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Farmer Assessment – Group discussions of IICEM Activities - in the morning shade (photo Al Sanchez)

USAID/MALI

Integrated Initiatives for Economic Growth in Mali (IICEM) Performance Evaluation

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Integrated Initiatives for Economic Growth in Mali (IICEM) Performance Evaluation

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DISCLAIMER

The author's views expressed in this publication do not necessarily reflect the views of the United States Agency for International Development or the United States Government.

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ACRONYMS

AEG	Accelerated Economic Growth
AMPRODE	Projet de Développement de la Production Agricole au Mali (Project for the Development of Agricultural Production in Mali)
API	Agence pour la Promotion des Investissements (Investment Promotion Agency)
BDA	Baseline Data Appraisal
BNDA	Banque Nationale de Développement Agricole (National Bank for Agricultural Development)
CMDT	Compagnie Malienne de Developpement des Textiles (Malian Textile Development Company)
DNA	Direction Nationale de l'Agriculture (National Department of Agriculture)
DRA	Direction Régionale de l'Agriculture (Regional Directorate of Agriculture)
FCFA	Francs de la Communauté Financière Africaine (African Financial Community Franc, or CFA Franc)
FtF	Feed the Future
GMM	Grands Moulins du Mali (The Great Millers of Mali)
GREFA	Groupe de Recherche, d'Etude et de Formation en Agriculture et Arboriculture (Group for Agricultural Research, Surveys and Training) - One of five IICEM implementing non-governmental organizations - Sikasso
ha	Hectares (equivalent to 2.471 acres)
HH	Household
H/H	Head of Household
IBTCI	International Business & Technical Consultants, Inc.
IER	Institut d'Economie Rurale (Institute of Rural Economy)
IF	Innovation Fund (managed by IICEM)
IICEM	Integrated Initiatives for Economic Growth in Mali
IRR	Internal Rate of Return
MDS	Moulins du Sahel (Saharan Millers)
MNLA	National Movement for the Liberation of Azawad
MPC	Mali Protection de Cultures
ODHD/LCPM	Observatory for Sustainable Human Development and the Fight against Poverty in Mali
OP	Organisation Paysanne (Producer/Farmer Organization)
OPAM	Office des Produits Agricoles du Mali
Peenal	A Fulani term meaning "Consciousness" or "Awaremess" One of five IICEM implementing non-governmental organizations – Bougouni
PIV	Périmètre Irrigué Villageois (Irrigated Village Perimeter or Village Irrigated Area)
PMP	Project Monitoring Plan
RBDA	Rapid Baseline Data Appraisal
RFP	Request for Proposal
RGA	Recensement Général de l'Agriculture (General Agricultural Census)
RIG	Regional Inspector General
SENESO	Société Agricole de Recherche et de Dèveloppement (Society of Agricultural Research and Development)
SODEF	Societe Doumbia et Fils (Doumbia and Sons)
USCPMD	Union des Sociétés Coopératives de Producteurs de Maïs de Diédougou (Union of Maize Producer Cooperatives of Diédougou) – Sikasso
WASA	West Africa Seed Alliance
WFP	Word Food Program (of the United Nations)

EXECUTIVE SUMMARY

The purpose of this evaluation of the last four years of Integrated Initiatives for Economic Growth in Mali (IICEM) program activities at the farmer group and agri-business levels is to provide USAID/Mali with an objective, third-party assessment of the program so that similar and future economic growth programs in the sector will be able to draw on the results of this value chain approach to development. The original intent was to do an impact evaluation, but upon completion of a rapid data base assessment, it was found that a satisfactory counterfactual could not be established. Accordingly, a revised methodology was prepared, but always with the focus on changes that could be related to IICEM activities along the value chains.

Since January 2010, Abt Associates, through EDH-I-00-05-00005-03, has been implementing the second phase of the IICEM. During this period, two modifications have been made in the project. The first was a substantial change in geographic and cropping focus to meet the 2011 "Feed the Future" strategy designed by USAID/Mali. The second modification was a one year extension through December of 2013. IBTCI, through a Task Order request under USAID's Evaluation Services IQC, was contracted to conduct an evaluation from May to August of 2013.

IBTCI partnered with SENESO, a Malian agricultural research and development organization that has been specializing in plant breeding and seed production. The objectives of the partnership were to add local expertise to the two IBTCI international consultants and to provide evaluation experience to SENESO so that a Malian firm would have evaluation experience meeting USAID standards. The combined team consisted of a team leader and a deputy team leader, the director of SENESO, two agricultural experts, and two other professionals with local evaluation and production development careers in Mali. This seven person team was complimented by six teams of interviewers that were mobilized with SENESO's logistic support. IBTCI home office provided a senior technical advisor to supervise the rapid baseline data survey and the overall methodology for the evaluation.

Field work was conducted in two phases between June and August. The first phase (Rapid Data Base Appraisal – RDBA) consisted of two teams, one for Mopti and the other for Sikasso, of six key personnel from IBTCI and SENESO and four interviewers to conduct an assessment of the databases and data quality to determine the appropriate research methods that could be used for this evaluation. Thirty-two extension agents, all employees of the five implementing non-governmental partners, were interviewed about their indicator measurements, thirty-six non-participating farmer groups were interviewed about the data that they maintained. Based on the findings from the RDBA, the evaluation methodology was changed and approved by the USAID Mission from a quantitative, strictly impact-type to a more performance-type[1] evaluation using a qualitative approach focused on the services that IICEM provided to facilitate linkages between farmer groups and their respective value chain (Annex VI). Because a counterfactual group with time series data could not be found, an alternative strategy, reviewing either groups in similar programs that had ended or groups that had been deleted from IICEM, was employed to examine the sustainability question. For the purpose of this evaluation, value chains are defined by the

[1] These types are described in USAID, Bureau for Policy, Planning, and Learning. 2011, "USAID Evaluation Policy," p. 4.

crop being produced (irrigated rice, *bas-fond* rice[2], millet, and sorghum) and include producers, processors, traders, credit sources, and input suppliers. The second phase consisted of a sample of sixty farmer groups representing the work of all five implementing partners in Mopti and Sikasso, and interviews with ten key service providers – traders, credit sources, input suppliers, and processors. The qualitative methodology consisted of group interviews and discussions to gain the farmers' assessment of the work that IICEM and its partners did to facilitate the linkages between the farmers and the service providers.

The qualitative methodology included discussions about the impact of the military/political crisis of 2012. The farmer group findings were triangulated with the RDBA interviews with the non-governmental extension agents as well as the key informant interviews with traders, credit agents, input suppliers, and processors.

The question of sustainability of the facilitated linkages was handled by including two sets of farmer groups in the interviews: 1) Ten Corn, 6 Millet, and one union of 7 seed producing groups that had been dropped from the program in 2011 when the new Feed the Future (FtF) strategy was implemented; and 2) Farmer groups that had been involved in other, similar programs that had ended. The key question in those interviews was how these farmer groups had managed the credit, inputs, and the sales negotiations with traders/processors with the following cropping cycle (2012-2013). The rationale was that if these groups were able to maintain linkages after their participation in the IICEM or other program activities, then this would be an indication of sustainability of those linkages and improved value chains.

In all, in spite of breaks for the elections, rainy season road conditions, and organizing work to the Ramadan rhythm, the field work was accomplished without any significant incident. The logistics for recruiting and mobilizing 50 people, including interviewers, key personnel, and drivers to the 60 groups and 100 group interviews involved approximately 170 vehicle days.

The major findings and conclusions by key evaluation questions are:

1. *How have IICEM's activities resulted in improved livelihoods for members of farming cooperatives and producer organizations*?

Families in all of the cropping systems attended by IICEM concluded that their families improved, compared with before the program, on 12 of 14 livelihood indicators. Scattered among the 60 groups sampled were some groups who did not experience improvements. It is important to point out the fact that IICEM selected customers likely to succeed; the project was not designed to support the lowest end (i.e. poorest) of the farmers. The two indicators that did not show general improvement were the length of the season that they experienced hunger (*période de soudure*) and overall health or freedom from disease. Although the latter indicator was not a direct intention of the program, the former was surprising and, although prominent in Bankass and Koro *Cercles* in Mopti region, it was also noted in some groups in Sikasso region. No poorest/neglected farmers benefited from the project.

[2] *Bas-Fond* rice is based on a special geomorphological formation in southern Mali consisting of land that is a naturally shallow depression of land with a clay substrata that enables it to hold water as a seasonal pond watered by rainfall. These rice crops are managed by women's groups and lend a special gender aspect to this program.

2. *Has IICEM succeeded in helping farmers and farming businesses become more organized, productive, and financially secure*?
There were multiple findings indicating that the impact of IICEM's effort to develop the basic food grains value chain has been substantial. One of the pre-IICEM problems was that food grain production was considered too risky for the Banque Nationale de Développement Agricole (National Bank for Agricultural Development, BNDA) and for input suppliers to extend credit. IICEM turned that perception around with its mentoring and by linking the suppliers and creditors directly to the groups. Another area that was a bottleneck was access to quality seed. Although there were seed producers, the supply of improved and certified seed was limited when considering the magnitude of the targets of the FtF strategy. IICEM worked with seed producers and seed producing groups to increase the supply of improved seed. IICEM also promoted improved varieties with the result that demand for seeds increased providing value added for those producers. Even though direct measurement of financial security was not possible to define with the methodology used, none of the interviewees expressed any financial stress conditions. Financial security came more in the facilitation of advance contracts integrating both the grain buyers and input supply businesses. These links made it more secure for the farmer knowing that there would be a market and at what price, but it also increased the security for the buyers so that they could make purchasing routes more efficient to meet national and international demands. In addition, the input suppliers had more confidence that they would be paid back. Additionally, interviewees made it clear they would like to see IICEM to promote business expansion, but none expects financial assistance to bail out poor management or financial decisions. The level of organization as business entities among farmers and farming businesses was apparent from how they provided answers to question during the interviews and was further evidenced by the presence of accounting books and the use of computers to access data to answer questions.

3. *What are IICEM's relative strengths and weaknesses of intervening along the entire rice, millet, and sorghum value chains, as opposed to targeting specific areas*?
The most important and overarching finding was that the integrated facilitation approach for interventions among all businesses along the chains, not just the weakest links, was key to building relationships and strengthening the value chains. IICEM's strength was that field specialists and non-governmental extension agents gained the confidence of all businesses involved. Another of IICEM's strengths was that it mobilized temporary access to credit from input suppliers when the banking system closed during the military-political crisis of 2012. One of the weaknesses of the IICEM project was in the failure to specifically target organizational development training to those OPs that could benefit from it. Basic managerial capacity had to be in place in order for any training to have impact and those OPs with poor or weak managerial capacity could not benefit from any trainings. Another weakness was in the problems encountered with group solidarity. IICEM could have addressed these two areas more directly.

4. *What is the relative value-added (monetary and non-monetary) of the integration of IICEM's infrastructure with other productivity inputs?*
Although a specific monetary value could not be assigned, such as changes in gross margins, there is ample evidence that infrastructure improvements created added value. The Irrigated Village Perimeters (PIV) producers were able to expand their area under production as a result of IICEM investments in water control, water flow, and pumps. The expansion of the area, in turn, led directly to increased production of crops and increased revenues. The slight increases in productivity of the PIV areas during the first year of involvement likely came from the combined

technical inputs and water control. In the *bas-fond* rice production areas in Sikasso the case was similar in that, increases in productive land due to leveling and dyke infrastructures led to increased production and marketable surpluses. Moreover, the women OP members were able to leverage the increased revenues and enhanced organizational capacity to access loans to purchase processing equipment to further add value to their par-boiled rice product. Key informants indicated that the availability of warehouse space at OPs contributed to the efficacy of grouped selling by providing a staging area for sales, storage and delivery of millet and sorghum. It was not clear whether the infrastructure and the additional equipment acquired during the IICEM project cycle will be supported with a replacement fund.

5. *Will the relationship between farmers, processors (and/or cereal traders), and banks continue to function without the technical and financial support of IICEM?*
This was one of the more difficult questions to assess, usually it is a hypothetical question, but aside from inferring from the importance that farmers and businesses alike placed on the issue, there were grain producer groups that had been discontinued a cropping cycle before the evaluation. A special version of the group questionnaires was used to see if and how they coped with credit, input supply and marketing in the cycle after IICEM support had been removed The evidence from our survey results is negative, at least in the short term. Groups that had worked with IICEM for a short time and then were dropped noted a similar set of continuing value chain challenges as a result. The loss of a facilitating organization to vouch-safe (IICEM) meant that BNDA was no longer interested in loaning these OPs money. That is, unless the OPs agreed to raise cotton and thus enter the CMDT (Compagnie Malienne de Developpement des Textiles) monitoring and facilitation sphere, BNDA did not have confidence in the OP. The OPs, with reduced credit, uniformly stated that they reduced the area cultivated to accommodate the reduced level of inputs available. Volume produced declined and group sales ceased. Individuals returned to selling small quantities to small collectors, forfeiting the advantage of economies of scale gained under IICEM. Organizational problems within the OPs were exacerbated. The presence of IICEM or an IICEM-like project will continue to be necessary until the requisite capacities can be built up in producer organizations to allow them to sustain the shock of standing alone. Evidence from the experiences of other OPs lends support that this can be done with the exception of the *bas-fond* rice OPs (described in number 4 above).

6. How has the recent instability in the country affected IICEM stakeholder behavior?
The instability of 2012 impacted stakeholders in ways relative to their geographic location. Nationally, disrupted credit was a bottle neck for obtaining timely inputs; the international boycott reduced the timely supply of inputs, however briefly. Most of that year was a time of uncertainty, i.e., increased perceived risk. Among the groups most impacted were the irrigating farmers using pumps, because fuel was expensive or not available. The problem at harvest time was the international relief agencies had been providing relief aid to the refugees from the north. Gao and Timbuktu are the major markets for the Mopti producers and the seizure of those cities by the rebels caused a collapse in the market. That being said, it appears that the crisis is over and that it has not caused permanent changes in stakeholder behavior. Overall, Abt Associates was able to scale up in the first two years and then make a radical change in the composition of the groups attended in response to the implementation of the FtF strategy. Fortunately the FtF strategy did not imply a change in the integrated value chain approach and most of the original input supply, credit and traders were a factor in the continuity of the program. By then IICEM had earned its positive reputation with producers and service providers alike.

