery Action (CIRA) project team and especially those who took time to collect the data – Ibrahim Barmou (translation and administration), Alkassoum Kadade, Maman Maman Illa, Ousmane Issa, Sani Salissou Fassouma, Geraldine Coffi, Mariama Gadji Mamudou, Guimba Guero, and Adamou Hamidou, Hamidu Idrissa, Alhassan Musa, Hamza Ouma – director department of Community Development – Filingue and the drivers – Amadu Ide and Adam Mohaman. From the Feinstein Center many thanks go to Dr Andrew Catley, Dr Dawit Abebe, Dr Peter Walker, Dr Helen Young, Katherine Sadler, Rosa Pendenza, Elizabeth O’Leary and Anita Robbins for providing technical and administrative support. A special thanks also goes to Sally Abbot from Tufts University for carrying out the mid term project visit, and to Megan Lindstrom also from Tufts for translating questionnaires for the final assessment. The research team would also like to thank Regine Webster, Mito Alfieri, Kathy Cahill and Dr Valerie Bemo from the Bill and Melinda Gates Foundation for their incredible support.

Contents

Summary	5
1. INTRODUCTION	7
1.1 Sub Saharan Africa Famine Relief Effort	7
1.2 Impact Assessment of Innovative Humanitarian Projects	7
1.3 Chical Integrated Recovery Action Project	9
1.3.1 Project Background	9
1.3.2 Implementation Challenges	12
2. ASSESSMENT METHODOLOGY	12
2.1 Study Design	12
2.2 Research Questions	13
2.3 Study Areas	13
2.4 Sampling	14
2.4.1 Study Locations	14
2.4.2 Method and Size	14
2.4 Data Collection Methods	15
2.6 Pre-Testing	18
2.7 Triangulation	18
2.8 Data Analysis	19
3. RESULTS	20
3.1 Project Benefits	20
3.4 Food Security	20
3.4.1 Duration of Food Secure Period	21
3.5 Income	23
3.5.1 Cereal Bank Savings	24
3.5.2 Expenditure	25
3.6 Project Strengths and Weaknesses	25
3.7 Community suggestions for improving the project	26
4. DISCUSSION	27
4.1 Assessment Constraints and Methodological Limitations	27
4.2 Overall Project Impact	29
4.3 Impact on Household Food Security	30
4.4 Impact on Household Income and Expenditure	33
5. Conclusions	35
Endnotes	37

List of Annexes

Annex 1 Food Source Preferences

List of Tables

Table 1.1	Project Objectives	9
Table 2.1	Sampling for household interview (HHI) component	14
Table 2.2	Summary of methods used	18
Table 3.1	Overall project benefits by focus group participants	20
Table 3.2	Common household coping strategies in the project area	21

Table 3.3	Reasons given for improvements in household food security.....	22
Table 3.4	New Income Sources (n=74)	23
Table 3.5	Key strengths and weaknesses of the project.....	25
Table 5.1	A summary of the key project impacts on livelihoods assets.....	35

List of Figures

Figure 3.1	Relative mean score of project benefits (n=74)	20
Figure 3.2	Number of months of household food security	21
Figure 3.3	Food basket changes (n=74).....	22
Figure 3.4	Changes in income sources (n=74).....	23
Figure 3.5	Estimated household millet purchases from cereal banks	24
Figure 3.6	Changes in Household Expenditure (n=74)	25

Acronyms and Abbreviations used in the Report

CFA	Communauté Financière Africaine (Francs)
CIRA	Chical Integrated recovery Action (Program)
CMC	Community Management Committees
FGD	Focus Group Discussion
FIC, Tufts	Feinstein International Center, Tufts University
GNI (per capita)	Gross National Income
HDI	Human Development Index
HHs,	Households
HHI	Household Interview
ICRISAT	International Crops Research Institute for the Semi-Arid Tropics
IGA	Income Generating Activities
PRA	Participatory Rural Appraisal
RFP	Request for Proposals
S-SAFRE	Sub Saharan Africa Famine Relief Effort
SSI	Semi Structured Interview
UNDP	United Nations Development Programme

Summary

This report is the outcome of an impact assessment of the ‘Chical Integrated Recovery Action Project’ an integrated livelihoods and drought mitigation intervention implemented by Africare in the Tillaberi region of Niger. The assessment is one component of a broader applied research initiative “Impact Assessment of Innovative Humanitarian Projects in Sub-Saharan Africa” supported by the Bill & Melinda Gates Foundation. The research which is being carried out by the Feinstein International Center (FIC, Tufts) focuses on the development and application of a participatory assessment toolkit to measure the impact of seven projects in Africa being supported by the Foundation under a separate grant; the “Sub-Saharan Africa Famine Relief Effort”. All seven projects have taken an integrated livelihoods approach to alleviating the immediate needs of the affected communities, and to addressing the longer term vulnerability issues resulting in famine and food insecurity.

The ‘Chical Integrated Recovery Action Project’ was designed to assist ten communities to cope with and recover from the effects of an ongoing food crisis triggered by a failed harvest in 2004. The key project components focused on cereal and vegetable production, the establishment of cereal banks, restocking of small ruminants, and the provision of micro-credit loans. The project also included a capacity building and training component aimed at supporting the other project activities.

The impact assessment set out to investigate changes in household food security and income that had come about as a result of the project, and how these changes had impacted the livelihoods of the participating households and communities. The assessment was carried out by Africare project staff with support from researchers from the Feinstein International Center (FIC, Tufts).

The results of the assessment indicate that the CIRA project has had a positive impact on the food security status of the participating households. The food production and cereal bank components of the project have improved the availability of and access to staple cereals within the villages assessed. Community participants suggested that these two project components have effectively reduced the number of months of food insecurity typically experienced each year. The results indicate that since the project started, cereal banks have gone from being the fifth to the second most important food source in terms of relative contributions to the household food basket. The findings also show a significant reduction in the relative importance of wild foods and relief food to the household food basket. These findings indicate an overall improvement in food security in the project area which can largely be attributed to the project.

The results also show significant changes in the relative contributions of different household income sources since the project began. The most noticeable change is an increase in the contribution of petty trade and income generating activities in comparison to other household income sources. The findings suggest that income from this category is mostly derived from livestock conditioning and fattening facilitated through the projects re-stocking and micro-credit activities. The results also show a significant decline in the importance of income from labor migration and urban employment. The significance being that community members consider a reduced dependency on this income source as a good indicator of household food security.

The assessment estimated the savings benefits derived from cereal bank purchases. This saving represents a cash equivalent of 15,700 CFA or \$ US 34.00 per household in the project area. The results also show a



significant reduction in food purchases which also represents indirect income in the form of savings. This saving can largely be attributed to the projects food production activities. The savings benefits attributable to the project may well be as important in cash terms as the actual income benefits derived from the project.

Since the project started there have been some noticeable changes in household expenditure patterns. The results show a significant change in the portion of household income now being invested in income generating activities and livestock assets. It would be fair to suggest that these livelihoods investments can be directly attributed to the combined income and savings benefits provided by the project.

Improved social cohesion was also identified as an important project benefit. Project participants suggested that this had led to greater collective planning and problem solving within the community.

Ultimately the project has been effective in improving livelihoods by creating or promoting livelihoods opportunities, improving household food security, and improving the capacity of the participating communities to cope with and respond to the effects of drought and other food related shocks.

1. INTRODUCTION

1.1 Sub Saharan Africa Famine Relief Effort

The Sub Saharan Africa Famine Relief Effort (S-SAFRE) “Close to the Brink” was launched towards the end of 2005 in response to a major famine affecting South Sudan, the Sahel and Southern Africa. Under this initiative the Bill and Melinda Gates Foundation put out a Request for Proposals that called for ‘innovative projects that would prevent and reduce both the short term and long term severity and hardship of populations close to the brink of acute famine’ⁱ. Taking into account reports that an earlier response might have minimized the impact of the famine on the affected communities, the RFP suggested that projects assisting ‘populations facing an impending crisis’ would also be considered, stipulating that the “proposed interventions (would) be considered for their potential to serve as examples in mitigating such crises in similar settings and emergencies in the future and thus their ability to conduct rigorous evidence based impact assessment”ⁱⁱ.

The project proposals were further evaluated on the basis of innovation, clarity of the objectives and implementation plan, organizational capacity, experience and ability to collaborate with other partners, a clear exit strategy, budget, and monitoring and evaluation (M&E) plan. The maximum allocation for each project was to be no more than \$ US 1 million, and the project timeframe was to be approximately eighteen months. The RFP also indicated that fifteen percent of the budget be allocated towards M&E, and other data collection activities - an unconventionally high proportion for a humanitarian assistance project budget.

On the basis of this RFP process, project grants were awarded to seven projects (including the CIRA project), being implemented by six organizations in South Sudan, Mali, Niger, Malawi and Zimbabwe. In an attempt to address the multiple objectives of being ‘innovative, responding to short term suffering, and mitigating longer term crises’ all the projects elected for an integrated portfolio of interventions. Essentially these interventions were designed to alleviate suffering, and at the same time to support livelihoods, and build up peoples resilience to future shocks such as food insecurity and drought. All seven projects supported either agricultural or livestock production, others included either micro credit or micro lending, and two included health and therapeutic nutrition components. The overall goal of all seven projects was to improve the food security (or nutritional status) of the communities being assisted. All seven projects started either at the end of 2005 or early 2006.

1.2 Impact Assessment of Innovative Humanitarian Projects in Sub-Saharan Africa

Under this research grant, the Feinstein International Center was commissioned to support the implementing partner organizations in developing their participatory evaluation techniques, to develop and field test an impact assessment toolkit, and to lead a final impact assessment of three or four selected

projects¹. The objective of these final assessments is to measure the true impact of the projects being implemented under the Sub-Saharan Africa Famine Relief Effort.