Overall Recommendations:

- Although IICEM participating farmers have improved their livelihoods, especially farming cooperatives in the irrigated village rice perimeters, IICEM-like project activities need to continue as a means to maintain and strengthen the progress observed for PIV farmers on one hand, and boost growth and livelihood improvement for the lowland rice, millet and sorghum farmers on the other hand. The slow progress in the livelihood improvement of sorghum and millet farmers may be due to the fact that these two crops have low market value. These two crops are however strategic in Mali due to their adaptation to the local conditions, specifically drought and unreliable rainfall patterns, and are well adapted to the diet of the local populations. To boost the livelihood improvement of millet and sorghum farmers, focus should be on value-added traits such as early maturing varieties, grain quality, and consumer preference (taste and nutritional value).
- The evaluation found that although a diversity of data is available, the data is scattered and inconsistent. It is usually destined for use in a specific monitoring context. USAID should mandate future projects to develop monitoring and evaluation systems that collect and analyze a uniform set of data. Moreover, the data generated should be uniformly useable; not only to a specific project or even to USAID. Agricultural data should meet Malian national monitoring and evaluation needs as well.
- Producer Organizations are widespread in Mali. They are the obvious focus for the facilitation approach of the value chain model. However, OPs cohesion is often only based on the existence of a project, rather than their own internal dynamic. Nevertheless, several OPs in the IICEM project have evolved to become well-managed organizations – even nascent rural enterprises. Continued effort needs to be applied to replicating these successes and reinforcing the management and enterprise capacities of OPs so that they can eventually take over the marketing, credit, and input strategies that IICEM facilitated, as standard operating roles themselves.
- The value chain is really a chain of business relationships. The acceptance of contracting by both OPs and their private sector partners is evidence enough of this. More effort needs to be made to put more OPs on the kind of firm, businesslike ground that will make them more attractive (and more competitive) partners for banks, traders and processors.
- During the course of any subsequent project, emphasis should be put on mechanisms that would enhance the availability and accessibility of improved and certified seeds and other inputs for value-added, capacity building, improved technology dissemination. Such mechanisms include:
    - Building and maintaining linkages between farmers and all other stakeholders involved in the crops' value-chain and
    - Sensitization of farmers to the importance of improved certified seeds in increasing production and productivity.
- Subsequent value chain projects aimed at this population should be integrated with the FtF future investments in improved nutrition and social and behavior change so that all three efforts are focused on the same communes and also on the same groups especially if studies identify a relation between cultural consumption practices/beliefs and stunting and malnutrition.

I. INTRODUCTION

IICEM (Integrated Initiatives for Economic Growth in Mali) was designed in 2009 to confront the problem of poverty. In 2001, it was estimated that 55% of Malians could be classified as extremely poor living on less than a dollar/day (ODHD/LCPM, 2006). Rural households with livelihoods dependent on agriculture are the most vulnerable, especially in the regions of Mopti, and Sikasso[3]. About 80% of the Malian population relies on agriculture as a means to reduce poverty, improve food security, and overall livelihood.

The number of Malian poor and extremely poor, living on less than a dollar/day, was estimated at 68.3% and 55.1%, respectively (ODHD/LCPM, 2006).[4] Rural households living on agriculture are the most vulnerable, especially in the regions of Mopti and Sikasso. About 80% of the Malian population relies on agriculture as a means to reduce poverty, improve food security, and overall livelihood. Millet, sorghum, rice and maize are the main staple crops. Millet and sorghum are rain-fed crops, with the drylands of Mopti region being an important millet production belt and the Sikasso region, a sorghum production belt. Rice is produced all over the country in many different production systems including large scale irrigated perimeters, small scale irrigated village perimeters, controlled/uncontrolled flooding, highland systems, and lowland systems (*bas-fond*).

These three staple crops are increasingly considered crops with potential to achieve food security, generate income and reduce poverty and unemployment, especially if they are improved along their value-chain, from production to processing and marketing, not forgetting the input and seed segments. Vegetables are also produced in Mali, either as a single crop, in intercropping or in rotation with cereals, to provide populations with fresh produce needed for cash income and improved nutrition and health. In fact, in Mali, vegetables, when available are used as ingredients in the sauces that accompany the main dishes made with millet, sorghum, rice and/or maize.

Up to 42% of the expenses of Malian households are allocated to food security,[5] leaving the population in precarious conditions for the other expenses (housing, health, clothing, labor, inputs, etc.). This is indicative of their livelihood status. To help vulnerable households in Mopti, Sikasso and Koulikoro regions improve their livelihoods, the "Integrated Initiatives for Economic Growth in Mali" (IICEM) project of USAID has invested in millet, sorghum and rice using a value-chain approach at the farmers' cooperative level. Investments in the input segment, materials and equipment, and capacity building are expected to boost yield and production quantity and quality. Investments in irrigation infrastructures are in turn expected to overcome the constraints of drought, extend the length of the rainy season and provide opportunity for off-season production of vegetables. IICEM's efforts in linking farmers with banks, processors, and traders are expected to expand markets, increase sale volumes and farmers income

IICEM I was a multi-year economic growth activity designed to reduce poverty through increasing agricultural productivity, employment, and incomes in Mali (start date August 17,

[3] ODHD/LCPM, 2006

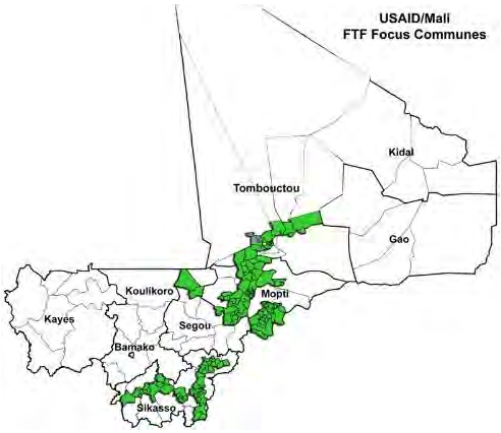
[4] ODHD/LCPM, 2006. Profil de pauvreté du Mali 2001. Ministère du Développement Social, de la Solidarité et des personnes âgées, PNUD/Mali, Bamako, Mali, p73.

[5] Recensement général de l'agriculture (RGA 2004/2005). Ministère de l'agriculture, Ministère de l'élevage et de la pêche, Ministère du plan et de l'aménagement du territoire, coopération française, PROJET GCP/INT/903/FR, May 2007, p8.

2007 - end date December 31, 2010). It consolidated the work done under three previous contracts initiated in 2003 and ended in August 2007. IICEM II started on January 1, 2010.

In these areas IICEM II built-up a base of 442 producer groups covering almost 11,000 ha[6] from Timbuktu to Sikasso. However, with the development of the Feed the Future strategy for Mali and its approval in 2011[7] millet, sorghum, and livestock were chosen for food security and poverty reduction while IICEM only tackles the first two. Rice was chosen for growth in household incomes as well as for food security. In addition, the geographic coverage was focused in fewer communes where poverty was known to be greater as shown in Map 1 of the FtF focus communes.

Map 1 FtF Focus Communes



The geographic focus in 2011 was reduced from 7 to 3 regions (Timbuktu, Mopti, Sikasso) and 2 districts in Alatona where the MCC project was operating. Even though Timbuktu was not dropped from the project, the activity was stopped for much of 2012-13 because of the security crisis; the millet and sorghum area was reduced to approximately 5,000 ha from11000 ha, and of the 442 groups the FtF project started with 241. Nevertheless, IICEM was able to expand in that year to include 252 additional groups for a total of 493.[8]

The diagnosis of these staples[9] indicated that a value chain approach was a logical strategy or theory of change to plan and guide activities to help vulnerable households in Mopti and Sikasso regions improve their livelihoods. It was determined that the value chains for these staples were relatively unstructured and that by working to build understanding and trust between the links in the value chain there would be more formal structures that would support confidence in credit, contracts, and between buyers and sellers. Because of the vast number of individual farm families, and because farmers were organized in cooperatives and irrigation districts, IICEM focused on farmer groups producing rice (Map 3) millet, and sorghum (Map 2) as the units of contact. Investments in irrigation infrastructures were planned to overcome the constraints of drought, expand the area under cultivation, extend the length of the rainy season and provide opportunity for off-season production of vegetables. At the same time investments in storage and post-harvest handling were planned to add value to the quality of the crops as well as reduce post-harvest losses. The main organizational effort was to facilitate linking farmer groups with banks, processors, and traders in order to expand markets, increase sales volumes, and farmers' incomes.

[6] IICEM, 2011, Second Annual Report, p. 2
[7] USAID/Mali. 2011, April 28th "Feed The Future Multi-Year Strategy: 2011-2015, p. 6
[8] IICEM. 2012, Third Annual Report, p. 10
[9] IICEM. 2010, Etude sur le chaine de valeur mil/sorgho au Mali, initiatives integrees pour la croissance economique au Mali, Contract No.: EDH-I-13-00005-04.

Map 2 Sorghum and Millet

Map 3 Rice

In Mali, the millet and sorghum complex is the source of the staple cereals consumed by the majority of families in Mali. Millet is the primary cereal consumed throughout the territory followed by rice and sorghum. Millet and sorghum cover nearly 60% of food consumption needs of the people of Mali in both rural and urban areas.

The largest millet production areas are the regions of Mopti and Segou, and those of sorghum are the regions of Sikasso and Koulikoro. (Additionally, maize production is concentrated in the cotton zone around Sikasso and Koulikoro and around Kayes.) Although the agricultural production system based on millet and sorghum is the most dominant in terms food, the sector has been characterized by inappropriate management. In the past, staple cereal crop production has received very little support from the Government of Mali or projects and development programs in Mali.

The IICEM project covers millet (Mopti) and sorghum (Sikasso) production areas and complemented by two rice production systems (PIV rice in Mopti and *bas-fond* rice in Sikasso). Nearly all IICEM supported millet and sorghum OPs are male organizations. However, the evaluation team interviewed one female OP in Koutiala that specializes in millet and sorghum production which appeared to the field interviewers to be one of the best organized and well managed OPs in their sample.

In 2012 USAID/Mali requested proposals for a third-party evaluation of IICEM and subsequently made the award to IBTCI and SENESO, a Malian agricultural research and development organization, to evaluate the implementation of the theory of change as applied to the value-chains of millet, sorghum and rice and to specifically examine changes in the interconnectivity of farmer cooperatives, processors, and banks, and its overall effect on rural livelihoods.

Through this evaluation, USAID/Mali sought to answer the following key questions:[10]

[10] See Annex I for the Task Order and extended evaluation questions. The original extended questions included comparisons dependent upon counterfactuals, i.e., comparison groups or projects, but after the RDBA, a new approach was submitted to USAID/Mali taking into consideration the lack of data for counterfactuals or comparisons. In that methodology (Annex V) the focus was on qualitative assessments of before and after by the participating and dropped IICEM groups. Comparisons with non-IICEM groups or projects were dropped. Hence we list the key questions here and not the extended questions that depended upon counterfactuals.

1. How have IICEM's activities resulted in improved livelihoods for members of farming cooperatives and producer organizations?
2. Has IICEM succeeded in helping farmers and farming businesses become more organized, productive, and financially secure?
3. What are IICEM's relative strengths and weaknesses of intervening along the entire rice, millet, and sorghum value chains, as opposed to targeting specific areas?
4. What is the relative value-added (monetary and non-monetary) of the integration of IICEM's infrastructure with other productivity inputs?
5. Will the relationship between farmers, processors (and/or cereal traders), and banks continue to function without the technical and financial support of IICEM?
    a. How are IICEM-supported farming cooperatives continuing to work with processors to create market opportunities?
    b. Will banks continue to provide credit to farming cooperatives?
    c. What variables factor into banks providing credit after IICEM's intervention has finished?
6. How has the recent instability in the country affected IICEM stakeholder behavior?
    a. Are farmers continuing to use IICEM inputs?
    b. Are farmers continuing the upkeep of IICEM infrastructure?
    c. Are banks continuing to lend credit to IICEM farmers and farming cooperatives?

II. SCOPE AND METHODOLOGY

In response to the RFTOP, IBTCI partnered with SENESO, a Malian agricultural research and development organization that specializes in Plant Breeding and Seed. The objectives of the partnership were to add local expertise to the two IBTCI international consultants and to provide evaluation experience to SENESO so that a Malian firm would have evaluation experience meeting USAID standards. The combined team consisted of a team leader and a deputy team leader, both with agricultural and rural development evaluation experience, including in Mali[11] and elsewhere, the director of SENESO with plant breeding and production experience, two agricultural experts (one with evaluation experience overseas), and two others with local evaluation and production development careers in Mali. This seven person team was complimented by six teams of interviewers that were mobilized by SENESO's logistical support. IBTCI home office provided a project director to supervise the rapid baseline data survey and the overall methodology for the evaluation.

This evaluation was conducted from May to August of 2013 and was designed to cover the second phase of IICEM from 2010 to 2013. 2013 was a no-cost extension of the second phase (ending in August 2012). Thus secondary data and interviews used in this report include the results of the 2012-2013 agricultural campaign.

The design of the methodology applied to the evaluation went through three stages, each time with a presentation and discussion with the USAID Mission.

The original design in response to the RFTOP[12] was based on USAID evaluation guidelines for an impact evaluation, that is, the use of a quantitative analysis of the impact with a strong counterfactual for comparison with similar, yet non-participating farmer groups, the use of baseline line data on 1,897 farmer groups, and current or final measurements of the expected results variables.[13] The proposed statistical model was for a difference-in-differences methodology that would compare the percent change in dependent variables, e.g. productivity, gross margin of profit, from time one to time two of participants with non-participant farmer organizations. The second design was in response to the results of a preliminary assessment[14] by IICEM of the data quality held by participating and non-participating farmer groups. The initial findings from the preliminary assessment by IICEM called into question the reliability and availability of the data on both types of the farmer groups. Accordingly, because of the tentative results of the IICEM data quality study, USAID asked that IBTCI conduct a Rapid Baseline Data Assessment (RBDA)[15] before conducting the impact evaluation per se. A methodology for the RBDA was prepared and approved by USAID. In addition, upon arrival the evaluation team found that neither USAID nor IICEM had the baseline data on 1,897 participating and non-participating groups as suggested in the request for proposal.[16]

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[11] The initial team leader was replaced by another team leader who had more extensive, but non-Malian experience evaluating USAID agricultural development projects. His background was also cropping and seed production.
[12] IBTCI, Technical Proposal to USAID/Mali "Evaluation of the Integrated Initiatives for Economic Development in Mali (IICEM) Project, SOL-688-12-000014" September 24, 2012.
[13] USAID/Mali. RFTOP SOL-688-12-000014, August 15, 2012, p.7 footnote 3.
[14] IICEM "Rapid Data Collection" undated approximately May, 2013.
[15] USAID/Mali, Task Order RAN-I-00-09-00016, 29 April 2013, p.8.
[16] Neither IICEM nor the USAID/Mali personnel were able to explain where the reference to a baseline survey came from in the RFP. The data did not exist and the original methodology proposed was no longer applicable.

The RBDA was focused on the basic data used by IICEM in quarterly reports, i.e., productivity, area cropped, cost estimates, and pricing for the calculation of sales. The methodology for that survey consisted of interviews of a sample of non-governmental extension agents from all five implementing partners and a sample of non-participating farmer organizations in Sikasso and Mopti. RBDA survey[17] findings were that the non-participating groups did not keep production and sales records and that doing a comparison of their production and productivity with member farmer groups would not be possible. In the case of the IICEM farmer groups it was found that they generally did not keep records and that the data that was recorded had been kept by the IICEM partner extension agents. Furthermore, it was found that the methods used by IICEM to measure productivity and sales were faulty and measurement error was too great to provide reliable data for statistical analysis. There was one exception to that conclusion; PIV rice groups in Mopti did have reliable records and their productivity was not based on samples, but, instead, on the whole harvest and dependably measured areas under irrigation. They also sold their harvest surplus as a group and had records that the local implementing partner (Peenal) reported.

Due to a lack of baseline data and no accurate record of the indicators of interest, the design shifted to a qualitative approach (see Annex VI for the revised methodology) based on group interviews and their assessment of relative changes in productivity, access to market, prices, credit, and processors comparing before and with IICEM. The interest of the evaluators and of the Mission remained, however, on assessing the impact of the IICEM activities on the OPs. The key informant interviews[18] of suppliers, credit, processors, and seed suppliers remained the same as originally planned, but the plan for the counterfactual using non-participants or other donors was dropped for the lack of data.[19] The qualitative approach focused on the group assessments[20] by farmers and spouses from a sample of all cropping systems and in all five areas managed by the implementing partners. The design matrix of the Key Evaluation Questions from the TO and the questionnaires and methods used to answer those questions is presented in Annex VI.

In the case of the PIV rice groups both the qualitative methods described above and quantitative methods were used to assess changes in production, productivity, access to credit, marketing strategies, and access to inputs. The quantitative analysis was of the secondary information[21] gathered by Peenal from the groups during the years of the project and, at the request of IBTCI/SENESO, they obtained 2009 data for use as the baseline against which to measure changes in productivity, percent of production marketed, and gross margin. In the revised methodology presented to USAID/Mali in July, it was proposed that the time series data from the PIV groups be used for trend analysis (including graphic presentation) and if the data available permitted, regression analysis would be used to compare the importance of the IICEM services (credit, input/technology, and marketing). As was found out in the surveys, these services were provided to all groups as an integrated package and hence could not be used as independent variables. In brief, all groups received the same treatment. Regression analysis was not possible.

[17] IBTCI Deliverable #1 Rapid Baseline Data Appraisal: Findings and Conclusions from Field Work in Mopti and Sikasso, 14-22 June 2013.
[18] See list of key interviews in Annex III.
[19] This change did not eliminate the key questions, but it did make answering some of the sub-questions impossible as noted in Annex 1 Section C.3.2. Specific Evaluation Questions
[20] See Annex IV for the questionnaires
[21] SPSS file (This will be provided in a CD to the Mission)

With the exception of the *bas-fond*[22] rice groups, most (85%) of the members of the farmer groups were males. To ascertain the impact of the program on women who were not members of the *bas-fond* groups, yet were indirect participants as spouses of participating farmers, group discussions were held at each sampled group based on a special questionnaire.[23] Generally, female interviewers conducted these group discussions separately from males to provide confidentiality, but in some cases the discussions were held by male and female interviewers.

One of the key questions in the RFTOP concerned the sustainability of the linkages and systems established by the program. Originally the designed approach was to use the opinion of the key informants and the professional judgment of the evaluators to answer this question. However, with the reorientation of IICEM in 2011, certain types of crops and certain geographic areas were dropped from the program. Thus, at the time of the evaluation, substantial numbers of groups had gone through a cropping cycle without IICEM technical assistance and also assistance for input, credit, marketing and processing linkages. They offered an unexpected look at the continuity of the linkages without IICEM. A sample of dropped millet, sorghum, and corn groups was drawn and interviews conducted using questionnaires[24] similar to those used with participating groups. The questions were more in the sense of "Since ending your relation with IICEM, how have you…?" whereas, with the IICEM participating groups the sense of the comparative questions was, "Before IICEM how… and since IICEM …"

The Mission asked that the evaluation team ascertain the type and level of impact that the military collapse and coup of 2011 had on the participants in the program. This open-ended question[25] was asked of the 32 extension agents selected from all five IICEM implementing partners as key informants during the RBDA, the business managers of the input supply, credit, and marketing firms, and of all 60 groups in the sample survey.

The change from a statistical quantitative model to a qualitative approach provided the opportunity to use the resources and time available[26] for a different sampling approach. The quantitative, difference-of-differences approach required a sample size to test statistical differences between groups and also over time. The sample size, given the number of groups and the desired confidence level, was to be based on standard formulas. In the case of the qualitative approach the question of "confidence" changes from a statistical reference to a more intuitive reference. At the same time, the objective is to arrive at a conclusion from a number of groups, e.g., dropped corn, PIV rice, *bas-fond* rice, etc., that are not large. In the end it was decided that if five or six groups were interviewed for each cropping system in each area the team would have confidence in the findings if there were consistent responses. As shown in Tables I and II in the Revised Methodology (Annex V), the groups from which samples were taken for the interviews were small, and the number of times that such groups were sampled offered replication.

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[22] *Bas-fond* refers to rice that is produced in a low laying area that is flooded by rainfall and not a river-fed area in the South of Mali. It generally has a natural clay pan whereas the surrounding area is more porous and drains quicker and not suitable for flood irrigation.

[23] See Annex IV D Spouse Questionnaires.

[24] See Annex IV E Discontinued Groups.

[25] See the last page of the Group Interview Questionnaires in sub-Annex II of the Revised Methodology (Annex V).

[26] Please keep in mind that the RBDA was not in the original terms of reference when the design was planned. The RDBA consumed two weeks of LOE in country that had not been anticipated, but the length of time in country was not extended.

The above approach provides sufficient precision for hypothesis testing in the present case. Moreover, it is important to point out that the question is not how much productivity has changed, but if the systems to enhance access to credit, inputs, markets, etc. have been put into practice and have been judged to be an improvement by farmer groups.[27]

In the initial RBDA survey, the key evaluation personnel in the proposal interviewed the extension agents employed by the five IICEM partners, and four experienced interviewers interviewed the non-participating groups. That team of ten prepared the interview questions, discussed the purpose of the questions, that is, the information desired, and then played the interviewer/interviewee roles. The instruments were not tested in the field before application. As the interviews were being conducted, the methods in which questions were asked were refined to increase the speed of the interviews and to find the facts about the measurement of productivity, value of crops, and the area under cultivation and the impact of the crisis.

The four teams recruited for the more extensive group interviews included some of the key personnel and the interviewers from the RBDA as supervisors. Each team consisted of two men and two women so that the spouse and participant groups would be done simultaneously at each group. Again, the interviewers and the key personnel reviewed the questionnaires question-by-question discussing the intention of the question and the vocabulary in both French and Bambara. A test of the instruments and logistics took the form of actual application with sampled groups in Sikasso for three days. Daily, the key personnel, supervisors, and interviewers reviewed the experience. Aside from a few editions the instruments and the methodology went smoothly. After the elections in August the teams were dispatched to both Mopti and Sikasso to implement the interview plan.

The limitations to methodology reflect the changes in the design from a quantitative to qualitative methodology because of the type of data available put the full weight of the evaluation on primary qualitative data that needed to be gathered. Because the questions in the group discussions had to be in terms of the relative changes (better, the same, worse) in access to credit, inputs, processors, and markets, the findings cannot be stated in terms of absolute changes in prices, productivity, incomes or profits. The lack of absolute, quantitative data from both participating and non-participating groups made the use of the difference-in-differences methods originally proposed impossible. The inability to sample a counterfactual to compare participant or other agency groups with the IICEM groups meant that some of the sub-sections of the key questions in the TO could not be answered. Nevertheless, the methodology is still adequate to answer the basics of the six key questions posited in the TO, but not to answer the sub-questions that depended upon counterfactuals, comparison groups or time series. In the case of PIV rice the quantitative time series data is reliable and changes in yields and incomes can be demonstrated.

The quantitative data from the 60 PIV rice producing groups in the Mopti region came from Peenal's records or was gathered at our request from the three geographic areas (Djenne, Mopti and Youwarou) covered by IICEM. We partitioned the data by area to try to reduce the eco-agricultural variation; the means of the groups were then compared over four cropping cycles and graphed. These quantitative findings were triangulated with the qualitative findings obtained

[27] As will be shown in the PIV system where there was reliable data, the annual fluctuation due to natural conditions and also the political crisis causes variation that cannot be controlled in a statistical sense.

from the farmers in the PIV group discussions. The PIV groups all received the same types of technical packages and assistance such as credit and marketing effort. Those independent variables were not variable in the sense that they could be used as predictor variables for changes in the dependent variables. The original intent was to use regression analysis to show the relative importance of these IICEM inputs, but because of the consistency there was no measureable variance. The aforementioned climatic variance also was beyond measure at the group level. In the end, trend analysis was conducted and presented in the form of graphs over time.

To assess the sustainability of the program (Key Question #5) the questionnaires obtained from two sets of dropped groups were reviewed for each of the IICEM facilitations (credit, marketing, technology). In addition, the key informant interviews for credit, marketing, processing and seed production included questions related to sustainability. For sustainability of the seed production effort one comparative group that had been in a similar, USAID funded, seed program was interviewed in the same way as the dropped groups were, that is, how and what have they done since the program ended.

The participating groups were analyzed in much the same way as the dropped groups except that the analysis was by cropping system in each area under each implementing partner to try to detect any variations between implementing partner or between Mopti and Sikasso regions. Variations, if notable are among the findings presented.

The evaluation team and agricultural experts wrote up the analysis of the cropping systems seed production as stand-alone reports (provided to USAID/Mali). From these analyses the six chapters answering the key questions were prepared. Livelihoods analysis was based on the spouse questionnaires across cropping systems by region.

The diversity of questionnaires and the number of different cropping systems and special cases provided information for a very comprehensive assessment of the IICEM's value chain approach from the perspective of farmers, spouses, traders, processors, bankers, and input suppliers. In reality, this evaluation, in spite of the fact that the quantitative data was not available as assumed, provided a process and impact-oriented evaluation of the IICEM.

The structure of this report is to treat each of the specific questions in the TO as a separate chapter with an introductory section for orientation followed by the findings, analysis and conclusion, and recommendations. However, before answering the key questions, we have chosen to present the Village Irrigated Perimeters (PIV) groups of Mopti region as an illustrative case because there was reliable quantitative data over four cropping cycles that included a baseline the year before IICEM started to which the qualitative methods used for the evaluation of all groups could be applied. Thus the triangulation of both quantitative and qualitative data provides a more robust set of findings and conclusions to address the key questions in the TO with respect to this cropping system. We are convinced that had we had similar quantitative data for all cropping systems the overall findings for IICEM would have been similar. That is, with regard to the development of the value chains by IICEM, similar results would be found with regard to the facilitation of varieties, technology, credit, processing, and marketing. The exceptions to this general conclusion will be pointed out. The trend analysis was related to the qualitative information and the recent historical events. Following the case of PIV the presentation will be by key question.

III. QUANTITATIVE FINDINGS

Introduction. The PIV (Irrigated Village Perimeters) have been an economic development feature in the Mopti area since at least the 1980s. They have been assisted by numerous projects and organizations over this time. As a result, most producers on the PIVs have developed a relative mastery of the technologies available to them. They know the correct doses for the application of fertilizers, they know the value of using improved seed varieties and they understand the importance of the timely acquisition and application of inputs. The problem in the PIVs, as we deduced from focus groups with producers, is that the absence of sustainable connections with the wider value chain has inhibited their ability to respond to market opportunities.

A significant data base[28] of reliable information on production, area cultivated and volumes marketed exists for the PIVs. We were able to exploit the data base to develop a trend analysis to better understand the impacts of IICEM interventions on farmers and producer organizations. A number of cross-cutting issues emerged from this analysis, and as a result, they will be treated as a separate section. Complementary data from focus group interviews is used in the findings to triangulate and explain the quantitative data used in the trends. The trend analysis shows consistent, positive progress with regard to the major variables: production, area cultivated, sales per farmer, and volumes marketed. A dip in the upward trend of these variables in 2012 is largely explained by the effects of the political and security crisis that occurred in Mali starting in March of 2012.

Agro-ecological context. The three groups of PIVs (Djenne, Mopti, and Youwarou) come from three different hydrological regimes that impact productivity as will be shown. Djénne is above the Niger River on the Bani River and hence Djenne depends upon the rainfall in the Bani watershed for its irrigation water. If there is ample rain and early rain, then the river will rise and make irrigation more uniform. In the case of the PIV in Mopti, they draw on water that is at the confluence of the Niger and the Bani rivers. Accordingly, they have two watersheds for greater security. Youwarou PIVs are actually in the Lac Debo area of the Niger Delta further downstream from both Mopti and Djénne. Their soils have ample water for at least 5 months of the year.

Land to Family Ratio. The establishment and improvement of the PIVs began in the 1970s and the settlement or allocation of PIV system land varied depending on historical population distributional factors. It is worth noting that as families subdivided land, land per family plot sizes varied among the three PIV groups, with Youwarou averaging .40 - .77 ha/family (the largest ratio), Mopti averaging .45 - .56 ha/family, and Djénne averaging .24 - .31 ha/family (the smallest average size holding among the three).

The interaction of these two factors, land/family ratio and availability of water, explain the differences in the findings between the three areas as shown in the graphs below.

Findings. The findings using trend analysis only lend themselves to conclusions if triangulated with the qualitative data from the group discussions because they show what the facts are, but do

[28] The data on the PIVs from 2009 to 2012 was obtained directly from Peenal the IICEM implementing partner in Mopti. Peenal obtained the data directly from the OPs. We did not use data from the IICEM Bamako office. There were differences in the figures; it was decided to use the office and personnel closest to the PIVs.

not explain the trend. In this section we will treat the key questions of production, productivity, increased incomes as findings. They will be summarized in the conclusions section of this report based on the qualitative information. The method for this analysis is based on the trends triangulated with the information from group interviews as well as an understanding of the recent historical context. This is a traditional mixed-methods approach to evaluation where quasi-experimental data is not available.

If the quantitative data were available so that variations in the inputs, credit, prices and water flow had been available to predict production, productivity and sales, then a regression model would have been possible, or at least correlations between the inputs and outputs could have been generated, but, as explained above, this information was not available. Also, had some groups received credit facilitation but not marketing facilitation as an experimental design, then the relative importance of these inputs might have been measured. However, the program was not structured as an experiment and because the IICEM model or theory of change was that the integration of all facilitated services (credit, supplies, varieties, access to market) was necessary to provide the synergy for achieving the targets. Accordingly, it was found that the groups started using the same services at the same time. Moreover, the exogenous variables like climate and political events, as found in the qualitative data from group discussions, were overwhelming and crucial to understanding the trend patterns. In brief, a strictly quantitative analysis would not have been an objective method to test for changes due to IICEM inputs, and this case shows the importance of a mixed-methods approach for evaluating a value chain program.