The specific objectives of this research are:

1. The development of an impact assessment approach and methodology with the organizations implementing the Sub-Saharan Africa Famine relief projects.
- 2: The application of this methodology to selected agency projects to produce a comprehensive impact evaluation report.

In order to meet these goals and objectives, FIC, Tufts has worked in partnership with, and provided support to the implementing organizations over the course of the project. The key components of this support can be summarized in the following three activities:

1. The Feinstein Center carried out an impact assessment training workshop in Addis Ababa in October 2006. This training was attended by representatives from all seven projects. The training was designed to familiarize the participants in the concepts of participatory impact assessment (PIA) and introduce them to a variety of tools which might be used to assess project impact. During the workshop the participants were asked to design a comprehensive PIA plan for at least one major component of their respective projects.
2. Feinstein Center researchers carried out ‘mid term’ visits to six of the seven projects². The primary objective of these visits was to work in partnership with the client communities to identify their own indicators of project impact. The visits did include other activities depending on the timing of the visit within the overall project timeframe. For example those projects that were visited prior to the PIA training workshop placed more emphasis on the basic concepts of measuring impact, whereas those visited towards the end of the project placed more emphasis on testing and demonstrating impact assessment tools, and training project staff in the use of these.
3. Using the PIA tools demonstrated during the training workshop and mid term visits, the implementing partner organizations will carry out a final impact assessment of their projects. The Feinstein Center has selected to support a comprehensive impact assessment of four of these projects. This report is the outcome of the third of these exercises.

The overall goal of this research is to improve the ability of the humanitarian community to carry out impact assessment of its work and thus improve its effectiveness and accountability to the affected communities and donors.

¹ Under the original proposal, FIC, Tufts were to support the development of the project M&E plans, and baseline surveys in a way that would capture impact. However the grant for the research component was only approved once the agency M&E plans had already been developed and most of the baseline surveys had been done.

² One of these mid term visits had to be cancelled at the last minute due to security considerations at the project site. The FIC researcher met with the project team in a neighboring country. As a result many of the objectives of the mid term visit were not met.

1.3 Chical Integrated Recovery Action Project

1.3.1 Project Background

The Chical Integrated Recovery Action (CIRA) Project was designed in partnership with the Rural Commune of Chical in response to a major drought affecting Niger in 2004/2005. Niger suffers from chronic food insecurity with over sixty percent of the population living in extreme poverty - In 2005 Niger ranked 177th on the United Nations Development Programme (UNDP) Human Development Index (HDI) making it the least developed country included in the reportⁱⁱⁱ. At the time an estimated 80-90 percent of the population of Filingue Prefecture was estimated to be food insecure, and Government of Niger reports classified Chical as the worst affected Commune in Filingue^{iv}. Livelihoods practices in the area are based on rain-fed agriculture and livestock production, with millet being the main cereal staple cultivated.

In early 2005 Africare, the Rural Commune of Chical, and local government technical (extension) services, conducted a participatory needs assessment³. This was done prior to the Gates Foundation RFP. At the time Africare was delivering in kind food assistance (food aid) in the area, and the project blueprint was developed in partnership with the community during this period. This allowed for a more comprehensive and participatory project formulation process which was not limited to the two week time frame specified in the S-SAFRE Request for Proposals (RFP). Africare was therefore already looking for a donor to fund the project when the S-SAFRE - RFP was launched.

The overall Goal of the project was; “To demonstrate an innovative humanitarian action which will help 10 communities (1,800 households) mitigate a pending food crisis with improved cereal storage, increased crop production and replenished livestock herds in the rural commune of Chical in Niger”.

Table 1.1 Project Objectives

Objective 1	Strengthen the capacity of communities to establish crisis mitigation mechanisms. This is being done through the establishment of various community based committees which will oversee the implementation of the project activities. This is essentially the capacity building component of the project.
Objective 2	Improve households’ food security through cereal banks and food production. The agricultural activities include the provision of fertilizers, pesticides, extension training, and the establishment of bucket irrigated vegetable farms.
Objective 3	Establish Micro-finance schemes (livestock reconstruction and small loans towards income generating activities to create village-level employment opportunities). This is being done through restocking of small ruminants, and the provision of loans

Under the first objective, community management committees (CMC) were established in all ten project communities. Each committee included a technical sub-committee with representatives for the food security, natural resource management, early warning and cereal bank components of the project. These technical committees were responsible for overseeing the implementation of the different project activities and for developing shock mitigation plans. Under this component Africare carried out a number of training sessions aimed at defining the responsibilities of the CMCs. Committee members were selected using a

³ Agriculture, Livestock and Social Development Services

‘democratic’ approach. Each CMC was made up of seven members selected from the participating community. This evaluation did not try to directly assess the effectiveness of these committees or review the crisis mitigation mechanisms developed by them.

In terms of direct financial inputs, the main project activity (\$ US 85,000) was to promote food production by providing drought resistant cereal crops and introducing vegetables; with the objective of improving both the quantity and quality of the household food basket. Under this activity the project aimed to plant 8 hectares of drought tolerant and fast maturing varieties of millet in each of the ten communities. The rationale for the seed provision was based on a Participatory Rural Appraisal (PRA) exercise which revealed that the communities had lost most of their seed stocks and they (the farmers) requested millet seeds over sorghum. These improved local seed varieties were provided by the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT).

Under the initial proposal Africare had also planned to promote maize and sorghum as part of the cereal production activities, but as mentioned these were excluded based on a preference for millet by the project participants.

The food production activities of the project included two training components; the first of these aimed to establish seed multiplication sites to increase the availability of improved millet seeds within the communities. Five farmers (from five of the communities) were selected and trained in seed multiplication techniques by ICRISAT. It is anticipated that eventually these farmers will provide seeds to all ten communities. The criteria for the selection of the farmers/communities for this activity, was based on the potential for millet production in the farmers home area.

The second training component was carried out by Africare, and involved one hundred farmers (ten from each community) who were trained in new production techniques. This included training in the use of fertilizers, weeding practices, animal traction (donkey) and the introduction of vegetable gardens. By November 2006 Africare determined that the farmers had adopted these new techniques. Based on the farmer field school concept, the ten farmers from each community are each expected to train a farmer from their own community in the new production practices and so on, in the hope that this knowledge will eventually be disseminated throughout the community.

This component of the project also set out to establish vegetable gardens in four of the project villages, promoting the production of potatoes, aubergines, carrots, tomatoes, lettuce, onions cabbage and water melons. This activity was implemented with the expectation of improving household nutritional status and providing income benefits from the sale of these crops. The vegetable gardens were manually irrigated using water spout buckets from existing wells. The buckets were provided by Africare.

The second key project activity (app. \$ US 43,800) was the establishment of cereal banks in each of the ten communities. The idea for this activity was conceived by Africare based on their experience in establishing Cereal Banks in other regions of the country. The cereal banks are designed to minimize seasonal price fluctuations of millet by establishing a set price for this staple based on a ‘normal market price’ for this commodity^v. Typically farmers in Chical are forced to sell their produce during the harvest period (October/November) when millet prices are lowest so as to pay of loans and purchase non-food items. In a ‘normal year’ household millet supplies will run out between June-September (hunger period) and people

have little choice but to purchase millet in urban centers such as Filingue at as much as three times the price of what they sold their own millet for. The cereal banks allow farmers to sell and re-purchase their produce at the same price, enabling them to access cash after the harvest, and providing them with an affordable source of millet when this commodity runs out. In some respects the millet deposited by the farmers represents collateral for an interest free loan. Cereal stocks for the bank are supplemented with purchases of millet from Filingue, these are sourced shortly after the harvest. This mechanism takes advantage of low millet prices during the harvest period, and bulk purchases allow for wholesale discounts and savings on transportation.

The cereal banks also function as seed and fertilizer banks to support the food production component of the project. Attached to each of the cereal banks are seed and fertilizer shops. Africare provided an initial free input of 25 tons of fertilizer and 5 tons of millet seeds. By November 2006 all ten cereal banks had been established and were operating under the community management committees established under the first objective. In 2007 Africare provided an additional 50 tons of millet and 6 tons of millet seeds. This was done in response to another poor harvest, which minimized the communities' ability to self provision the bank from their own millet production and sales.

The third objective of the project included re-stocking and micro-credit activities. The framework for the restocking exercise was based on a traditional mechanism called '*habbanaye*'. Africare purchased and distributed 372 small ruminants to female members of the most vulnerable households in each of the ten communities. Initially Africare had planned to distribute the livestock to only four communities, however, a PRA exercise done in partnership with the Government technical services, revealed that all ten communities had suffered considerable livestock losses. Based on this information Africare decided to provide livestock to all the project communities.

A livestock reconstitution committee was established in each community, this committee was responsible for identifying recipients. The criteria used for selection was based on livestock losses, and all the recipients were women. The livestock reconstitution is based on a traditional system of reciprocity (*habbanaye*) which works as follows. Each selected women receives one goat and one sheep (ewes). Each community receives four male (stud) animals, which are rotated amongst the female stock. After two birthing cycles the original (female) animal is given to another woman selected by the reconstitution committee, and the original *habbanaye* recipient gets to keep the offspring.

Under the micro-credit sub-component, one hundred recipients were initially selected (ten per community) and each participant was provided with the equivalent of a \$ 285 loan. Micro-credit committees were established to manage the revolving funds, select loan recipients and to ensure repayment. These committees included one Africare staff member as well as a representative from the local authorities. The loans were generally to be used for agricultural inputs (including livestock purchases), animal feed, and petty commerce or other income generating activities.