Groups Attended and Areas Covered. From 2009 to 2012 the number of OPs receiving IICEM services increased from 36 to 60, and the area cultivated on IICEM supported PIVs doubled from 837 ha to 1,696 ha (Figure 1). This increase was made possible by IICEM investments in production infrastructures: irrigation canal cleaning, increased pumping capacity and rehabilitation, and expansion of existing poulders. The planting of the increased area was facilitated by increased access to credit for the inputs. This resulted in an increase in the land/holder ratio (Figure 2):

Figure 1 PIV ha by Sub-Region

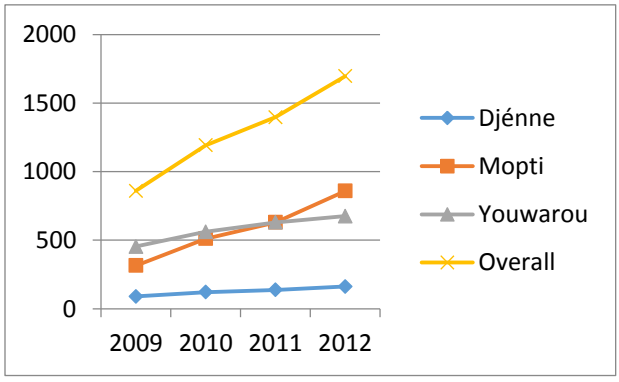
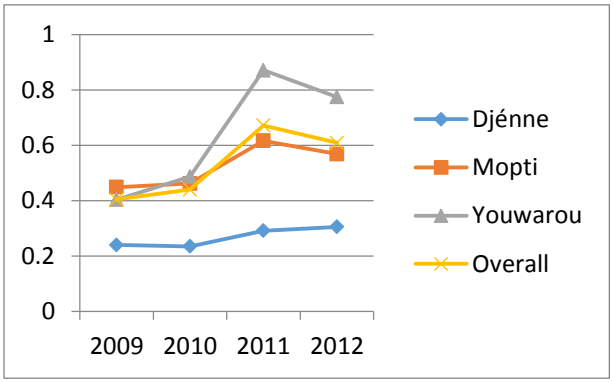


Figure 2 PIV Area Cultivated per Smallholder (ha)

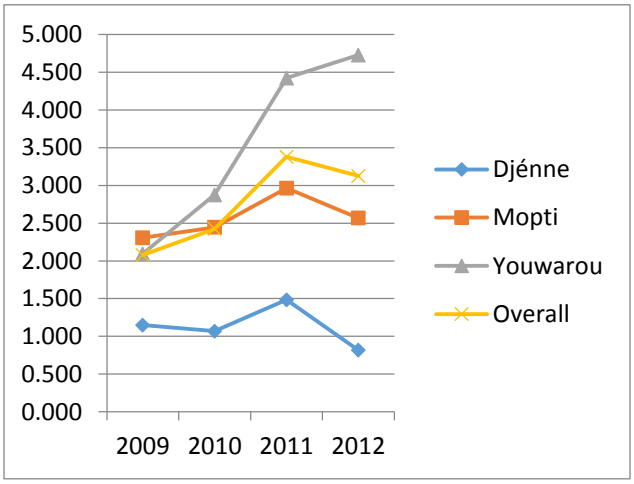


Responses during focus groups with OPs once again indicate that this result is also due to producer response to better market and supply conditions fostered by the IICEM project. Both grain traders and producer organizations stated that the economies of scale engendered by IICEM's facilitation approach were key to a more satisfactory relationship among the

participants in the value chain. Grouped sales by OP members and negotiation of forward contracts through the *Ateliers de Negotiation* ("Negotiation Workshops") were almost universally cited by focus group participants as key elements in establishing a basis of trust between producers and buyers. As noted above, this, plus the existence of a stable financial services platform enabled producers to risk investing resources in expanding areas cultivated with a view to a more stable market opportunity.

The drop in area cultivated per OP in 2012 is explained by the effects of the political/security crisis. In both discussion groups and interviews with suppliers and traders explained that because inputs were limited, including fuel for pumps, the OPs did not plant some areas. Area cultivated declined in two of the three sectors covered by the data. It is worth noting that in Djenne, where, although the increase was smaller, the upward trend continued. It is the most southerly production zone, and consequently the farthest away from the area of insecurity. The reasons for decline noted above apply in this case also. In addition, most producers reduced the area cultivated to that necessary to accommodate household consumption needs.

Figure 3 PIV Production per Smallholder (MT)



of the financial services facilitated by IICEM and its sub-contractor Peenal. The improved water management facilities (pumps, canals and techniques) also brought more area into rice production.

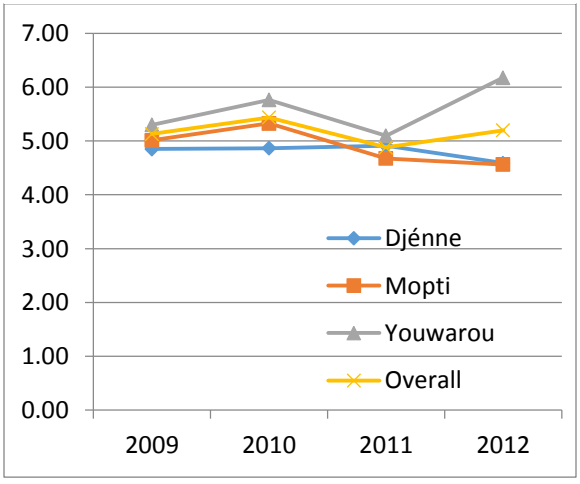
IICEM facilitation of improved relations with grain buyers was also cited by focus groups as a key element in providing a more stable environment for producers to respond to market signals. Indeed, the grouped marketing approach using pre-negotiated contracts was praised by both traders and producers as the key to increased marketing of paddy during the period of analysis.

Focus group and key informant interviews

Production and Productivity. As shown in Figure 3, production per PIV member (smallholder) increased steadily under IICEM until the onset of the political/security crisis.

Although productivity per ha remained relatively stable during the period of analysis (2009-2012), increases in production per member were achieved through increasing the area cultivated (Figure 4). This quantitative data was confirmed by declarations of OP members themselves during focus group sessions. Moreover, OP members attribute gains in production to the area that they could put into PIV production accompanied by the enhanced access to production inputs because

Figure 4 PIV Productivity T/ha



uniformly confirmed that the drop in production in 2012 was due to the effects of the political/security crisis. The generalized insecurity in the area increased the perception of risk among all parties. Movement was restricted for market participants. Key informants confirmed that the main markets for grain produced in the Mopti area is to the North, in Timbuctu and Gao, both of which were seized by militants. Local markets were also flooded with grain from food aid to alleviate the refugee situation, thus driving prices lower, further reducing the incentives to produce. Inputs were much harder to get because of the near total absence of financial services due to closure of the BNDA in Mopti. Indeed, access to fertilizer was only possible due to the actions of IICEM to provide them to OPs working with the project.

Marketing. Actions taken by IICEM and its sub-contractor to enhance market access and performance clearly helped provide the stimulus for the expanded production shown above. Volumes marketed by OPs producing rice on the PIVs increased in trends similar to production and area cultivated (Figure 5).

Although pre-financing for inputs has been available for a long time in one way or another to PIV producers, responses during focus group sessions clearly indicate that IICEM support for production credits was a key element in increased production. All ten of the OPs interviewed said they were either very satisfied (8) or satisfied (2) with the level of access to inputs under IICEM and all but one OP were either very satisfied (8) or satisfied with IICEM facilitation of input supply. The added confidence that producers had in a stabilized relationship with BNDA, as noted above, led directly to the production of a larger marketable surplus.

The value of paddy sold per smallholder[29] also increased until the crisis of 2012 (Figure 6).

Figure 5 PIV Volume Marketed per Producer (MT)

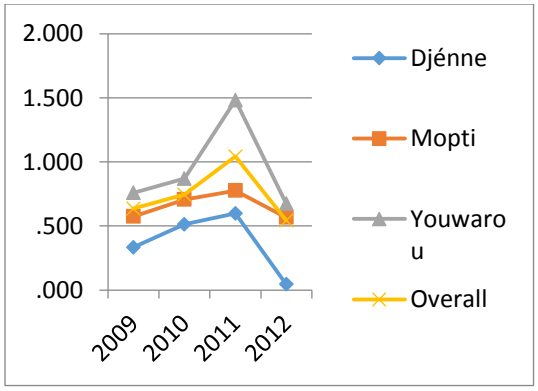
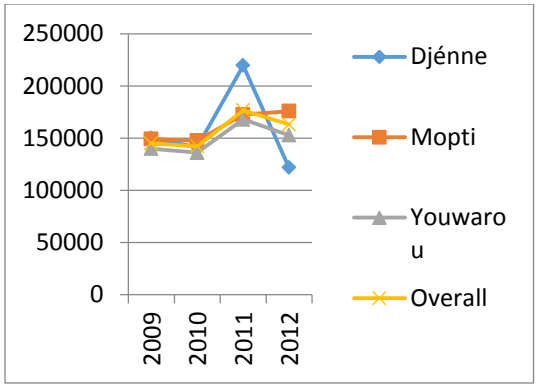


Figure 6 PIV Value of Product Marketed per Smallholder (FCFA)



[29] The interaction between water regime and the size of holding is clearly shown with Youwarou having the highest average and Djénne the lowest.

IICEM's strategy of working with traders and OPs to facilitate contacts improved the level of confidence on each side so that a durable marketing relationship could be established. All ten of the OPs interviewed agreed that both price and the volume of production available for market had increased as a result of IICEM actions to facilitate a more favorable market environment. Moreover, they also agreed that the key elements in fostering that environment were the use of forward contracting, grouped sales and negotiating prices as a group (OP) rather than as individuals (focus group declarations).

An unexpected element that emerged from the trend analysis was an indication of a positive effect on lifestyles. We analysed the data to determine the per cent of the rice crop that was marketed.

Figure 7 PIV Percent of Production Marketed

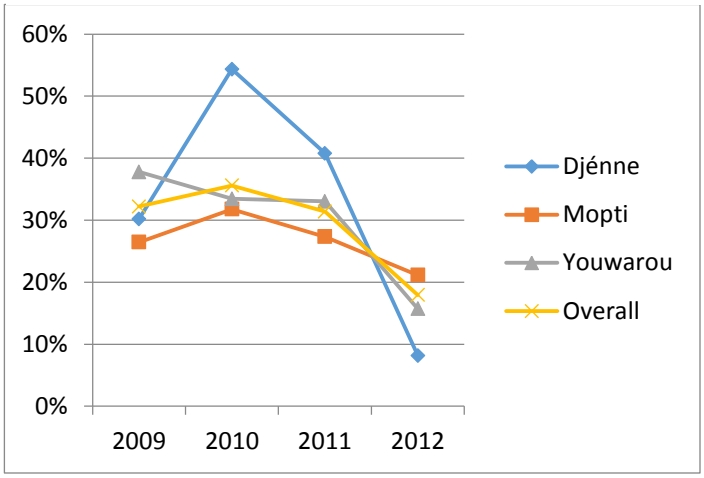


Figure 7 shows that the trend already started to level off or decline by 2011. This means that although farmers were marketing larger volumes of rice, they were still selling a relatively smaller proportion of the overall harvest. One implication that can be drawn from this is that households were keeping a larger share of production for home consumption. What we cannot explain is why the producers in Djénne, the smallest parcels and the least stable water supply, have tended to sell a greater proportion of their crops than the other areas where the holdings were larger and water conditions more stable.

Conclusions. Actions taken by IICEM and its sub-contractor to enhance market access and performance clearly helped to provide the stimulus for expanded production of paddy on Village Irrigated Perimeters (PIV).

- The production technology, varieties, water management, inputs offered by IICEM probably contributed to the noted increase in productivity from 2009 to 2010, but after that change productivity leveled off.
- The decline in both quantity and value of marketed production in 2012 can be attributed directly to the political/security crisis. The major impacts of the crisis cited by focus group participants were: late or non-delivery of inputs due to closure of banks and consequent lack of credit (5 of 10 OPs interviewed) and the high price of diesel fuel for motorpumps (5 of ten).
- Group sales by OP members and negotiation of forward contracts plus the existence of a stable financial services platform enabled PIV producers to risk investing resources in expanding areas cultivated with a view to a more stable market opportunity.
- The production and marketing data on the Village Irrigated Perimeters represents an invaluable monitoring tool for future project management. It should be maintained and kept up to date, especially as it will be important to note if the trends observed from 2009 to 2012 reappear as expected when the effects of the political/security crisis wane.

IV. ANSWERS TO THE KEY EVALUATION QUESTIONS[30]

1. How have IICEM's activities resulted in improved livelihoods for members of farming cooperatives and producer organizations?

Introduction. For livelihood assessment female spouses of the members of the IICEM participating cooperatives were interviewed. In the case of *bas-fond* groups the women themselves were the farmers, and, accordingly, they were asked both the production and the livelihood questions. The choice of the female spouses for livelihood assessment was driven by the fact that women are the ones in charge of household chores, food processing and preparation and distribution of food among household members. Hence they are expected to be better aware of the changes that may have occurred in livelihood conditions as compared with men. Furthermore, to take into account gender considerations, the team of interviewers on the livelihood questionnaires (Annex IV D) was composed of two women in most cases.

Key livelihood components that were assessed included, among others, levels of production, food security, the length of the hungry season (*période de soudure*), level of income, expenses, vegetable consumption, health and nutritional conditions, and overall economic prosperity. Data was entered into an excel sheet and analyzed qualitatively.

Livelihood findings.

Changes in livelihoods - millet cooperatives in Mopti region**.** In general, respondents of millet farming cooperatives in Bankass and Koro (Mopti) indicated that since involvement in IICEM key livelihood indicators have improved including levels of production and some food security. However, despite their positive assessment of food security, the millet farming cooperatives have complained that the length of the hungry season (*période de soudure*) has not been reduced. That is, they have not appreciably increased the amount of quality or quantity of reserves after harvest from before. Table 1 below indicates the assessments for all livelihood indicators in both Koro and Bankass. Other livelihood indicators that received positive assessments were the availability and consumption of vegetables, levels of income, expenses, and overall economic prosperity. Note that although millet farmers in Koro and Bankass indicated improved health conditions, there seems to be problems with the occurrence of diseases for all the sampled OPs and in both Koro and Bankass.

Table 1 Farmers' own perception of their livelihood with IICEM in Koro and Bankass

Villages and corresponding farming cooperatives in the *cercle* of Koro						
	BondoTéna	**Djidja**	**Bolirou**	**Tendely**	**Patin**	**Koro**
	Barassoro	**Amaga**	**Dègoubèrè**	**Maïrèbara**	**Amakènè**	**Amaji-guedioro**
Level of Production	1	1	1	1	1	1
Length hungry season	**2**	**2**	**2**	**2**	**2**	**2**
Number of meals/day	1	1	1	1	1	1
Meal quantity/serving	1	1	1	1	1	1

[30] As explained above, some of the sub-questions that depended upon counterfactuals and quantitative baselines. Thus we used the key questions as the titles.