Other sub activities implemented under the project included the improvement of 40 hectares of pasture. This was done through the planting of legumes to improve soil nutrients, the legumes are then used as livestock feed. Under this activity Africare trained a number of livestock herders in pasture conservation techniques. This component was implemented in four of the project communities.

1.3.2 Implementation Challenges

There were a number of challenges to project implementation. Under the crop production activities there was some reluctance on the part of the community to adopt the new techniques being introduced by Africare. This obstacle was overcome by carrying out an intensive sensitization exercise during training activities.

Secondly in 2006 the rains arrived early (in April instead of June), and the new seed varieties had not been procured. Africare was only able to distribute the seeds in mid June, when many of the farmers had already started cultivation. The project area also experienced erratic rainfall (40 days with no rain), and bird attacks (*Quelia. quelia*) in four of the communities being assisted. The combination of these three factors adversely affected millet production in the project area, minimizing the impact of the project during the first year of implementation.



Under the capacity building activities low literacy levels amongst the CMC members meant that Africare had to conduct an intensive and time consuming training exercise in order to establish these committees. Africare also had difficulty in mobilizing women to participate in the CMC's. Africare project staff suggest that this is partly cultural, in that the communities had not been exposed to gender representation in public committees prior to Africare's engagement in the project area. Secondly women have limited time to attend meetings as they are involved in time consuming activities, specifically water collection which is traditionally seen as the responsibility of female members of the household. Due to the scarcity of water in the area, women have to travel considerable distances to collect water for household utilization.

2. ASSESSMENT METHODOLOGY

2.1 Study Design

For the purpose of this study the following definition of impact was used; 'those benefits and changes to people's livelihoods, as defined by the project participants, and brought about as a direct result of the project'.

Within the framework of this definition the assessment set out to look at changes in household food security, and household income and expenditure patterns. These changes were measured against indicators identified by project participants during field visits to the area by the Feinstein Center.

The assessment looked at the impact of the projects cereal and vegetable production activities, as well as the cereal banks, restocking and micro credit components. The assessment did not focus on the capacity building or crisis mitigation activities (objective #1).

The main component of the assessment involved individual household interviews with project participants. The objective of these interviews was to capture perceptions of impact at the household level, by quantifying relative changes in household food, income and expenditure. The second component involved focus group discussions with community members. The objective of these discussions was to capture perceptions of change brought about by the project at the community level, and to triangulate the findings from the individual interviews.

2.2 Research Questions

The impact assessment was formulated around the following research questions:

1. What changes has the project had on household food security and the nutritional status of the assisted communities?
2. What changes has the project had on household income (and savings) in the assisted communities?
3. What changes in household expenditure patterns have occurred as a result of the project?
4. What impact has the project had on the livelihoods of the assisted communities?

2.3 Study Areas

Chical Commune is situated in Filingue Prefecture roughly 200 km Northeast of Niger's capital city Niamey; Chical Commune is made up of 43 villages with an estimated population of 66,234 inhabitants^{vi}. Filingue Prefecture is populated by inhabitants from the Haussa, Djerma, Touareg and Fulani (Peuhl) ethnic groups. Touareg and Fulani groups are predominantly involved in transhumance livestock production. The Haussa and Djerma are involved rain-fed crop production, although many households own a limited number of livestock and poultry. The Fulani typically raise both cattle and small ruminants (sheep and goats) whereas Touareg herds are mostly made up of sheep and goats^{vii}. Other livestock assets include camels, donkeys and horses. The main crops grown by the Haussa and Djerma are millet, sorghum and cowpeas, although small scale vegetable production exists in some communities with access to wells.^{viii}

Economic opportunities are fairly limited, and household income is mostly derived from the sale of millet, livestock and livestock products. Other rural income earning opportunities include petty trade, brick making, handicrafts (mat weaving) and seasonal agriculture work for 'wealthy' farmers. Petty trade is mostly done by women and involves buying and selling small items such as cigarettes. Women also bake cookies and cakes which are sold locally^{ix}. The collection and sale of fodder is another important income

earner fed by a demand in towns (including Niamey) where many urban dwellers traditionally have small livestock holdings. Fodder collection is traditionally done by men. Both men and women are involved in wild food collection, and these are sold locally. Seasonal migration to urban areas and neighboring countries in search of piece-meal work is also common but is also mostly restricted to young men. Urban employment and fodder collection options are generally considered as a less desirable form of income as it involves traveling over a 100 km from the village to collect the fodder. These two options are expanded on during drought years^x.

Household income is mostly spent on food purchases, predominantly millet although rice and manioc flour are bought for social events. The remaining income is mostly spent on clothes, school supplies, medical expenses, traditional ceremonies, and investments in petty trade and livestock^{xi}.

2.4 Sampling

2.4.1 Study Locations

The assessment took place in five of the ten communities participating in the project, covering both administrative zones in Chical Commune (Sabara & Ibankan). The actual locations visited were the villages of Ibankan, Toudounin Kouli, Goudey, Chinagamane, and Sabara. The assessment team spent a day in each of these villages with an overnight stop in all but the first and last villages assessed. The study sites were selected by the Africare project team, the main criteria being access to, and the availability of potential respondents. Seeing as the assessment took place during the harvest, villages were selected based on their proximity to people's farms. Another consideration for the selection of villages was the inclusion of three communities involved in the projects vegetable production component.

2.4.2 Method and Size

The sampling frame for the Household Interview (HHI) component of the assessment was 782 households participating in the project from the five selected villages. Based on the national average of seven people per household this would represent roughly 5,470 people. Participation in the HHI was voluntary but selection was limited to households that contained members that had participated in at least two of the following project activities, cereal and vegetable production, restocking and micro credit. Seventy four households participated in the household component of the assessment representing roughly ten percent of the overall sampling frame.

Table 2.1 Sampling for household interview (HHI) component

Village	Sampling Frame (HHs,)	Male	Female	Total # HHs,
Ibankan	142	2	2	4
Toudounin Kouli	72	9	9	18
Chinagamane	286	9	9	16
Goudey	136	9	9	18
Sabara	146	9	9	18
Total	782	37	37	74

An estimated 300 community members participated in Focus group discussions across the five villages. One focus group discussion was held in each community visited. Participation in the focus groups was voluntary and included both project and non-project participants. Having said this, the cereal banks are available to all community members so households utilizing this facility may be classified as indirect project recipients. The focus group discussions were attended by a mixture of men, women and children.

2.4 Data Collection Methods

At each assessment site visited the Africare/FIC team held a meeting with community members to explain the objectives of the exercise and the participatory tools that were to be used. On average about eighty community members would participate in these sessions at each site. The meetings had been pre-arranged by CIRA project staff and participation in these was voluntary. The meetings were also used to identify project participants that would be willing to take part in the household interview (HHI) component of the assessment. Once the HHI participants had been identified they were split up into three groups evenly divided along gender lines. Three teams consisting of two enumerators would then carry out the household interviews with these groups. All the enumerators were CIRA project staff and between them they would interview up to eighteen individual households between them at each site. This was done by interviewing and collecting responses from a group of up to six household representatives at one time, with one enumerator interviewing and the other recording responses in a standardized format. The enumerators had been exposed and received basic instruction in the use of the assessment tools from FIC, Tufts during earlier field visits, and had practiced using these tools in the project area.

The remaining community members attending the group meeting were then invited to participate in a focus group discussion facilitated by one FIC, Tufts researcher and one Africare representative.

The primary data collection tool used for the household interviews (HHI) was a semi structured interview. These interviews were constructed around two participatory methods, 'Before' and 'After' scoring and impact scoring. These tools were used to capture perceptions of relative change in household food and income sources, and household expenditure.

An impact scoring exercise was used to assess the relative importance of different benefits derived from the project. These benefits were identified by project participants during two previous field visits to the project by the research team. These indicators were collected by asking project participants about their expectations of the project, and what livelihoods benefits they expected from the project. These included both proxy indicators and impact indicators that project participants had proposed as useful benchmarks for measuring the success of the project.



Strengthening the humanity and dignity of people in crisis through knowledge and practice

The enumerators presented participants with a set of visual aids such as cards with a picture or symbol representing each of the indicators. The visual aids were developed with assessment participants in the first village visited and then refined by the enumerators. Once all the participants were clear on what each card/indicator represented, the first participant would be asked to score the relative importance of each indicator. This was done by asking the participant to distribute thirty counters amongst the cards with the greatest number of counters being allocated to the most important indicator (project benefit), and the fewest number going to the least important. The enumerators would emphasize that all thirty counters be used but that if an indicator (project benefit) had not been realized, or that it was not considered important it did not have to be assigned a score. Once the participant had distributed the counters amongst the different indicators she would be asked to explain the distribution. Once the participant was happy that the scoring accurately represented her perceptions of the different project benefits, the enumerators would record the results.

The enumerators would then clear the counters from the cards and ask the next household representative in the group to repeat the same exercise based on their perceptions of the different project benefits and so on until each member of the group had completed the exercise.



The use of visual aids for before and after scoring exercises

The 'before' and 'after' scoring exercises on food and income sources and household expenditure patterns were conducted in a similar fashion using thirty counters and visual aids representing the different indicators. Participants were asked to make comparisons using two reference points 'before the project started' and the current situation (after). For example a participant would be asked to show the relative contribution of different sources of food to the annual household food basket by distributing the thirty counters amongst cards representing each food source. This would be done to show various contributions before the project started and then repeated for the current situation. If any changes were observed between the two situations the enumerators would ask the participant to explain the reasons for these changes.



The same exercise was done to look at changes in household income sources and expenditure patterns. Again the indicators for these exercises were collected from the community during previous field visits.