Sauce quantity per meal	1	1	1	1	1	1
Sauce quality per meal	1	1	1	1	1	1
Snacks/day children	1	1	1	1	1	1
Vegetable availability	1	1	1	1	0	1
vegetables consumption	1	1	1	1	0	1
Diseases/health	**2**	**2**	**2**	**2**	**2**	**2**
Overall food security	1	1	1	1	1	1
Level of income	1	1	1	1	1	1
Level of expenses	1	1	1	1	1	1
Overall prosperity	1	1	1	1	1	1
Villages and corresponding farming cooperatives in the *cercle* of Bankass						
	Logo Bodjinabara	**Konsagou Cooperative des agriculteurs**	**Tiembara 1 Cooperative Merebara**	**Sogoutou Amakene**	**Ogossagou Amako - Kene**	**Dounde Ambatiegue**
Level of Production	1	1	1	1	1	1
Length hungry season	**2**	**2**	**2**	**2**	**2**	**2**
Number of meals/day	0	1	0	0	0	0
Meal quantity/serving	1	2	1	1	2	1
Sauce quantity per meal	1	2	1	1	2	1
Sauce quality per meal	1	1	1	1	1	1
Snacks/day children	1	1	1	1	1	1
Vegetable availability	0	1	0	1	1	1
vegetables consumption	1	1	1	1	1	1
Diseases/health	**2**	**2**	**2**	**2**	**2**	**2**
Overall food security	1	1	1	1	1	1
Level of income	1	1	1	1	1	1
Level of expenses	1	1	1	1	1	1
Overall prosperity	1	1	1	1	1	1

Legend: 0: no change, 1: improved since IICEM, 2: declined or no improvement

Changes that occurred in the livelihood of sorghum cooperatives in Sikasso region**.** In the three *cercles* of Sikasso region (Bougouni, Sikasso, and Koutiala), the sampled sorghum cooperatives generally had a positive assessment of their livelihoods, especially the components production, food security, income, vegetable availability and consumption, and overall economic prosperity. Although there is variability between OPs in the region the majority of OPs had good perception of their livelihoods. However, the length of the hungry season is still a problem in the *cercle* of Sikasso where three OPs out of six and in Koutiala where two OPs out of six gave a bad perception of this livelihood component. Only one OP in Bougouni had a negative perception of the length of the hungry season (Tables 2-4).

Table 2 Perception of shorghum cooperatives in Bougouni of their livelihood with IICEM

	Mamissa	**Kadiaka**	**Fabougou**	**Sola**	**Djiguenina**	**Kouroulamini**
	Yereyiriwa	**Seneyiriwaton**	**CPC Fabougou**	**FassoDambe**	**CPC Djiguenina**	**CPC Madina**
Level of Production	1	1	1	1	1	1
Length hungry season	1	1	1	2	1	1
Number of meals/day	1	1	0	0	1	1
Quantity of meal/serving	1	1	1	0	1	2
Sauce quantity per meal	1	1	1	0	1	2
Sauce quality per meal	1	1	1	1	1	1
Number of snacks/day children	1	1	0	0	1	1
Availability of vegetables	1	1	1	1	1	1
Consumption of vegetables	1	1	1	1	1	1
Diseases/health	0	0	2	0	0	2
Overall food security	1	1	1	1	1	1
Level of income	1	1	1	1	1	1
Level of expenses	1	1	2	0	1	2
Overall prosperity	1	1	1	1	1	1

Legend: 0: no change, 1: improved since IICEM, 2: declined or no improvement

Table 3 Perception of sorghum cooperatives in Sikasso of their livelihood with IICEM

	Sougoula	**Makono**	**N'Tchibougou**	**Zérélani**	**Djinikorola**	**Zanférébougou**
	Noupagagnon	**CPC Makono**	**CPC N'Tchibougou**	**Sinignèsigui**	**Benkadi**	**N'Kouala**
Level of Production	1	1	1	1	1	1
Length hungry season	2	2	2	1	1	1
Number of meals/day	0	0	0	0	0	0
Quantity meal/serving	2	1	1	0	1	0
Sauce quantity per meal	2	1	1	0	1	0
Sauce quality per meal	1	0	1	0	2	2
Snacks/day children	1	0	1	1	0	0
Vegetable availability	1	0	0	2	0	1
Vegetable consumption	1	0	1	2	0	1
Diseases/health	2	2	2	1	1	1
Overall food security	1	1	1	1	1	2
Level of income	1	1	1	1	1	1
Level of expenses	1	0	0	2	1	1
Overall prosperity	1	1	1	1	1	1

Legend: 0: no change, 1: improved since IICEM, 2: declined or no improvement

Table 4 Perception of sorghum cooperatives in Koutiala of their livelihood with IICEM

	Molobala	Kapala	ZanGasso	Signe	Niwansso	Nanpossela
	CPC PAM	CPCV3	CPCV2 Zangasso	CPCV designe	Yeredon-Nidasso	Jigisèmè
Level of Production	1	2	1	1	1	1
Length hungry season	2	0	1	2	0	1
Number of meals/day	0	0	0	0	0	0
Quantity meal/serving	1	1	1	1	1	1
Sauce quantity/ meal	1	1	1	1	1	1
Sauce quality/meal	1	0	1	2	2	1
Snacks/day children	2	0	0	0	0	1
Vegetable availability	1	0	1	2	1	1
Vegetable consumption	1	2	1	2	1	1
Diseases/health	1	2	1	1	1	1
Overall food security	1	0	1	1	1	1
Level of income	1	2	1	1	1	1
Level of expenses	1	2	1	1	2	1
Overall prosperity	1	2	1	1	1	1

Legend: 0: no change, 1: improved since IICEM, 2: declined or no improvement

Changes that occurred in the livelihoods of the lowland rice cooperatives in Sikasso. Female farmers' self-assessment of the livelihood components production, vegetable consumption, income, expenses, food security, and overall prosperity was positive for all the sampled OPs. However, the length of hungry season was still a problem for three OPs in terms of the quantity of meal/serving for one OP, quality of the sauce by one OP, and for health/diseases by two OPs. All other livelihood components were either rated as improved or no change (Table 5).

Table 5 Lowland rice women OPs' own assessment of their livelihoods

	Loutana	Niena	Finkolo Ganadougou	M'Pegnesso	Nantoumana	Zangaradougou
	Fokaben	COFRN	Sabougnouma	Benkadi	Benkadi	Benkadi
Level of Production	1	1	1	1	1	1
Length hungry season	1	2	1	2	2	1
Number of meals/day	0	0	0	0	0	0
Quantity of meal/serving	1	1	1	1	2	1
Sauce quantity/ meal	1	1	1	1	0	1
Sauce quality/ meal	2	1	1	1	1	1
Number of snacks/day children	0	1	0	1	0	1
Availability of vegetables	1	1	1	1	1	0
Consumption of vegetables	1	1	1	1	1	1
Diseases/health	1	1	1	0	2	2
Overall food security	1	1	1	1	1	1

	Loutana	Niena	Finkolo Ganadougou	M'Pegnesso	Nantoumana	Zangaradougou
	Fokaben	**COFRN**	**Sabougnouma**	**Benkadi**	**Benkadi**	**Benkadi**
Level of income	1	1	1	1	1	1
Level of expenses	1	1	1	1	1	1
Overall prosperity	1	1	1	1	1	1

Legend: 0: no change, 1: improved since IICEM, 2: declined or no improvement

Changes that occurred in the livelihoods of the PIV rice cooperatives. All the sampled rice farming cooperatives in the irrigated village perimeters of Djenne and Mopti *cercles* (Mopti region) rated as positive results on the entire list of key livelihood indicators including the length of the hungry season and occurrence of diseases which were found problematic with some OPs of the lowland rice, millet and sorghum value-chains (Table 6).

Table 6 PIV rice farmers' own perception of their livelihoods with IICEM in Mopti and Djenne *cercles*

	Sté Coop	Sté Coop	Sté coop	Nacitjèssiriton	Agro SilvoPastorale	Kondolé2	Kondolé1	Coop Ag Kouana	Sté Coop Ag	Sté Coop Ag
Level of Production	1	1	1	1	1	1	1	1	1	1
Length hungry season	1	1	1	1	1	1	1	1	1	1
Number of meals/day	0	0	0	0	0	0	0	0	0	0
Quantity of meal/serving	1	1	1	1	1	1	1	1	1	1
Sauce quantity per meal	1	1	1	1	1	1	1	1	1	1
Sauce quality per meal	1	1	1	1	1	1	1	1	1	1
Snacks/day children	1	1	1	1	1	1	1	1	1	1
Vegetable availability	1	1	1	1	1	1	1	1	0	1
Vegetable consumption	1	1	1	1	1	1	1	1	1	1
Diseases/health	1	1	1	1	1	1	1	1	1	1
Overall food security	1	1	1	1	1	1	1	1	1	1
Level of income	1	1	1	1	1	1	1	1	1	1
Level of expenses	1	1	1	1	1	1	1	1	1	1
Overall prosperity	1	1	1	1	1	1	1	1	1	1

Legend: 0: no change, 1: improved since IICEM, 2: declined or no improvement

Key livelihood indicators have improved with IICEM for most farming cooperatives, especially in the irrigated village perimeters in Djenne and Mopti. Indeed, these farmers' perceptions indicated that they are now better off for food security, income, length of the hungry season, diseases and health conditions, level of expenses, etc. For millet, sorghum, and lowland rice cropping systems in the targeted zones, although general food security and overall economic prosperity have improved, there is still need to reduce the length of the hungry season and

improve health and diseases conditions. This, however, may be beyond the potential of a value chain approach if there are cultural eating and health care practices that do not change.

2. Has IICEM succeeded in helping farmers and farming businesses become more organized, productive, and financially secure?

It was not until 2010-2011 that the Government of Mali through its strategy of subsidizing agricultural inputs initiated a support program designed to improve access to agricultural inputs for cereals producers. This is done through the mini-doses (known locally as "Bamanan Tiomi") – a dose of 35 kg/ha of grain complex applied as post emersion side-dressing to cereals (millet and sorghum). The IICEM initiative has incorporated this technique, along with others, to assist farmers to increase production of basic grains. Beneficiary focus groups uniformly declared that IICEM's intervention has been beneficial in all of the various areas of intervention and that the process, as well as the technology, is positively viewed not only by the direct beneficiaries (the producers), but also by the technical and extension services (non-governmental and governmental) that are charged with management of these areas, including the National Department of Agriculture (DNA), the Regional Directorate for Agriculture (DRA) and the Institute of Rural Economy (IER).

Even though direct measurement of financial security was not possible to define with the methodology used (external audits are usually the best means of measuring financial viability and security), none of the interviewees expressed any financial stress conditions. An indication of financial security came more in the facilitation of advance contracts integrating both the grain buyers and input supply businesses. These links made it more secure for the farmer knowing that there would be a market and at what price, but it also increased the security for the buyers so that they could make purchasing routes more efficient to meet national and international demands. In addition, the input suppliers had more confidence that they would be paid back. Additionally, interviewees made it clear they would like to see IICEM to promote business expansion, but none expects financial assistance to bail out poor management or financial decisions.

The level of organization as business entities among farmers and farming businesses was apparent from how they provided answers to question during the interviews and was further evidenced by the presence of accounting books and the use of computers to access data to answer questions.

Based on responses to field surveys (Annex IV A-D), all stakeholders interviewed are nearly unanimous on the effects and impacts of IICEM project. At the producer level these begin with the improvement of technical conditions of production (access to improved seeds, access to fertilizer, access to capacity enhancements for better cultural practices and cultural calendar for each value chain). Producers learned to better organize themselves and develop commercial relationships with other actors in the chain including grain traders and processors, leading, in turn, to more impact on productivity and production with improved revenue.

Table 7 presents a summary of responses during focus group discussions conducted by the evaluation team in terms of production systems. Focus groups agreed that the IICEM project had positive effects and impacts on the level of production of millet and sorghum.

Table 7 Evolution of cropping systems (use value chains)

OP	Chaîne de valeur : mil/sorgho				
	Crop before IICEM	**Crop after IICEM**	**Change in area Cultivated**	**Change in Production**	**Change in Quality**
Koutiala	Mil/Sorghum	Mil/Sorghum	Increase	Increase	Increase
Sikasso	Mil/Sorghum	Mil/Sorghum	Increase	Increase	Increase
Bougouni	Mil/Sorghum	Mil/Sorghum	Increase	Increase	Increase
Moyenne	Mil/Sorghum	Mil/Sorghum	Increase	Increase	Increase

Source: Données enquêtes équipe évaluation IICEM, juillet 2013

It should be noted that the make-up of the cropping system remained virtually the same with and without IICEM. This is an entirely expected result, as millet and sorghum are still the main food crops grown by producers in all areas of IICEM intervention. However, farmers report increases in all of the major parameters for which IICEM provides support to producers to improve production and productivity in these production systems.

Although the cropping patterns have remained the same, there have been several changes in the behavior of actors within the cropping systems.

Changes have occurred in the areas actually planted to millet and sorghum. These changes are mainly expressed in terms of increases in areas cultivated. Even though consistent production data for millet and sorghum is lacking, farmers themselves report a trend in the intensification of these production systems with the greater access to agricultural inputs facilities (seeds and fertilizers) due to the support provided by the IICEM project. Moreover, with the development of markets for surplus production, IICEM beneficiaries also tend to increase production through increases in area cultivated. Some OPs report increases in area sown to millet and sorghum on the order of 20-40%.

We did not ask focus group participants to estimate yields of millet and sorghum, however some respondent's volunteered information that in some cases millet yields increased from 800 kg/ha to 1250 kg/ha (approx. 39%). As for sorghum yields, the project reports an increase on the order of 800 kg/ha to 1100 kg/ha (approx. 38%). Table 7 indicates a change with the IICEM project. However, without more consistent measurement data for production, it is difficult to say whether this is more attributable to the technology used for production or to other IICEM interventions along the value chain that have increased incentives to produce (i.e. credit, marketing, etc).

Beyond these changes, the quality of the product delivered has also been improved. This quality improvement is a composite indicator that incorporates other factors including the use of improved seeds, fertilizer use, compliance with the agricultural calendar, improved cultural practices, as well as the existence of an improved market for the sale of surplus production. The focus group survey attempted to determine changes in the use of production under IICEM. Before the IICEM project, millet and sorghum producers essentially used their production for household consumption. With the IICEM project, there has been a move to derive more value from the sale of products. OP members estimated that sales of millet and sorghum accounted for

5-10% of production before IICEM. With the project, they estimate an increase to around 15% to 30% of production. Focus group respondents in Bankass stated that the commercial orientation supported by the IICEM project has even attracted neighboring non-project OPs to market their millet alongside project OPs.

Before the project, farmers used a mixture of local and improved varieties of seed. Focus group participants affirmed that without the project they experienced fertilizer deficiencies and difficulties in access to finance. The IICEM project has provided support as to facilitate access to funding through the Agricultural Development Bank (BNDA) and also to improve the quality of seeds used by making available certified seed. Both of these initiatives received enthusiastic approval from focus group participants.