Following the ‘before’ and ‘after’ exercises on food and income sources the participants were asked if there had been any improvement in household food security or an increase in household income since the project started. If so they were then asked to give reasons for these improvements. The responses were then recorded and put into broad categories of project and non-project factors.

Each participant was also asked to estimate how much millet their household had purchased from the project cereal bank since it had been established. These estimates were given in ‘tias’ a local unit of measurement representing approximately 2.5 kg.

The primary tool used for the focus group discussion was a semi structured interview. This was used to collect community perceptions on what livelihoods benefits had been observed as a result of the project. Participants were also asked to identify the weaknesses of the project and to suggest recommendations on how it might be improved. These sessions were also used to collect community definitions of food security, and to identify common coping strategies that are employed during times of drought. Participants were also asked if they had observed any changes in food security or in the utilization of the identified coping mechanisms, and attribute reasons to these changes.

The FGD tried to estimate any perceived improvements in food security brought about as a result of the project. Based on the definitions of food security that had been proposed, participants were asked to estimate the number of months of food security that had been achieved in 2004/2005 and again in 2006/2007 and to explain the reasons for any changes. This was done by placing twelve cards on the ground each card representing a calendar month. A volunteer from the group would then be given twelve counters and asked to place a counter on each card that represented a food secure month in 2004/2005 starting in October⁴. Agreement on the distribution of the counters was arrived at through consensus from the rest of the group. The exercise was then repeated for the current year 2006/2007. The participants were then asked to identify the major food sources contributing towards food security for each calendar month considered as food secure from both scenarios.

⁴ The millet harvest takes place during this period and October is considered the most food secure period in the project area.

Table 2.2 Summary of methods used

Method	Use/Issue	Sample
Impact scoring	To determine the relative importance of different project benefits at the household level	74
Before and after Scoring	To measure: <ul style="list-style-type: none"> • relative changes in the contributions of different food sources to the household food basket • relative changes in the importance of different income sources • relative changes in household expenditure 	74
Food security duration calendar	<ul style="list-style-type: none"> • To determine the duration (number of months) of household food security for project and non project participants 	5
Focus group discussions	To : <ul style="list-style-type: none"> • collect qualitative community level perceptions of project impact • to triangulate data from household interviews • collect data on the perceptions on the projects strengths, weaknesses • collect information on perceived changes in food security, and drought coping mechanisms • collect community definitions of food security 	5
Semi structured interviews	To: <ul style="list-style-type: none"> • Estimate household millet purchases from cereal banks • Used with all methods to determine attribution, cross check information and clarify responses. 	74

2.6 Pre-Testing

A number of participatory assessment tools were developed using community defined indicators of impact that had been collected during a FIC, Tufts field visit to the project in December 2006. These tools were then tested in one of the project communities during a second FIC, Tufts visit to the project in March 2007.

2.7 Triangulation

A number of cross checking methods were used to validate the findings of the assessment. The first of these was the focus group discussions. These discussions were used to collect qualitative data on project impact which was then compared with the more quantitative results from the household interviews.

Secondary data from the FIC, Tufts mid term visit and the field testing visit were also used to triangulate the data. Project documents including the original proposal and project baseline reports were also used. Project M&E documents and progress reports were used to compare delivery of inputs and services with the results on impact assessment.

Another data validation method used was a comparison of the results from the before and after exercises on food, income and expenditure. Where logically corresponding trends exist, they support the results from each of the exercises. This method was done as part of the data analysis.

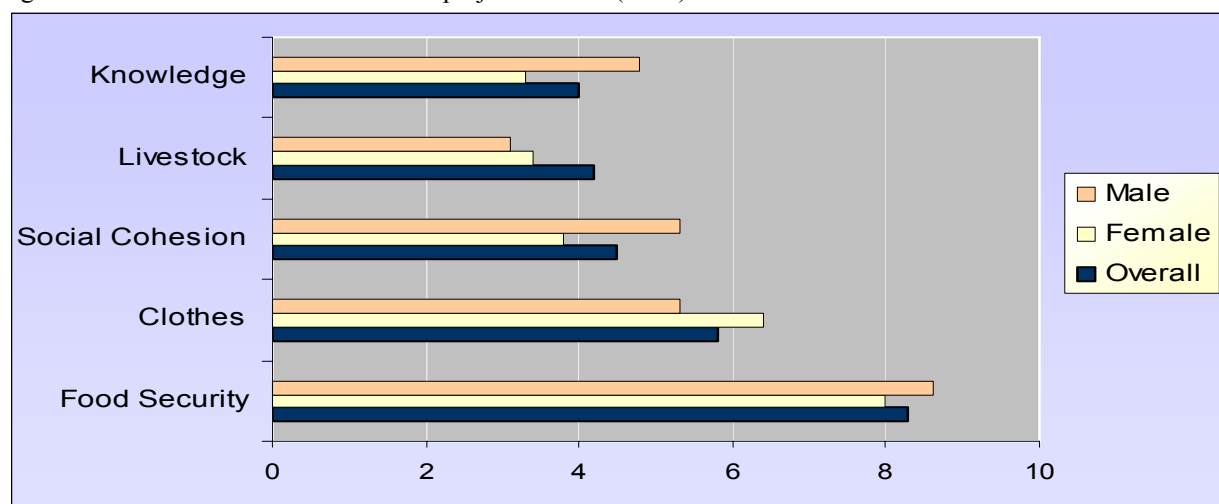
2.8 Data Analysis

The quantitative data from the household interviews was tested for normal distribution using the P-P plot function in SPSS. A comparison of mean scores from the before and after exercises was calculated at 95% confidence interval using SPSS. The mean score was used to represent specific household contributions on food, income and expenditure. This was calculated using Microsoft Excel. The relative mean score of project benefits was also calculated using Excel.

3. RESULTS

3.1 Project Benefits

Figure 3.1 Relative mean score of project benefits (n=74)



Data derived using impact scoring with thirty counters

Table 3.1 Overall project benefits by focus group participants

Benefit	Ranking in order of Importance (n=5)
Better farming skills	1 st
More food (fewer hunger months)	2 nd
Increased variety of food/dietary diversity (improved nutrition)	3 rd
Improved health	4 th
Increased income from sale of food	5 th

Data derived using the summary of ranks from 5 focus group discussions. The original data was collected using simple ranking

3.4 Food Security

In the five communities assessed, focus group participants equated food security with the availability of millet in the household. Food secure households were considered to be those that are able to offer hospitality (in the form of meals) to guests. The “sound of millet being pounded from early morning” was also identified as an indicator of food security or ‘when people are happy and their skin is smooth’. Typically the communities considered this concept of food security to be applicable to years when there is

a good harvest, and more specifically to the months following the millet harvest in October. Before the project started focus group participants estimated that millet supplies from household production would generally last until January or February depending on the harvest and on individual household production. Once this happens households will engage in a variety of economic activities in order to earn enough money to purchase millet for household consumption.

Table 3.2 Common household coping strategies in the project area

	Coping Strategy
1	Sale of livestock in order to purchase millet
2	Migration of young men to urban areas as well as to Libya, Burkina Faso and Nigeria in search of employment
3	Increased consumption of wild foods such as 'anza' and 'njinge'
4	Expansion on informal activities, including brick making, handicrafts, and the collection and sale of livestock fodder
5	An increase in the number of people seeking agricultural employment from wealthy farmers

Data on coping mechanisms derived from semi structured interviews and focus group discussions (not ranked in order of importance).

3.4.1 Duration of Food Secure Period

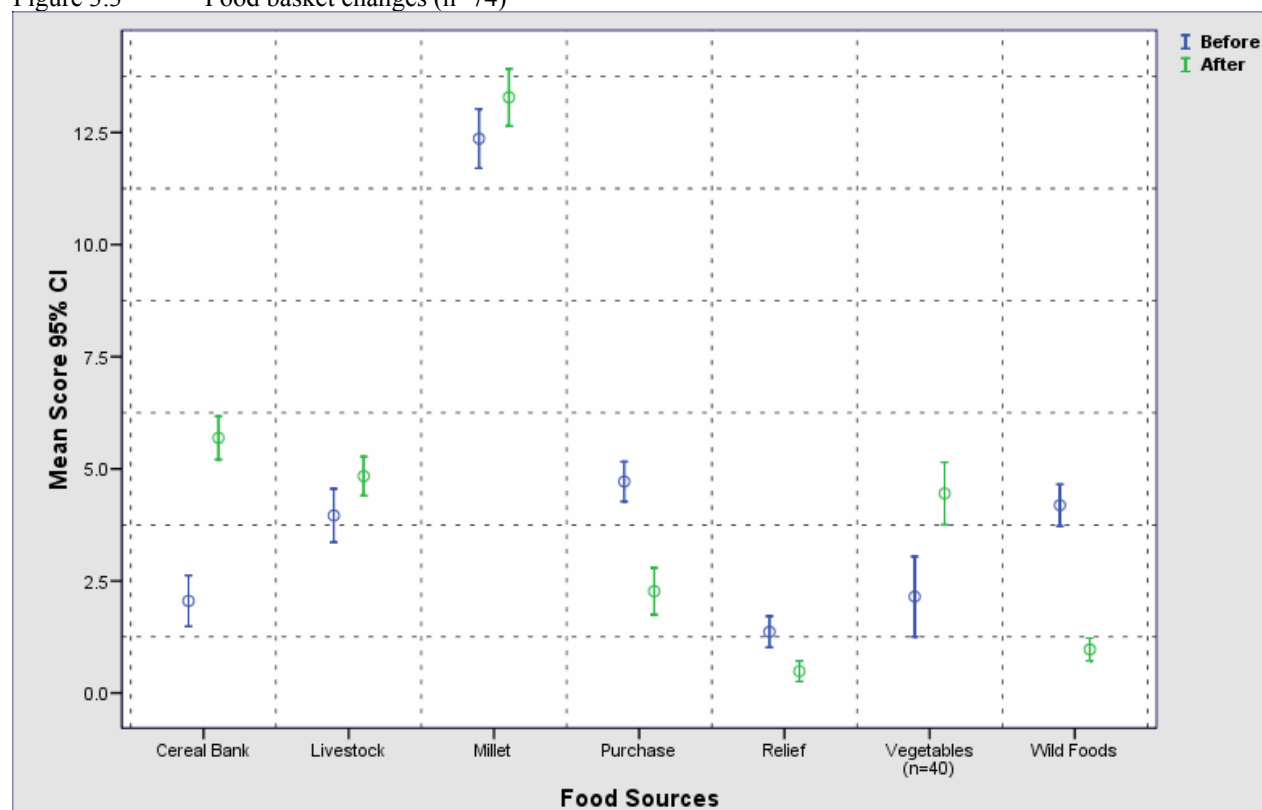
Figure 3.2 Number of months of household food security

Months	O	N	D	J	F	M	A	M	J	J	A	S
Food Availability (Before Project)	Yellow	Yellow	Yellow	Yellow	Yellow							
Food Availability (After Project)	Blue	Blue	Blue	Blue	Blue	Blue	Blue		Dark Blue	Dark Blue	Dark Blue	Dark Blue
Sources	Field harvest							Gap	Cereal Bank		Early maturing millet variety	
											Cereal Bank	

3.4.2 Food Basket Contributions

Figure 3.3 shows changes in relative contributions from different food sources to the food basket.

Figure 3.3 Food basket changes (n=74)



Data derived from before and after scoring using thirty counters.

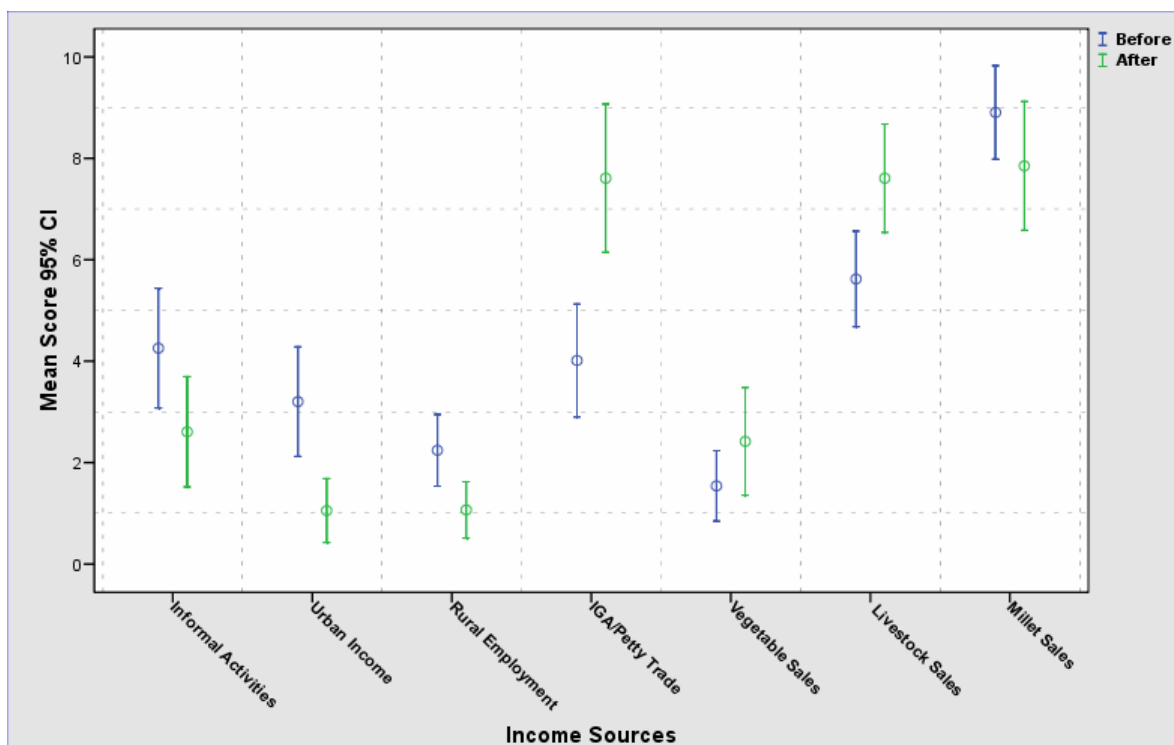
Table 3.3 Reasons given for improvements in household food security

Factors	Number of Responses (n=74)
Cereal Banks (available and affordable food supply)	68
Better Farm Inputs (seeds and fertilizers, and fast maturing millet)	59
More Income to Purchase Food (from CB savings, micro credit and vegetable sales)	50
Restocking (income from sales and milk from livestock)	46
Vegetable Production (more diverse foods, less dependency on millet)	38
Food Aid	10
Decrease in Crop Infestations and Pests	8
Improved Rainfall	5

Data was derived using semi-structured interviews following the before and after scoring exercise on food sources. Some people gave more than one response others gave none. (total number of responses = 284)

3.5 Income

Figure 3.4 Changes in income sources (n=74)



Data derived from before and after scoring using thirty counters

Table 3.4 New Income Sources (n=74)

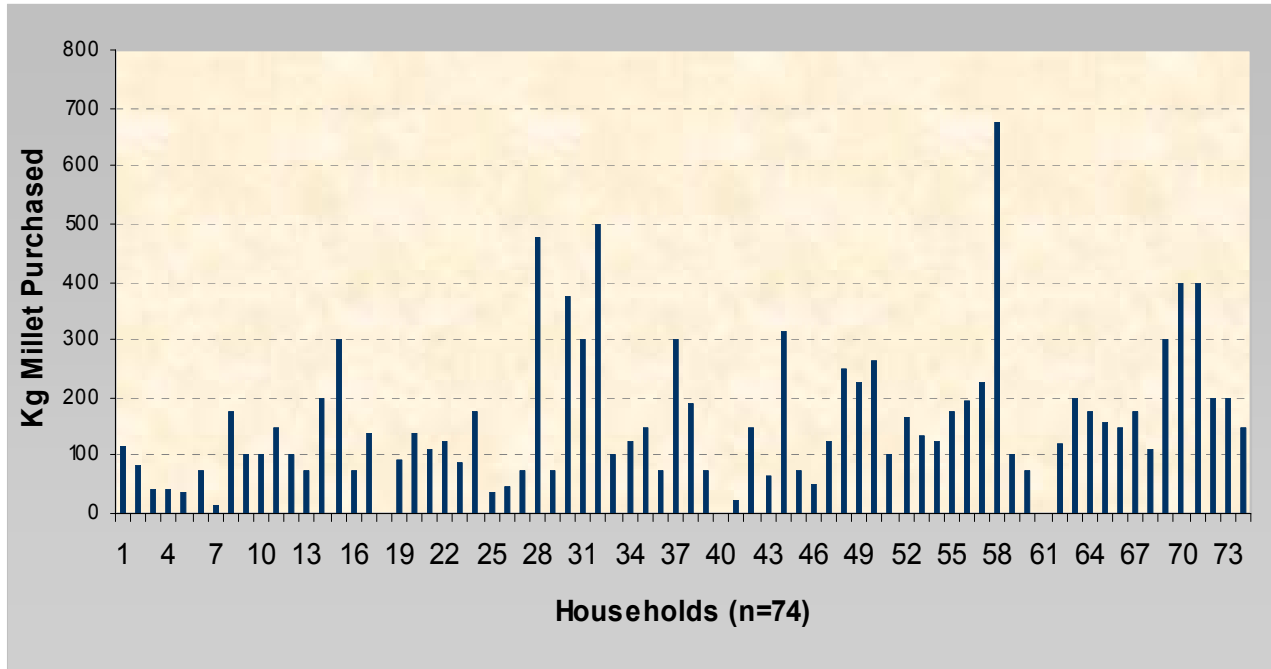
Source	Number of HHs
Income from Sale of Vegetables	5
Income from Sale of Livestock	9
Income from IGA and Petty Trade	17
Total	31

Data extrapolated from before and after scoring on income sources

Notes on Table 3.4: The contribution from these income sources was zero in 2004/2005 (the before project reference year), this does not necessarily imply that these are entirely new income sources as they may have existed prior to 2004.