3. What are IICEM's relative strengths and weaknesses of intervening along the entire rice, millet, and sorghum value chains, as opposed to targeting specific areas?

The most important and overarching finding was that the integrated facilitation approach for interventions among all businesses along the chains, not just the weakest links, was key to building relationships and strengthening the value chains. IICEM's strength was that field specialists and non-governmental extension agents gained the confidence of all businesses involved. Another of IICEM's strengths was that it mobilized temporary access to credit from input suppliers when the banking system closed during the military-political crisis of 2012. The IICEM project strategy has been based on interventions on every link of each of the targeted production chains[31] in order to improve production, credit, market access, and livelihoods for project beneficiaries. The objective of this value chain approach is to develop relationships among producers, suppliers, financial services providers, and buyers that will lead to the identification of mutual interests and evolve into sustainable economic relationships.

The evaluation team conducted focus groups with over 60 Producer Organizations (OP)[32] in the IICEM program, conducting over 100 interviews. As shown in the table below, a series of interviews was also conducted with key informant owner/managers providing services to IICEM – supported OPs on the financial services, input supply and marketing side of the value chain.

Table 8 Key Informant Interviews at Credit, Marketing, Input Supply Providers

Contact	Person Interviewed	Location	Sector
BNDA Bamako	Seydina Omar Diako	Bamako	Financial Services
BNDA Sikasso	OudjeriYaffa (Dir.)	Sikasso	Financial Services
Association d'acheteurs de Produits Locaux de Sikasso	Zacharia Traore	Sikasso	Grain marketing
KoniDjiguine	KalilouDiallo	Sikasso	Grain Marketing
Mali Protection de Cultures (MPC)	Sekou Traore	Sikasso	Input Supply – Ag. chemicals

[31] Presently the three chains are Rice, Millet and Sorghum, originally, prior to FtF realignment, the chains included Mangos, Shallots, Tomatoes, Potatoes, and aquaculture.
[32] See Annex IV C, D, and E for the questionnaires and interview guides used.

Contact	Person Interviewed	Location	Sector
SocieteDoumbia et Fils (SODEF)	DoumbiaBadjan	Kotiala	Grain Marketing
Sounkoro et Freres	MoulayeSounkoro	Mopti	Grain Marketing
Planete Distribution	Ousmane Alai Cisse	Sevare	Processing – rice mill
Ets. Guindo et Freres	MamoutoGuindo	Mopti	Grain Marketing
Union des SocietesCooperatives de Producteurs de Mais de Diedougou (USCPMD)	BallaTogola (Pres.) + 19 members	Diedougou	Input Supply – Seeds

IICEM ties the upstream (supply) side of the value chain to the downstream (marketing and processing) side through the implication of grain traders within the input supply and credit process. It differs considerably from traditional extension programs, which target specific areas along the value chain. There is compelling evidence from the analysis of trends in the data from PIVs and from the declarations of members of millet, *bas-fond* rice, and sorghum producing OPs themselves that this approach produces significant incentives to produce more grain for sale and for home consumption.

During the cropping season, IICEM facilitates marketing contracts (*contrat d'achat* or forward contract) between OPs and traders. This contract, along with the trader's contract with a final purchaser (MDS for instance), is included as support documentation in OP loan applications and serves as a kind of collateral for the bank. The actual money is either paid to the fertilizer supplier or to the trader, who, in turn, purchases from the supplier and provides inputs to the OP. The trader then recoups his money by discounting the purchase price of grain at the end of the season. By this series of transactions, the OP takes responsibility for repayment of the loan, but never really sees the money.

IICEM stepped in to partially subsidize inputs for millet producers when the BNDA branch in Mopti was closed during most of the security crisis, cutting off production credit for OPs. During the evaluation team's visit to Mopti, the Director of Peenal delivered 40 dossiers for credit to the reopened BNDA. As of this writing, we have been informed by IICEM Mopti that financing for the next campaign is underway. These examples lead to the conclusion that the positive trends noted in production and marketing of PIV rice before 2012 will resume this year.

The BNDA unequivocally admits that the process works primarily because of the close monitoring and facilitation at each stage by IICEM and its contractors. Indeed, the existence of this intensive monitoring and facilitation capacity is more important for bank approval of the loan than any guarantee funds. The BNDA routinely withdraws from financial support for Producer Organizations that have been dropped from the IICEM project, regardless of the reason, unless those OPs agree to raise cotton. CMDT then becomes the field monitoring guarantor the bank requires.

It is important to note that the degree of managerial capacity among OPs varies greatly from those that are well organized to those that have very limited capacity. This diversity has frustrated organizational development training program efforts in the past. IICEM did include organizational development training as part of its program, however. However, although IICEM trained in breakeven analysis to help OPs estimate the appropriate pricing for crops, IICEM

personnel, banks, and traders have observed that the impact of this training intervention was only used by the better organized OPs. OPs with poor or weak organizational capacity could not derive benefits from this type of training. For some groups, the managerial capacity of their OP is a weak link between the producer and the value chain. The weakness derives not from the training program itself but rather in ensuring organizational training is tailored and targeted to the appropriate audience, in this case the organizational capacity. Basic managerial capacity has to be in place before any given OP can benefit from this type of training.

Additionally, key informant interviews revealed two important findings related to weaknesses in group solidarity. First, group solidarity or a sense of shared responsibility varies because of tensions between families that come together hoping for benefits from a development project, yet they do not fully assume total responsibility for the group obligation. Second, key informant interviewees expressed the sentiment (and sentiments the evaluators find common in other developing country contexts) that these groups are usually managed by the older leaders of the community and, compared with the relative progressive and spontaneous nature of young extension agents, the group elders usually do not make sudden or radical changes from one cropping system to another, this leads to frustrated project goals. The slow pace of change is frustrating, but it is in the survivalist nature of subsistence farmers to maximize the probability of survival from one year to the next being ever conscious of the *période de soudure* that haunts the family yearly to not take risks. The problem of group solidarity should have been given more attention with a relatively intense level of monitoring as a follow-up to facilitation efforts to forge the organizational link between farmers and the value chain.

The director of the BNDA branch in Sikasso stated, however, that there is one notable exception to the uneasy relationship between banks and OPs. That exception is women's groups vs. men's groups. *Bas-fond* rice and other women's OPs have demonstrated exceptional financial management skills and have benefitted greatly from the training and assistance gained from the IICEM project. So much so, that the branch manager said that credit requests from women's groups in the Sikasso region are almost automatically financed. The Sikasso manager of MPC, an agricultural chemical supplier, agrees. He says that many of the women's rice co-ops supported by IICEM and GREFA now manage their own needs, develop their own loan applications and order in bulk, with one or two of them well on the way to becoming veritable rural enterprises.

4. What is the relative value-added (monetary and non-monetary) of the integration of IICEM's infrastructure with other productivity inputs?

Although a specific monetary value could not be assigned, such as changes in gross margins, there is ample evidence that infrastructure improvements created added value. The Irrigated Village Perimeters (PIV) producers were able to expand their area under production as a result of IICEM investments in water control, water flow, and pumps. The expansion of the area, in turn, led directly to increased production of crops and increased revenues per family.

IICEM's largest infrastructure investments have been in water management. Considerable work has been done in rehabilitation, leveling, and expansion of polders in the PIV rice sector (see the section on PIVs above). In the *bas-fond* rice growing areas, the project has upgraded or built water retention structures and increased available cultivable area through leveling. A cost-benefit analysis of infrastructural improvement in *bas-fond* farming by USAID found an internal rate of return (IRR) on these areas of around 25%. We were unable to do IRR analysis of PIV data, but

a similar return could be expected there. Moreover; the women Producer Organizations (OP) were able to leverage the increased revenues and enhanced organizational capacity to access loans to purchase processing equipment to further add value to their par-boiled rice product.

The IICEM project has also made a significant contribution with the construction of warehouses and storage facilities for cereals (millet and sorghum) at the OP level. As mentioned elsewhere in this report, these structures not only provide a storage and staging area for grouped marketing, they also make available local storage space for buyers, reducing their transportation costs. There is also the potential for further growth through renting these facilities or using them for storage of bonded grain which can be used as loan collateral. Key informants indicated that the availability of warehouse space at OPs contributed to the efficacy of grouped sales by providing a staging area for production, storage and delivery of millet and sorghum. It was not clear whether the infrastructure and the additional equipment acquired during the IICEM project cycle will be supported with a replacement fund.

It should be noted that the intervention of the IICEM project was limited in terms of access to medium-term credit and agricultural equipment. This can be explained by the fact that producers of millet and sorghum in the circles of Koutiala, Sikasso and Bougouni have for a long time been producing cotton and most have received some kind of support from the Malian Textile Development Company (CMDT) during the past 30 years. CMDT has developed an extensive network of small farm equipment manufacturers, and the equipment rate of farmers in this area was around 80% in the 1990s and 2000s. This leads to the presumption that the beneficiaries in these areas of the IICEM project are well equipped with animal traction and other small farm equipment.

The results of field surveys confirm that most producers of millet and sorghum both before and during the project are equipped with a satisfactory array of farm equipment, including plows, carts, seeders, multi-coulters, and even some tractors. Most of this equipment is owned by individual producers with the exception of tractors which are often owned by the OP. Most of this individual equipment is generally purchased on the local market. Nevertheless, certain needs remain unmet, especially in terms of community infrastructures. Much of the equipment needs are in the area of post-harvest handling and quality control equipment, including millet and sorghum threshers, hullers, weighing and calibrating materiel.

The project intervention in the area of infrastructure and, although not as significant, in the acquisition of equipment, is well received by the beneficiaries as expressed in the focus groups. The slight increases in productivity of the PIV areas during the first year of involvement likely came from the combined technical inputs and water control. In the *bas-fond* rice production areas in Sikasso the case was similar in that, increases in productive land due to leveling and dyke infrastructures led to increased production and marketable surpluses.

However, focus groups also expressed the desire for further opportunities for access to rural infrastructure and agricultural equipment in the form of medium term credit. The main constraints identified by the beneficiaries of IICEM are usually financial. Given the price of agricultural equipment as well as the cost of investment in rural infrastructure, producers generally do not have sufficient resources to supply the market and investment especially in water management schemes. Given the tenuous nature of the relationship between the BNDA and producer organizations, this will pose a significant challenge to any follow up to IICEM. BNDA has just begun to offer production credits and some medium-term financing to larger

farmers who have the capital base to provide collateral. It is unlikely that BNDA will venture into medium-term financing with cereals producing OPs without serious assurance of third-party monitoring on the ground. One prospect for near term may be equipment leasing and/or lease financing.

5. Will the relationship between farmers, processors (and/or cereal traders), and banks continue to function without the technical and financial support of IICEM?

The overall strategy of IICEM's value chain approach has been to work simultaneously with the financial services, grain traders and processors to integrate them and to build relationships of trust between them. Indeed, IICEM has been the first project that has worked systematically with grain buyers to improve the structure and efficiency of the coarse grains (millet and sorghum) market. In Mali relations with traders have long been characterized by mistrust. Some of it is politically motivated, and some deserved. The fact remains though, that traders are perhaps the most important link in the value chain. The logistical challenges of the value chain are typically handled by traders. It is the traders who have mastered the complexities of actually moving grain from the farm to the final consumer. Without grain traders, the value chain breaks down. The universal question is how and where to insert credit into the value chain so that it is timely and risk-free. Who will vouch-safe for the debts?

Traders are generally very satisfied with IICEM interventions, especially in the area of facilitation of contracts. This applies both to market research by IICEM to negotiate contracts with new buyers like *Moulins du Sahel* (MDS) and to the facilitation of group sales and forward contracts with OPs. The traders we spoke with told us they prefer working with contracts, as it gives them better assurance as to the availability, price and quality of a product. It also allows them to eliminate many of the small middlemen, which often means better prices for both sides. Banks also are more likely to approve a loan application from an OP that has a sales contract with a buyer.

Traders also said they do not have a problem with leveraging sales by organizing OPs to sell as a group. Grouped selling was in fact one of the advantages of working with the IICEM project pointed out by traders. For them, negotiating with a single OP is better than case-by-case negotiations with a plethora of individual sellers. The economies of scale are evident for them both in the area of transport and inventory management. It allows them to bid more successfully for large consignments for delivery to bulk buyers like *Moulins du Sahel* (MDS), *Grands Moulins du Mali* (GMM), *Office des Produits Agricoles du Mali* (OPAM) and the World Food Program (WFP). Once again, if a delivery contract from a buyer is included in an OP's loan application, BNDA is more likely to approve the application.

Traders in both Sikasso and Mopti said that it is easier to work with OPs since IICEM because marketing is better organized. IICEM's local sub-contractors work with OPs to facilitate the collection of grain. Prices are set by an auction-type arrangement (*Ateliers de Negotiation de Prix*) among several buyers that allows larger traders to deal directly with producers instead of going through smaller collectors. Contracts between buyers and OPs stipulate price and delivery conditions. If these are not respected, then the price can be changed. The OP warehouses built through IICEM assistance are also helpful because the company can now have the grain stored on-site until it is ready to transport. The quality of grain supplied by IICEM supported OPs is better according to the traders interviewed for this evaluation. This is testimony in favor of the

IICEM efforts to encourage better varieties, postharvest handling (cleaning), and also attention to moisture content to meet buyer needs.

Commercial relationships described above are slowly being built up. The linkage between bank financing for inputs and negotiated agreements for the purchase of farmers' production are clearly a new key element in the system. However, BNDA officials at both the national and regional levels told us that the bank considered production credits to OPs specializing in millet and sorghum production to be too risky unless the OP was supported by a facilitating partner like IICEM. Nevertheless, in the case of rice producers, the developed relationship is more sustainable because of the more commercial nature of rice OPs.

In general, with respect to sustainability, it is clear from the interviews with the groups and the key informants along the value chain that the integrated system that IICEM has promoted is currently working to the benefit of all, but without long-term sustainability. Once the IICEM facilitation ends, weak mistrustful linkages are not likely to remain and function.

To get an idea of the impact of the withdrawal of such support, we interviewed 14 maize, millet, and sorghum producing OPs in the Sikasso region that had been dropped from IICEM when the project was re-oriented to the FtF program.

The "dropped" OPs told us that they no longer received direct financing for inputs to be used for these cereal crops. Accordingly they reduced the areas cultivated. However, most of them said that they were still applying the same doses of fertilizers per ha and other inputs as they had with the IICEM project. The most logical explanation for this seeming contradiction is that these OPs are also raising cotton, and they are thus receiving support for financing inputs from CMDT, but for cotton only. We also encountered a small number of OPs elsewhere in the region that had amassed impressive financial resources, so auto-financing is not out of the question. This was particularly true of the seed production union of OPs. A somewhat more troubling finding was that these OPs were no longer contracting their product for group sale; their businesses are no longer sustainable. Most members had gone back to selling individually to small collectors rather than large traders with all the risks involved. Thus the sustainability of the marketing system is questionable if there isn't a third party facilitator.