3.5.1 Cereal Bank Savings

Figure 3.5 Estimated household millet purchases from cereal banks

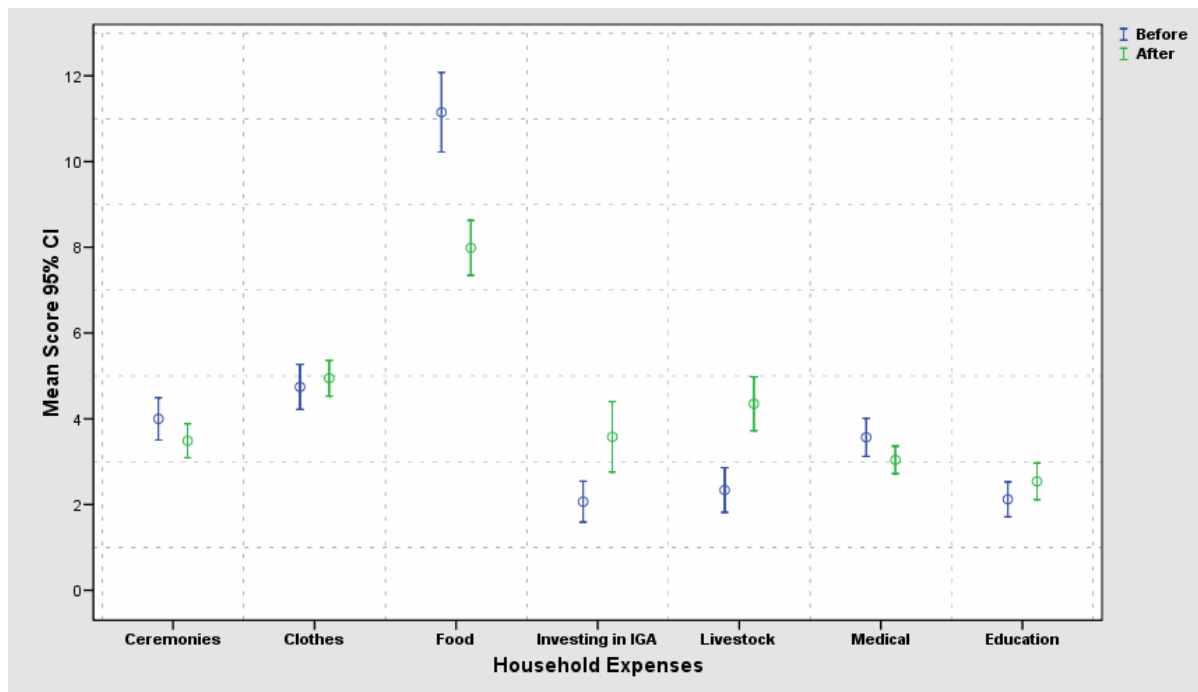


Total millet purchases	11655 kg
Average purchase/HH	157 kg
Cereal Bank/Market Cost Differential	100 CFA/kg
Average saving/HH	15,700 CFA

Note: Over the two year period since the project started a total of 75,309 kg of cereal have been sold from the ten project cereal banks^{xii}.

3.5.2 Expenditure

Figure 3.6 Changes in Household Expenditure (n=74)



Data derived from before and after scoring using thirty counters

3.6 Project Strengths and Weaknesses

Table 3.5 Key strengths and weaknesses of the project

Strengths	Weaknesses
<ul style="list-style-type: none"> Fewer hunger months (food production & cereal banks) Time and money saved on travel to purchase millet (cereal banks) Improved ‘year round’ availability of millet (cereal banks) Improved nutrition of children (all activities) Ability to purchase millet when prices are low (micro-credit loans) Ability to invest in livestock assets (micro-credit) Income from livestock investments (micro-credit) Improved social status of women (re-stocking) 	<ul style="list-style-type: none"> Inability to fill the cereal banks to capacity – the existing stocks would not be sufficient to mitigate against another drought ‘Ideally the project would have provided an extra ten tons of millet for the cereal bank’ ‘There is not enough water for vegetable production ‘The demand for micro-credit loans far outweighs the availability of funds ‘ many people who have good business ideas were excluded’

3.7 Community suggestions for improving the project

While appreciating the benefits of the cereal bank, focus group participants noted that the amount of grain provided by the project was not enough to provide the critical push to sustainable food security. They observed that the project should have considered doubling the amount. ‘Although we are working hard to provision the banks with our own supplies, it might not be sufficient especially if another drought was to occur soon’.

On the other hand ‘the abundance of grain has meant that women and girls have to get up as early as 2 a.m. to pound millet for the families’ meals since. The inclusion of grinding mills could save two to three hours of food preparation time for women and girls freeing up time for other productive activities’.

The amount of money available for the micro-credit could be increased. One community member observed that at the moment the micro credit loans service only meet twenty five percent of the demand. ‘Many young men in the community who are willing to work cannot access credit even though they have good business ideas’.

Focus group participants also suggested that there was room to expand on the projects training and skills development activities, ‘these are the kind of skills that will enable us to support ourselves and escape from poverty’.



Assessment Participants

4. DISCUSSION

4.1 Assessment Constraints and Methodological Limitations

(Please skip to the next section if not interested in methodological issues)

There were a number of methodological constraints and limitations to the assessment and the results should be viewed in light of these. The limited French language skills of the FIC, Tufts research team affected their ability to communicate with the Africare project team conducting the assessment. This factor influenced the design of the assessment resulting in it being distilled down to a few basic assessment tools. Ideally the assessment would have been complemented with additional exercises aimed at quantifying impact and attributing the changes brought about by the project.

The second constraint was a considerable time limitation; on arriving in the project area the research team was informed that the project only had the resources available for five days of field data collection. Again this was a communication issue; FIC, Tufts had conveyed that they hoped to assess five communities but did not clarify that they hoped to spend more than one day in each community, this limitation became clear on the first day of the assessment when the team failed to complete all the household interviews that had been planned. In an attempt to compensate for this the attribution exercises were revised and the results from the attribution exercises on income and expenditure were particularly weak, and in some cases meaningless. Again if time had allowed a day would have been set aside to analyze the raw data and this issue might have been remedied.

The timeframe given to complete this and two other assessments under the same initiative left only a small window to carry out the exercise. The FIC, Tufts team had hoped to carry out the assessment earlier but this would have overlapped with Ramadan. FIC, Tufts and Africare decided that this would have been an inappropriate time to conduct the assessment and so it was postponed to coincide with the harvest period. This obviously had implications on people's time commitments. In part to compensate for the actual time limitations of the study, and to minimize the disruption to on farm activities the team decided to spend the night in three of the villages assessed. Interviews were then carried out in the evenings when people had more free time to participate. On the positive side the timing of the assessment was probably better suited to capturing project impact, but certainly raises some ethical issues about the cost benefits of an assessment on people's time. Although just a hypothesis it's possible that perceptions of food security may well be slightly inflated following a reasonable to good harvest positively exaggerating the results. The opposite may also apply to assessments done during the lean period (hunger months).

It should also be mentioned that 2004/2005 was used as a baseline year for the before and after scoring exercises. Therefore October 2005 would have been the reference harvest for before the project. This was a fairly good harvest which coincided with the beginning of the project. It's difficult to know if assessment participants drew this distinction in attributing an improvement in overall food security to the project or the harvest. Again the situation started to improve once the project began and although much of this improvement was attributed to the project, it does represent a symbolic turning point which may have exaggerated perceptions of impact. Again although this is just another hypothesis it may be worth considering, particularly in consideration of the weaknesses mentioned in reference to the assessments attributions exercises.

Although the enumerators participating in the assessment had had some instruction in the use of the participatory tools, none of them had participated in the impact assessment training carried out by the Feinstein Center in Addis Ababa. Again this partly influenced the decision to trim down the assessment tool to a few key exercises. This does not in any way reflect on the capacity of the Africare assessment team, as mentioned time and language constraints also influenced this decision and it's the view of the FIC, Tufts researchers that the enumerators would have easily managed to incorporate a more complex set of participatory tools into the assessment under different circumstances. Consistent with this the FIC, Tufts team insisted on carrying out a minimum of sixty household interviews during the five days. This was done with the objective of obtaining a representative sample size at the expense of attribution, data quality and diversity.

Due in part to some of the issues mentioned above, the household interviews relied heavily on three core exercises which looked at changes in food income and expenditure. These exercises are based on perceptions of relative changes in the contributions of different variables pertaining to these three categories. They do not quantify or represent actual increases or decreases in these variables, but the relationship between these and should not be confused as such. Therefore the actual results tell us more about trends than actual measurements of impact. To compensate for this and the acknowledged limitations mentioned in attributing these changes to the project; FIC, Tufts relied heavily on secondary data from focus group discussions, field visits, and baseline data in order to analyze the results. In the view of the research team the secondary data strongly supports the arguments presented in this report, although it would be fair to argue that this may be somewhat subjective. Consistent with this thought it should be mentioned that the FIC, Tufts researchers have been working closely with the CIRA team over the past year, benefiting from their hospitality and the experience of joint learning. In this respect they cannot be viewed as entirely independent evaluators. It should also be noted that all the enumerators for the household interviews were somehow affiliated with the CIRA project hence the issue of reflexivity and bias has to be considered.

In terms of representation, although the household interviews captured a balance of male and female participants, Africare did raise concerns about gender domination during the focus group discussions. This issue was raised during an earlier visit, and although the focus groups did try to capture the views of female community members, these may have been influenced by the presence of more dominant voices within the community. The same may apply to views of other individuals or groups within the community regardless of gender.

Another methodological compromise was the issue of '*peer bias*.' In order to save time the household interviews would be carried out with up to six participants at one time. There is the potential that this may have led to people repeating the same responses as the previous participant. The results do not appear to reflect this, and the team did try to minimize the risk of this by removing the counters between each scoring exercise and by encouraging independent responses from each participant. Nevertheless it could be argued that these were not individual interviews in the strictest sense.

The estimates on savings from the cereal banks don't take into account seasonal fluctuations. An average price was taken from two points in time, March and November 2007. November probably represents the lowest disparity between cereal prices at the cereal banks and on the open market, and March probably

represents somewhere between the lowest and highest disparity. In this respect the estimates are probably fairly conservative. The highest disparity would probably be expected between June and September. It should be noted that prices for 2006 were not used.

4.2 Overall Project Impact

The findings of the assessment indicate that a number of important changes in household food security and income have occurred in the communities assessed since the CIRA project was implemented in 2005. These changes can largely be attributed to improved crop production, a diversification of income sources, and savings on cereal purchases brought about as a result of the project. Ultimately these changes have enhanced people's ability to cope with the effects of drought and food insecurity by improving access and availability of food for household consumption, and by reducing people's dependency on a variety of economic activities aimed at earning income to purchase food for household consumption. Consistent with this the single most important project benefit scored by household participants was an improvement in food security (*see figure 3.1*). Income benefits included the ability to purchase clothes and to a lesser extent to pay for school supplies.