One possible solution to this conundrum has emerged from other areas of experiences in the project. When bank financing for inputs was temporarily interrupted in Sikasso because of the political and security crisis, one trader agreed to provide 1000 sacks of fertilizer to IICEM supported OPs that he worked with to assure enough grain would be produced to meet the contract. In this case it is clear that the trader had confidence in the OPs that had been facilitated by IICEM. The OP agreed to reimburse the cost of the fertilizer in crop and at an agreed upon price. More investigation is necessary to determine if this kind of relationship (private grain trader/banker/OP) can be replicated and made more durable.

Contrary to the BNDA policy for men's groups producing millet and sorghum, the bank told us they are very willing to provide both production credit and medium term financing to women's rice producing groups. Women's groups in Sikasso have demonstrated excellent financial management capacity and solidarity in their loan reimbursements. They received bank financing to purchase rice-hulling equipment with the assistance of IICEM's local contractor, GREFA. The financing enabled them to de-hull the rice with less damage than the former method of pounding, thus enhancing the quality of the par-boiled rice they had already been producing for sale on the Sikasso market. Some of these groups now put together their own loan applications

and operate without substantial assistance from IICEM. This mechanism looks sustainable because of the expansion gained with IICEM.

Other options which merit further examination have also emerged for providing financial and technical assistance to OPs from outside the traditional project paradigm. In Mopti, for example, IICEM assisted three small firms to get loans to invest in mini rice mills. One firm began buying rice and milled it into high-quality rice which was sold both retail and wholesale. The company was so successful in its first year that it was able to secure working capital from the BNDA on its own this year (2013). The company now buys rice from OPs in the IICEM project *as well as those not supported by IICEM*. It provides pre-financing for OPs not supported by IICEM by acting as the guarantor of loans for fertilizers. The company delivers the fertilizers and is reimbursed for the cost of the fertilizer by deducting it from the price it pays for paddy. During the last campaign the company paid 10-11,000 FCFA per 75 kg sack of grain rice for OPs it pre-financed and 12,500 for others (including IICEM supported). It also provides pre-financing of fuel and rents motor-pumps to OPs working with the company. IICEM assists with negotiations for forward contracts for OPs working with the project, but prices are based on prevailing market prices.

The analysis shows that IICEM has been successful in assisting producers, supply houses, traders, processors, and bankers to forge effective commercial relationships. However, the sustainability of these relationships depends upon a number of intervening variables. Financial services providers perceive agricultural production as high risk credit, especially millet and sorghum production. Crops like rice and cotton that are of commercial (and national) interest have generally been credit worthy. Seed producers also seem to be able to maintain credit lines. The dropped corn, millet and sorghum groups have not been able to maintain sustainable credit linkages for these crops because banks will only provide production credit for subsistence cereals crops if a project or other creditable entity is present to facilitate loan repayment.

Commercial trade in cereals is seen by banks as highly credit worthy (and even profitable). Interventions designed to structure the coarse grains market by strengthening the relationships between producers and traders, i.e. forward contracting, bonded storage) tend to reduce the perception of risk. In certain cases where mutual interest is evident, grain marketers will even take on credit risk on behalf of producers. These positive experiences facilitated by IICEm bode well for sustainability.

6. How has the recent instability in the country affected IICEM stakeholder behavior?

Effects of the Crisis. On 21 March 2012, the democratic Government of Mali was overthrown in a military coup d'état, creating a political crisis in the capital, while at the same time that causes a rapid escalation of an internal conflict coffee in the North. From the time of the coup, for a period of approximately 10 months, the entire northern region of Mali was under the control of an alliance of rebel groups: the National Movement for the Liberation of Azawad (MNLA), and the Islamic fundamentalist group *Ansar Dine*. Both groups have been involved in fights with the Malian military for control of the region, but, the collapse of the central government and the withdrawal of the military of the north led the way for the acquisition of the area by the MNLA and, *Ansar Dine*.

The crisis generated by the coup d'état and the presence of the insurgents in the north of Mali is perceived differently and generates differing behavior between northern and southern Mali. The general behavioral change that occurred in the North was to wait and see before moving again.

Some of the groups located in the north of Mali reported that they were severely affected by the crisis; this is the case of the PIV/rice producers who have had difficulties to access credit after the closing of the banks and the high price of fuel used for irrigation as the main problems. These problems were compounded by the increase in expenses of the family with the arrival of the refugees and the delays in the acquisition of equipment and rural safety altogether. In addition, the IICEM staff was limited or pulled out of the region and markets also closed. The perceived impact by traders and processors is nearly unanimous: it is a bad period of Mali for the agricultural business.

Those least affected were always groups in the South, growing millet and sorghum; in the city of Sikasso and Koutiala groups do not recognize the impact on their business. Because of the generally good rainfall that year 50% of the groups reported an increase in yields. They identified as negative impact the suspension of the activities of IICEM, the closure of the banks restricting the access to credit and the general slowdown in the supply of inputs needed to grow the crops as the recognizable main effects of the crisis.

The impacts that were felt by the producers of lowland rice OPs were delays in the funding from BNDA which, in turn, affected the timely availability and application of fertilizer. In addition, the import and distribution rice food aid by humanitarian organizations caused prices to drop in local markets and a consequent reduction in demand for locally produced rice.

The perception of the crisis among the dropped OPs was stronger and better articulated. Unanimously they defined the negative effects as: (i) the delay in the delivery, inadequacy of inputs, (ii) higher prices for fertilizers, (iii) the withdrawal of the IICEM partners that provide technical support, (iv) the lack of supply of inputs, and (v) the decline in prices.

The organization of farmers (OPs) not only assure the infrastructure maintenance with the IICEM and the team, but the majority of the groups are making efficient use of the aid received for increasing yields and profits. The users of the ware houses and pumps are very happy and proud to have acquired the resilience to withstand the adversity.

Farmers' organizations claim that with IICEM they became not only better producers capable of dealing with creditors and financial institutions, but also found in IICEM a partner willing to mentor the processes and a partner that provides the sense of security they need during the planning, implementation, and the sales of their agricultural products.

V. OTHER RELEVANT IICEM ISSUES

1. Certified Seed Production

There are currently two seed producing OPs at present working with IICEM: 1) "Barasoro" cooperative in BondoTena village, *cercle* of Koro in Mopti region. This OP works on millet seed under the supervision of IICEM sub-contractor AMPRODE Sahel and 2) "Union des Sociétés Cooperatives des Producteurs de Mais de Diedougou"or USCPMD, located in the *cercle* of Dioila, Koulikoro region (Table 9). They are under the responsibility of the regional IICEM office in Sikasso; they are not supervised by a sub-contractor. The project implementation and supervision are done by the technical agent of the union, with some financial support of IICEM. Although both OPs existed before IICEM, the members stated that they have been strengthened by the project.

Table 9 Characteristics of seed producing organizations in Mopti and Sikasso regions

Characteristics	USCPMD[1]	Barasoro Cooperative
Region	Koulikoro	Mopti
Cercle	Dioila	Koro
Commune	Dièdougou	Dogouténé II
Village	SeylaMissirila	BondoTena
Sub-contractor	None – directly by IICEM/Sikasso	AMPRODE Sahel
Number of members	1900 (1000 men + 900 women)	104 (64 men + 40 women)
Value chains	Millet/Sorghum	Millet
Begin date with sub-contractor	April 2008	2012
Begin date with IICEM	April 2011	2010
Activities of the OP	• Food grains • Certified seeds	• Food grains • Certified seeds
IICEM supported activities	• Certified seeds	• Certified seeds

[1]: Union des sociétés coopératives de producteurs de maïs de Dièdougou. In the case of USCPMD, there is no sub-contractor. The project is implemented by the technical agent of the Union, with financial support of IICEM and the Union

Members of both participating OPs have been trained by IICEM in seed production techniques and procedures for certification, quality assurance, and post-harvest handling of millet and sorghum to improve quality. However, in the case of Barasoro, only a few farmers were trained. IICEM also facilitated access to bank loans, supply of improved seeds, access to inputs, and building linkages with private sector business clients and suppliers (Table 10).

Table 10 IICEM'S support and interventions received as described by members of USCPMD and Barasoro in Koulikoro and Mopti regions

	Beneficiary farmer organizations	
Type of assistance	**USCPMD of Diedougou (Koulikoro region)**	**Barasoro of Bondo Tena (Mopti region)**
Access to bank loan	X	X
Access to improved varieties	X	X
Access to input fertilizers	X	X
Access to pesticides	X	
Access to markets	X	X
Access to production equipment	X	
Access to processing equipment	X	
Irrigation infrastructures	X	

	Beneficiary farmer organizations	
Type of assistance	**USCPMD of Diedougou (Koulikoro region)**	**Barasoro of Bondo Tena (Mopti region)**
Warehouses	X	X
Training in quality assurance	X	X
Training in post-harvest handling	X	X
Training in seed certification procedures	X	X

Two improved millet varieties (Toroniou and Sanioba) were introduced by IICEM and its public and private sector partner in Diedougou. In Barasoro only Toroniou was introduced. At least six sorghum varieties (Tiandougou, Tiandougoucoura, Soumba, Grinkan, Seguifa and Sewa) were introduced and promoted in Diedougou.

USCPMD cooperative usually applies for loans twice a year with or without IICEM, hence they have applied 6 times during the past three years. Before IICEM, all the loan requests were approved, but not the total amount requested because of lack of guarantee. Under IICEM, the approved amount has increased.

Barasoro cooperative members applied for a loan only once during the past three years and they believe if they had applied more times, it would have been approved. However, because it is a low value crop, they believe greater investment (cost) in this type of seed would not pay (return) in spite of the improvement in access to market and clients favored by IICEM because millet is a low value commercial crop and producers will not invest in better seed; they use grain from the prior year as seed.

Both USCPMD and Barasoro Cooperatives have experienced increases in the areas planted for seed production. USCPMD, for instance, has increased from 2500 ha to 6000 ha planted to certified seed production by the 1900 members. Barasoro in turn has moved from 2-6 ha on average before IICEM to 20 ha at the time of the evaluation. These areas were confirmed with the key informant interviewees at the IICEM regional office in Mopti.

Regarding planting technologies, the IICEM intervention has helped increase production per hectare for both OPs. Barasoro said that they have moved from using 5 kg/ha of millet seed to 7 kg/ha because of technology disseminated by IICEM that helped reduce the spacing between plants from 100 cm before IICEM to 50 cm with IICEM thus increasing the number of plants/ha. The same was reported by the USCPMD for millet and sorghum.

With the greater density and area planted, seed production also increased for Barasoro, from 1.5-3 tons before IICEM to 15 tons with IICEM. The IICEM key informant interviewee said that the total was 16 tons of millet, confirming the large increase.

Both Barasoro and USCPMD cooperative members described with ease the process of seed certification indicating that they have mastered the process as a result of trainings and practices with IICEM. Key informant interviews also revealed that the simplified seed certification procedure to enable the certification of farmers' seed has been developed in partnership with the Investment Promotion Agency (API) and approved by the Ministry of Agriculture.

An additional change that has occurred in seed certification was reported by Barasoro: before IICEM they were not receiving the monetary results of certification because the system was not functioning well. With IICEM Barasoro and USCPMD expanded their range of clients to include, in addition to farmers, NGOs, seed companies, local, national, and even regional markets (USCPMD).

As described above, Barasoro and USCPMD were seed producers before IICEM and one would guess that they would continue their business after IICEM because they were not a solely dependent on IICEM nor did they depend upon IICEM for their business start-up. Nevertheless, it is difficult to estimate the sustainability of the seed producing enterprises of Barasoro and USCPMD after IICEM support. However in keeping with the evaluation's strategy of trying to identify similar OPs that had either participated or had participated in other programs as examples of sustainability, there is an example in Mopti of an OP (Soromognon) that was involved in an earlier seed improvement and production program. Soromognon, village of Somadougou, *cercle* of Mopti, commune of Sio, is composed of 10 members, all seed producers of millet, rice, sorghum, cowpea, and/or groundnut. This OP participated in the WASA[33] (West Africa Seed Alliance) seed project for two years from 2009 to 2011. After the closing of the WASA seed project in 2011, they have not received support from any other project for certified seed production. Nevertheless, their seed activities are still continuing and they have improved the quality and diversity of seed as indicated by the acquisition of *Jacumbe* (CSM 63E), an improved sorghum variety. Their planted areas also increased from 12 - 20 ha for rice under controlled flooding, 2-3 ha for millet and from 5-10 ha for sorghum. The relationships established with clients and suppliers are still functioning after closing of the project. This example bodes well for the OPs and also for the continuity of the increased production and varietal diversity technology that IICEM has also promoted.

Recommendations

Considering the FtF goal of increasing resilience and the considerable effort made by IICEM to strengthen certified and general seed producing cooperatives, the following recommendations are made for any follow-on programming:

- Renew the effort to link the seed producing cooperatives with sources of tested, drought resistant, and low rainfall varieties and renew support to the local field trials that the cooperatives had been doing before being dropped from the IICEM.
- Facilitate both the linkage of these seed producing OPs to intermediate seed distributors and also local cereal producing OPs, and linkages with sources of credit so that seed producing OPs have more working capital.
- Considering the success of forward contracting for linking credit between producers, suppliers, and traders, a similar mechanism may be tried to enhance the supply of quality seed as well as the demand.
- In keeping with seed certification and the goal of value added to those seeds, a relevant follow-on program should explore the value added that labeling and branding might bring to the seed industry.

2. Monitoring and Evaluation

Although none of the key questions posited in the TO was in reference to the quality of data and the M&E system, the existence and quality of data to evaluate the IICEM was a major issue from the beginning of the evaluation and necessitated the insertion of a RBDA into the TO in order to determine the best and appropriate methods to conduct the evaluation. Accordingly, in keeping

[33] WASA was a five year $61m alliance funded by USAID with five West African Governments and seed producers with the objective of creating an industry that will increase the supply and quality of seed for small-scale farmers.

with the general TO instruction to make recommendations for future programs, we present the following findings, conclusions and recommendations so that similar, future projects will meet USAID M&E and evaluation standards.

The finding from the RBDA survey was that, with the exception of the PIV groups, there was not a systematic set of data from which to draw a sample or to simply use the data from the groups to answer the key questions, i.e., changes in productivity, household income, and accurately measure the actual gross margin. This was an unexpected finding when one considers that the project had been through two phases over 6 years and had been through the PMP process twice during the last four year phase. It was found that the annual report on production and productivity for each group was based on a questionable sampling method and was not a reliable measure of the productivity, production, and the actual sales of the groups.

The IICEM M&E Manual of approximately August 2011, and annexes, was drafted as an internal manual for Abt Associates. It was not submitted to USAID for approval and USAID apparently did not request it as part of the M&E/PMP exercise that Missions usually do. It was not a deliverable.