Improved social cohesion was scored as a major project benefit. During field visits community members repeatedly emphasized this benefit, suggesting that by bringing people together the project had strengthened the capacity of the community to make collective decisions and act upon these. Project participants pointed to the number of meetings being convened since the project started as evidence of improved social cohesion. Before the project started community meetings would typically occur once a year. Using the format and mechanisms established under the projects capacity building objectives community meetings now take place on a regular basis. Some of the participants said that they now feel 'less alone' as a result of this improved social cohesion, 'if there is a problem we discuss solutions together rather than having to face them individually'^{xiii}. The assessment did not actually measure the impact of improved social cohesion or the meetings that have occurred as a result of it. However the household participants scored improved social cohesion as the third most important project benefit. Interestingly, this indicator of project impact was mostly mentioned by women during the field visits, yet in the assessment men scored social cohesion higher in relationship to the other variables than did the women.

An increase in livestock assets (sheep and goats) was also considered to be an important project benefit. This proxy indicator of impact was identified by project participants during earlier visits as a useful way of measuring the success of the re-stocking and the micro-credit activities - livestock being a key investment for loan recipients. Participants in these two project activities predominantly viewed livestock as a potential source of income, this income being realized once the livestock are sold. However, for the time being profits derived from livestock sales are mostly converted back into more livestock with the objective of building up a productive herd. In the long term this increase in livestock may translate into actual income benefits, in the interim this asset increase represents more of a livelihoods investment. This benefit scored higher amongst women than men, which makes sense seeing as women were the primary recipients of the re-stocking and micro-credit loans distributed under the project.

Project participants also appreciated the skills and knowledge transfer derived from the projects training activities. The male participants scored this benefit higher than the women suggesting that the cereal

production training activities were perceived to be particularly beneficial – men being the primary participants in this activity.

Other project benefits mentioned was the time and transport costs saved from being able to purchase millet from the cereal banks as opposed to having to travel to Filingue as people had done in the past.

4.3 Impact on Household Food Security

The cereal banks and food production activities implemented under the CIRA project have helped to promote household food security by increasing the availability of cereals in the project area, and improving people's access to these. The vegetable production activities have also had some impact on the food basket composition of the households participating in this activity.

Millet from own production is the most important food source contributing to the household food basket in the project area. Household participants indicated that better millet yields were realized as a result of improved seeds and fertilizers provided by the project (*see table 3.3*). Focus group participants estimated that these inputs extended the duration of the food secure period by up to two months (*see figure 3.2*). The fast maturing millet varieties introduced by the project have also extended the duration of the food secure period by making this food source available in August and September. Since the project started there has been an increase in the relative contribution of millet to the household food basket (*see figure 3.3*). Although this increase is not statistically significant, the impact on food security is relevant representing an increase in the relative

contribution of this food source to the household food basket.



The results show a significant change in the importance of cereal banks as a source of food in the project area (*figure 3.3*). Cereal banks did exist before the project in two of the villages assessed, but these were not fully provisioned or utilized by the community until promoted under the CIRA project. The results indicate that eighteen percent (mean contribution) of the household food basket now comes from cereal banks as opposed to only seven percent in 2004/2005. As a result of these changes cereal banks have moved from being the fifth to the second most important food source in the project area. According to

focus group participants the cereal banks are typically utilized to fill the household millet deficit for four months of the year (from June to September).

Since the project started, an average of roughly 157 kg of millet/household has been purchased from the cereal banks by the seventy four households participating in the assessment. This millet transfer does not represent an actual quantification of the impact of the cereal banks on household food security as before the project people simply purchased the millet from another source. This is reflected in the results which show a significant reduction in the relative importance of food sourced through purchases since the project started (*see figure 3.6*). Most likely the decline in the importance of food purchases corresponds at least in part with the increase in the importance of the cereal banks. In other words the millet that was previously purchased on the open market is now being bought from the banks. Although on the surface it would appear that one food source has simply been substituted for another, this change represents a marked improvement in food access.

This improvement in food access can theoretically be estimated by calculating the average cost savings of purchasing millet from the cereal bank. Since the project started the seventy four households assessed would have saved an average of CFA 15,700 by purchasing millet from the cereal bank as opposed to buying the same amount on the open market⁵. If this saving was converted back into a cereal equivalent it would translate into between 65–112 kg of millet depending on whether this was purchased at the cereal bank or on the open market. Using a rough planning estimate of 500g food requirement per person, this amount would represent between 19-32 days of food security per household assuming an average household size of seven people⁶. Although academic, these conservative estimates of the potential food transfer from cereal bank savings point to a considerable impact on household food security.

One of the project weaknesses cited by community members was the inability to utilize or fill the cereal banks to capacity. This suggests that there is a considerable demand for these facilities but it also raises the question of sustainability. Although the results show some impressive benefits derived from the banks, eventually they will have to become community managed assets independent of external support or financial assistance. In many ways this can only happen if the cereal banks continue to supplement their stocks with purchases on the open market. This will allow the banks to cover the overhead of managing and storage through commodity speculation. This may well require further training and capacity building of the CMC's responsible for managing the cereal banks.

The assessment results also show a significant reduction in the contribution of wild foods to the household food basket. This can probably be best explained by a reduced dependency on this food source due in part to the relative increase in the importance of other food sources promoted by the project. An expansion in wild food consumption is considered as a drought coping mechanism and so the decline in the importance of this food source can be seen as an indicator of improved food security. Before the project started fourteen percent (mean contribution) of household food 'needs' were being met through wild food

⁵ This estimate is based on an average price of 240 CFA/Kg in Filingue, and an average price of 140 CFA/kg from all five cereal banks, between June and September 2007.

⁶ Recognizing that people cannot survive on cereals alone - this assumes that 1,750 Kcal of the 2100 kcal would be met from cereals

collection. In 2006/2007 only three percent of the household food basket came from this source. This change supports the general finding that there has been an overall improvement in household food security since the project started.

The results also show a slight increase in the contributions from vegetables and livestock products (*figure 3.3*). Although increased household milk consumption was identified as an expectation of the re-stocking the results do not indicate a significant increase in the relative importance of this food source. Vegetable production only took place in three of the five villages assessed and the results show a significant change in the importance of this food source in those three communities.

There has been a significant reduction in the importance of food aid as a household food source. During the drought of 2004/2005 food aid only represented five percent of the household food basket. The reduction in the importance of this food source probably reflects a scaling down in food aid deliveries, although this would also indicate an improvement in the overall food security situation and a reduction in the dependency on emergency food assistance as a source of food.

Project participants unanimously agreed that there has been an improvement in household food security since the project began and this trend is supported by the changes reflected in the results. According to project participants this trend has occurred largely as a result of project related factors. There was some indication that improved rainfall may have had some impact on food security (*table 3.3*), although the poor harvest in October 2006 would suggest that this impact was minimal. Furthermore the harvest of October 2005 was actually quite good, and this would have been the before project reference harvest⁷.

Some participants suggested that a reduction in crop infestations and pests positively impacted food security. In part this could be due to the improved seed varieties distributed by the project, although aside from the Quelia. quelia attacks during the first year of the project the overall pest situation has almost certainly improved when compared to the locust invasions in recent years.

While acknowledging that non-project factors did contribute towards improved food security in the area, the evidence suggests that the project has certainly met the food security expectations of the participating community, and the food security objectives set out in the original proposal.

⁷ See comments on this in previous section

4.4 Impact on Household Income and Expenditure

The project has provided some participants with a new source of income and allowed others to expand on the economic activities they were already involved in. The project has also reduced people's dependency on less desirable income sources such as labor migration, and on sources of income that may compromise household food security such as the sale of millet at reduced prices. In theory clients of the projects cereal banks have benefited from a cash transfer in terms of savings in the event that they would have purchased the same amount of millet on the open market.

The most significant changes that have resulted since the project began are; an increase in the importance of income derived from Income generating Activities (IGA) and petty trade, and a decrease in the importance of income from labor migration and remittances (*see figure 3.4*).

The most common form of IGA mentioned by project participants is from livestock conditioning. Typically a household will buy young sheep and on reaching maturity some of these will be fattened and sold to butchers. Most of the micro-credit recipients invested their loans in this activity. As mentioned most people are still using the income from the sale of the 'fattened' sheep to invest in more sheep. This trend is supported by the results from the expenditure exercise which shows a significant increase in the portion of household income spent on livestock since the project started.

Lamisi is a forty year old woman in Chinagamane Village. She borrowed 15,000 CFA from the project to invest in the sheep fattening business. She purchased one sheep and fattened it for four and half months, she then sold it for 27,500 CFA. Lamisi then bought a second sheep for 9,000 CFA which she is still fattening and hopes to sell for about 60,000 CFA at the peak season later on in the year. The balance of her income from the first sheep was spent on buying school books for children and clothes for the family.

Other income generating activities include buying and selling of small items (petty trade) and baking of cakes and confectionaries which are then sold locally. Micro-credit loans from the project have enabled an expansion in these activities.

Before the project started almost one third of household income (mean contribution) was derived from millet sales making this the most important source of income. In 2005/2006 income from livestock sales, and IGA matched millet sales in importance with each of these three sources representing roughly one quarter of all household income (mean contribution). In reality seeing as a good portion of income derived from IGA comes from raising sheep, livestock sales may now represent the most important source of income in the project area. Interestingly the results also show a significant increase in proportion of household income now being invested in IGA and livestock assets (*figure 3.6*). This trend indicates a positive impact on the natural and financial capital of the participating households which can largely be attributed to the projects micro-credit and restocking activities.

The results show a relative but not significant reduction in the importance of income derived from millet sales. It's important to emphasize that this does not represent an actual decline in the amount of income earned from this source. On the contrary it would be expected that the improved yields attributed to better

seeds and fertilizers would translate into an increase in the amount of income generated from millet since the project started.

There has been a significant reduction in the relative importance of income earned from labor migration and remittances since the project began, this now being the least important source of household income. The participating communities consider an expansion in labor migration to be an indicator of drought, and so the decline in the importance of this activity supports the view that the food security situation has improved since the project started. Project participants indicated that the projects micro-credit and crop production activities had increased their income or provided them with an alternative source of income which in turn had reduced their dependency on income earned from labor migration.

The results also show a reduction in the importance of rural agricultural employment and informal activities as sources of household income. These activities are generally expanded on during lean periods in order to earn enough cash to purchase food. Although this does not represent a statistically significant change, the overall trend suggests a reduced dependency on these income sources which in turn would indicate an improvement in household food security.

Since the project started at least thirty one new sources of income have been created or at least re-introduced amongst the seventy four households interviewed. This income is being generated from petty trade, and the sale of livestock and vegetables. Although no direct attribution exercise was done to link these new income sources to the project, it would be fair to assume that the micro-credit, restocking and vegetable production activities played an important role in creating these new income earning opportunities.

Perhaps as important as the income benefits provided by the project are the savings benefits. For the seventy four households assessed it was estimated that cereal bank millet purchases converted into an average saving of 15,700 CFA (\$ US 34) per household representing roughly thirteen percent of the GNI per capita at the 2006 World Bank estimates for Niger^{xiv}⁸. Since the project started the total amount of millet sold through the cereal banks is 75,390 kg. This would translate into an estimated saving of roughly \$ US 16,753 USD across the project area in comparison to an initial project investment in cereal stocks of \$ US 10,653 USD⁹.

Although an improved ability to buy clothes was frequently identified as an important indicator of project impact and was scored as the second most important project benefit (*figure 3.1*). This is interesting because the results of the expenditure exercise show that there has been very little increase in the portion of household income spent on clothes. If the project were to be measured against this community indicator at this point in time it might show little to no impact. Yet the scoring exercise on benefits seems to suggest otherwise. It's possible that clothes are not considered an immediate priority household expense but represent a symbolic indicator of project impact. Perhaps an increase in clothes purchases will occur once the anticipated returns on investments in IGA, livestock and vegetable production are realized; if so clothes may represent and be a more appropriate indicator of longer term impact.

⁸ Using an exchange rate of 450 CFA/USD and \$ 260 GNI per capita

⁹ Using an exchange rate of 450 CFA/USD – this figure does not include the construction or training costs.

The most significant change in household expenditure was a reduction in the proportion of the household budget spent on food purchases. Food is the priority expenditure in the project area and this result corresponds with the results from the food scoring exercise which showed a significant reduction in the importance of household food being sourced through purchases (*figure 3.3*). Project participants offered several explanations for this change: Firstly improved cereal and vegetable production has effectively reduced the household food deficit normally filled through purchases. Secondly households are now purchasing millet from the cereal banks with an average saving of 100 CFA/kg. Thirdly an increase in household income from IGA and vegetable sales has freed up cash for other (non-food) expenditures, most noticeably investments in IGA and livestock.

5. Conclusions

The CIRA project has been instrumental in creating or promoting livelihoods opportunities, improving household food security, and improving the capacity of the participating communities to cope with and respond to the effects of structural food insecurity and drought. The changes in household food and income that have occurred as a result of the project have had a positive impact on the livelihoods of the participating households and communities, by reducing people’s dependency on certain food income sources, and by enabling households to make strategic investments in productive assets and income generating activities. The following table summarizes the key impacts of the project on livelihoods assets:

Table 5.1 A summary of the key project impacts on livelihoods assets

Capital Assets	Project Impacts
Human	<ul style="list-style-type: none"> • Improvement in the household food basket • Skills and knowledge transfer from micro-credit and agronomy training
Financial	<ul style="list-style-type: none"> • New income sources (livestock production and IGA) • More income and convertible assets
Social	<ul style="list-style-type: none"> • Improved social cohesion and opportunities for community planning and problem solving. Establishment of Community Management Committees
Physical	<ul style="list-style-type: none"> • Cereal banks, increase in livestock holdings
Natural	<ul style="list-style-type: none"> • Improved local seed varieties, new vegetable crops

The results of the study indicate that the project has contributed to a significant improvement in the food security status of the participating households. This change has been brought about by improved cereal and vegetable production which can be largely attributed to project inputs and training. Food availability and access has also improved in the project area with the establishment and support of cereal banks which have provided community members with a consistent and affordable supply of millet. These improvements in food availability and access have translated into a considerable increase in the perceived number of months of household food security following the harvest.

The micro-credit, re-stocking, and vegetable production activities have enabled households to diversify their income sources or expand on income generating activities. Income derived from these activities it would appear has been complemented by savings on food purchases attributable to improved crop production and affordable grain prices at the project cereal banks. Much of this income has been further invested in livestock production and other income generating ventures. In this respect the project has been



instrumental in supporting livelihoods and improving people's resilience to drought and economic shocks. This improved resilience to drought is evident in the significant reduction in the dependency on coping strategies such as migration to urban areas in search of work, and the consumption of wild foods.

Other project benefits include the time and transport (cost) savings from being able to purchase millet locally through the project cereal banks. It would be fair to assume that the time saving benefits might translate into greater investments in food production and income earning activities. Project participants also emphasized the social cohesion benefits brought about by the project resulting in greater unity and collective planning and problem solving.

Ultimately the CIRA project has been effective in meeting the food security and livelihoods objectives set out in the original proposal, and in achieving the project goal of improving the capacity of the ten participating communities to respond to and cope with the ongoing food crisis.

Endnotes

ⁱ Bill & Melinda Gates Foundation. (2005) Request for Proposals; Number GHS-05-01. Sub-Saharan Africa Famine Relief Effort “Close to the Brink, September 2005

ⁱⁱ Bill & Melinda Gates Foundation. (2005) Request for Proposals; Number GHS-05-01. Sub-Saharan Africa Famine Relief Effort “Close to the Brink, September 2005

ⁱⁱⁱ UNDP (2006) Human Development Report 2006.

^{iv} Africare (2005) Chical Integrated Recovery Action, Project Proposal to the Bill & Melinda Gates Foundation, October 2005.

^v Africare (2005) Chical Integrated Recovery Action, Project Proposal to the Bill & Melinda Gates Foundation, October 2005.

^{vi} Africare (2005) Chical Integrated Recovery Action, Project Proposal to the Bill & Melinda Gates Foundation, October 2005.

^{vii} Africare (2005) Chical Integrated Recovery Action, Project Proposal to the Bill & Melinda Gates Foundation, October 2005.

^{viii} Africare (2005) Chical Integrated Recovery Action, Project Proposal to the Bill & Melinda Gates Foundation, October 2005.

^{ix} Feinstein International Center (2007) Field Testing Visit to Africare Project in Niger, March 2007.

^x Feinstein International Center (2007) Field Testing Visit to Africare Project in Niger, March 2007.

^{xi} Feinstein International Center (2007) Field Testing Visit to Africare Project in Niger, March 2007.

^{xii} Africare (2008) Email correspondence with Africare, Niger 22/01/08)

^{xiii} Feinstein International Center (2006) Report of Mid Term Visit to Africare Project, Authored by Sally Abbott, December 2006

^{xiv} World Bank (2006) Niger Data Profile (accessed on 12/12/07) available at <http://devdata.org>

Annex 1 Food Source Preferences

Pair-wise Ranking showing food source preferences

Food Source	Millet	Vegetables	Purchases	Cereal Bank	Livestock
Millet (own production)		Millet	Millet	Millet	Millet
Vegetables (own production)			Vegetables	Vegetables	Vegetables
Purchases				Cereal Bank	Purchases
Cereal Bank					Cereal Bank
Livestock					

Data collected from a pair wise ranking exercise with focus group participants in Toudounin Kouli village during a field testing visit (March 2007)

Score:

Millet from own production:	4	
Vegetables from own production:		3
Cereal Banks:	2	
Purchase:	1	
Livestock:	0	

Reasons:

1. **Millet Vs Vegetables:** we prefer millet, as vegetables require allot of water, which is hard to come by in this area, making vegetables difficult to grow.
2. **Millet Vs Purchase:** millet is easier to come by, in that we can grow it, and it is cheaper as we don't have to pay for it.
3. **Millet Vs Cereal bank:** we don't pay for the millet we grow; therefore it's cheaper than the cereal bank millet.
4. **Millet Vs Milk:** it's easier to sell millet than milk
5. **Vegetables Vs Purchase:** if we get a good harvest we can earn good income from selling the vegetables.
6. **Vegetables Vs Cereal banks:** vegetables are cheaper
7. **Vegetables Vs Milk:** vegetables are easier to sell than milk, and are therefore better at generating income for the poor.
8. **Cereal bank Vs Purchase:** cereal banks are cheapest

Matrix Scoring of different food sources against indicators of preference

	Millet	Vegetables	Purchases	Cereal Bank	Livestock
Availability (Quantity/Volume)	15	12	5	13	5
Access (Easy to come by)	22	8	3	13	4

Income earning and savings potential	12	13	0	8	17
Nutritional Value	6	17	6	6	15
Total	55	50	14	40	41

Data collected from a matrix scoring exercise using 50 counters. The exercise was conducted with focus group participants in Toudounin Kouli village during a field testing visit (March 2007)