The Access-based system for the database mentioned in the manual was done by an outside consultant and IICEM began to enter data, but the 2011 change to the FtF indicators (about August 2011 according to the draft changes) made the data entry of the Access system inappropriate for the new indicators. The original consultant was either not available or not assigned to update the system. Hence Abt Associates opted for the use of Excel sheets, and that responsibility was delegated to the IT specialist who really did not have M&E or database management training.

Because of the Excel sheet approach and the lack of a vision for a multi-year database, each year or cropping cycle became a new sheet of organizations that were carried over and new organizations added. Because of the separate sheets it was not a database that was suitable for comparative analysis or the tracking of organizations and their production from year to year. Four years of Excel sheets from the PIV groups were merged for the trends analysis, which required substantial manual effort to line up the groups and the variables over the four years, indicative of inadequate data management efforts.

FtF indicators tend toward individual household data, but data on individuals in each producer group was not collected until the second quarter of FY 2013. This was the result of the RIG review of the supporting documents needed by IICEM to come up to standards of evidence for the reporting. These reports that extension agents have been asked to submit do not represent a thought through system. They were a response to the RIG audit of 2012 when it was recommended that data on the individual farmers and families be recorded. These paper forms are repetitious, duplicating names, group information, and other information that could be entered once into an iPad then linked (relational database is the appropriate concept) each time to a complete database without repeating the names and other information. The extension agents complained that they had to repetitiously, by hand, repeat the names of the participants on paper forms. In reality, the use of palm pilots, and now iPad, has been in the development project tool kit for over a decade to avoid the time consuming and error prone process of handwritten forms and then a transfer to an electronic database.

One of the findings from the RBDA was that some cooperatives, the cotton cooperatives, did keep records on the cotton production, inputs, and sales. Some kept records on the commercial

crops such as corn. In the case of the PIVs, they too seemed to have reliable records. The conclusion is that many of these groups are capable of record keeping at least on paper, and a few, e.g. PIV and the Union Diedougou were found to have computer records, but IICEM did not build upon or reinforce this capability.

The bi-lingual model grant contract for implementing NGOs was reviewed with respect to M&E specifications. The closest section to mentioning M&E was 1.5 Technical Reporting and Evaluation (p.10). It is mentioned that "Technical Status Reports" were to be submitted on the same dates as the quarterly financial reports. The "Technical Status Reports" are not described nor is the M&E Manual and accompanying annexes.

The overarching conclusion is that the IICEM project did not have an M&E system that was designed to follow the kinds of production and marketing data that the evaluation team sought. This is partially explained by the fact that the project was tasked to work with stakeholders along the value chain, and not specifically with producers. Nevertheless, this state of affairs could have been identified during a shakedown evaluation or a mid-term evaluation. Unfortunately, the issue of shortcomings in an effective M&E and data collection system for IICEM was not fully recognized or acknowledged by Mission staff or the IICEM implementing partner during project design and start-up and re-design.

Recommendations

- The terms of reference or contract between USAID and the contractor should have very specific and explicit terms on M&E systems that establish, as per a PMP, the indicators, the responsibility for collection and the establishment of a web-based data storage and analysis system to be established within 90 days of startup. Whenever possible the M&E should be a direct responsibility and key concern of the USAID Mission; possibly a delegated responsibility through a third independent party reporting directly to the Mission, dealing simultaneously with several projects. Otherwise, the contractor should have a full time database manager and an M&E specialist to make sure that not only can the contractor use the information for management and reporting, but also train and assure that the sub-contractors or implementers in each region can and will do the organizational development of the farmer groups so that they can keep records and, most appropriately, have their own, matching files for accounting purposes; in this case the USAID Mission should be able to regularly monitor by contract, what this M&E officer accomplishes.
- For a decade, palm-pilots have been used by NGOs, the present development of iPads and notebooks would probably be appropriate and cost effective equipment as part of the institutional strengthening of all farmer groups.
- The system envisioned should be in keeping with many projects around the world that, for the last decade or more, have established comprehensive web-based systems that the NGOs use to enter data on the individual families and the farming groups so that tracking of both family and group interventions and progress has been possible. The term family or household (HH) will be a tricky subject to manage because, under the circumstances the HH is usually a multigenerational extended family where the "income" of the HH and its food security depend upon more than the basic crops that are targeted. Hence the relative importance and impact of the given crop may vary from substantial to insignificant, and the data system, in order to answer the livelihood questions, will have to track the other sources of food or income.

- As described above with regard to the USAID/Contractor agreement, the M&E needs should be an integral and detailed part of all RFPs for sub-grant grantees so that the sub-grantees know, beforehand, and can budget personnel and time to gather and maintain a compatible data base and link to a project-wide system.
- If the Mission cannot field the skilled M&E staff to prepare the terms of reference for M&E systems and cannot mentor and guide contractors to develop appropriate systems, then an option could be a third-party contractor to work with the Mission from the design of the M&E requirements in RFTOPs through providing the contractors with the technical assistance to implement M&E systems, and, finally to assure that data is gathered for both performance and impact evaluations.

VI. OVERALL CONCLUSIONS

The evaluation team conducted focus groups with over 60 Producer Organizations (OP) in the IICEM program, conducting over 100 interviews. Even though the current results of these meetings are unequivocally positive on multiple points, the overall conclusion hardly points to business sustainability.

- The farmer organization is a weakest link between the individual farmer and the remainder of the value chain, as well as the link to the development program, the alternative of working directly with individuals is not an option when the target population is the mass of small holders. Although many OPs have built up significant managerial and even financial capacity under IICEM, the organizational component and BDS will need to be a robust component with a long time horizon to deal with persistent management problems at the level of the OP. The goals in PMPs will have to be realistic especially if many new groups will be incorporated, for example, IICEM doubled the number of new groups incorporated from 2011 to 2012. Systematic organizational diagnosis will be necessary for baselines and planning and intense monitoring and facilitation efforts will continue to be necessary in order to reinforce the value chain approach;
- The demand of the banking/financial system to have the project presence to approve credit to Ops and Coops is an indicator of mistrust of the farmers and trader's abilities performing business; this condition is mainly nursed when the IICEM replaced existing operational capitals to allow infrastructure expansions not fully warranted under their business path before the intervention of IICEM. The BNDA unequivocally admits that the process works primarily because of the close monitoring and facilitation at each stage by IICEM and its contractors;
- Out of the visited organizations, none of them show to have a replacement fund to maintain and replace obsolete equipment; this situation is likely to re-create the need for additional external need once the equipment and the infrastructure mechanically fail.
- Production of all target crops has increased, albeit slightly for some project participants, as confirmed by trend analysis of principal production parameters among OPs in the Village Irrigated Perimeters (PIV) and more so based on declarations of participants in focus groups for millet, sorghum and lowland rice producers;
- The conditions for access to inputs, in particular fertilizer, have improved for nearly all OPs involved when the IICEM program intervenes (declarations of focus group participants);
- Conditions for marketing of the products of the OPs have improved, including price, volume and quality (declarations of focus group participants);
- Actions taken by IICEM and its sub-contractor to enhance market and credit access and performance clearly helped to provide the stimulus for expanded area of paddy on Village Irrigated Perimeters (PIV);
- Even though the decline in both quantity and value of marketed production from PIVs in 2012 can be attributed directly to the political/security crisis; no agronomic explanations were explored to explain the low yields in those places where IICEM provide the inputs and guarantee the access to credit, except that the available impact was low and timing later;

- IICEM's strategy of working with traders and OPs to facilitate contracts improved the level of confidence on each side so that a durable marketing relationship could be established; this strategy weakness is the limited scope and the limited number of partners involved;
- IICEM facilitation of improved relations with grain buyers was cited by focus groups as a key element in providing a more stable environment for producers to respond to market signals. Indeed, the grouped marketing approach using pre-negotiated contracts was praised by both traders and producers as the key to increased marketing of all grains during the period of analysis;
- Grouped sales by OP members and negotiation of forward contracts through the Ateliers de Negotiation plus the existence of a stable financial services platform enabled producers to risk investing resources in expanding areas cultivated with a view to a more stable market opportunity; Based on the findings, some key and no all livelihood components have improved with IICEM for most farming cooperatives, especially in the irrigated village perimeters in Djenne and Mopti. Indeed, these farmers' perceptions indicated that they are now better off for food security, income, length of the hungry season, diseases and health conditions, level of expenses, etc. However, for millet, sorghum, and lowland rice cropping systems in the targeted zones, although general food security and overall economic prosperity have improved, there is still need to reduce the length of the hungry season and continue to improve health and diseases conditions;
- There is compelling evidence from the analysis of trends in the data from PIVs and from the declarations of members of OPs themselves that this approach produces significant incentives to produce more grain for sale and for home consumption. These points to one final conclusion: under the special economic and safety conditions confronted during the IICEM, the value chain strategy used serve the farmers well. However, the model might be not be valid under other circumstances.

VII. OVERALL RECOMMENDATIONS

Although IICEM participating farmers have improved their livelihoods, especially farming cooperatives in the irrigated village rice perimeters, IICEM-like project activities need to continue as a means to maintain and strengthen the progress observed for PIV farmers on one hand, and boost growth and livelihood improvement for the lowland rice, millet and sorghum farmers on the other hand. The slow progress in the livelihood improvement of sorghum and millet farmers may be due to the fact that these two crops have low market value. These two crops are however strategic in Mali due to their adaptation to the local conditions, specifically drought and unreliable rainfall patterns, and are well adapted to the diet of the local populations. To boost the livelihood improvement of millet and sorghum farmers, focus should be on value-added traits such as earliness, grain quality, and eating quality.

The evaluation found that although a diversity of data is available, the data is scattered and inconsistent. It is usually destined for use in a specific monitoring context. USAID should mandate future projects to develop monitoring and evaluation systems that collect and analyze a uniform set of data. Moreover, the data generated should be uniformly useable; not only to a specific project or even to USAID. Agricultural data should meet Malian national monitoring and evaluation needs as well.

Producer Organizations are widespread in Mali. They are the obvious focus for the facilitation approach of the value chain model. However, OP cohesion is often only based on the existence of a project, rather than their own internal dynamic. Nevertheless, several OPs in the IICEM project have evolved to become well-managed organizations – even nascent rural enterprises. Continued effort needs to be applied to replicating these successes and reinforcing the management and enterprise capacities of OPs so that they can eventually take over the marketing, credit, and input strategies that IICEM facilitated, as standard operating roles themselves.

The value chain is really a chain of business relationships. The acceptance of contracting by both OPs and their private sector partners is evidence enough of this. More effort needs to be made to put more OPs on the kind of firm, businesslike ground that will make them more attractive (and more competitive) partners for banks, traders and processors.

During the course of any subsequent project, emphasis should be put on mechanisms that would enhance the availability and accessibility of improved and certified seeds and other inputs for value-added, capacity building, improved technology dissemination. Such mechanisms include building and maintaining linkages between farmers and all other stakeholders involved in the crops' value-chain, as well as sensitizing farmers to the importance of improved certified seeds in increasing production and productivity.

VIII. BEST PRACTICES

Promoting gender-equitable opportunities in value chain development. IICEM's assistance to and support for women's farming organizations has helped many women to exercise real entrepreneurial and managerial skills. The women's *bas-fond* rice OPs are viewed by both banks and suppliers as viable rural enterprises. These OPs are increasingly weaving their own value chain networks and diminishing their reliance on support from projects and/or government.

Improving production and productivity. The use of and working through breakeven analysis with the farmers so that they understand the cost of inputs and the labor that they put into production is perhaps the best practice for business attitude development in preparation for negotiating an appropriate price for crops. This is a crucial first step when going from selling surplus subsistence crops to systematically producing for a market. However, we did note that land value and the managerial or entrepreneurial factors of production were not included in the analysis. Nevertheless, this part of business training is often assumed and yet not part of the culture.

Building capacity in value chain development. Support given for small and medium scale processing by IICEM adds value to production as well as developing local enterprises. The small rice mills in Mopti and the parboiling of rice by women *bas-fond* farmers are the best examples of this in the IICEM program. At the same time, IICEM investments in the rehabilitation of Irrigated Village Perimeters (PIV) and flood plains (*bas-fond*) are increasing productive capacity to meet these new demands.

Marketing and transport facilitation. Building relationships between farmers and grain traders has created the incentives to produce more for market. The contracting and grouped selling has tapped economies of scale that aid traders and transporters to expand their market purview and better address the logistics of the value chain.

Enhanced financial services. The BNDA has shown a willingness to provide the production credits needed for increasing cereals marketing. The next challenge in this process will be to build OP capacity to a point where the bank can have confidence enough to continue to risk financing after the withdrawal of the facilitating monitoring umbrella currently provided by IICEM and its sub-contractors.

Supporting an enabling environment for agricultural trade and private sector development. IICEMs strategy of integrating private traders in to the value chain has been a crucial link. Besides helping to organize the market, IICEM has provided services directly to companies. Business Development Services (BDS) and training have helped them to improve management and access new information. The Special Activities Fund and Innovation Fund are providing incentives for these businesses to upgrade their infrastructures and equipment, especially in the area of quality control.

The development of an appreciation for quality seed. In a mostly subsistence cropping system where seed is simply grain saved from the previous year, such as millet, quality seed is a key element so that productivity and quality would increase so that famers would increase their own food security as well as incomes also led to an important value added for farm businesses and groups producing seed instead of simply grain for feed or human consumption. This focus effectively created or at least strengthened a new link in the millet and sorghum value chains – the commercial seed industry.

ANNEXES

ANNEX I
RFTOP (ORIGINAL) STATEMENT OF WORK

AGENCY FOR INTERNATIONAL DEVELOPMENT

1. Country of Performance: Mali	Adv. & Asst. Services Yes [ ] No [x]
2. Contract (Incorporating FAR and AIDAR Clauses): Contract No: RAN-I-00-09-00016	Order No: AID-688-TO-13-00001
NEGOTIATED PURSUANT TO THE FOREIGN ASSISTANCE ACT OF 1961, AS AMENDED, AND EXECUTIVE ORDER 11223	
3. CONTRACTOR (Name and Address): International Business & Technical Consultants, Inc (IBTC) 8618 Westwood Center Drive, Suite 220 Vienna, VA 22182 USA TIN: 621327398 DUNS: 611390592	4a. ISSUING OFFICE: USAID/Mali Acquisition and Assistance Office BP 34 Bamako, Mali 4b. ADMINISTRATION OFFICE: USAID/Mali Accelerated Economic Growth Team BP 34 Bamako, Mali
5. TECHNICAL OFFICE: USAID/Mali Accelerated Economic Growth	6. PAYING OFFICE. SUBMIT INVOICE TO: Office of Financial Management USAID/Mali BP 34 Bamako, Mali
7. EFFECTIVE DATE: April 29, 2013	8. ESTIMATED COMPLETION DATE: August 31, 2013
9. ACCOUNTING AND APPROPRIATION DATA GLAAS Requisition # 688-13-000018	
10. The United States of America, represented by the Contracting Officer signing this Order, and the Contractor agree that: (a) this Order is issued pursuant to the Contract specified in Block 2 above and (b) the entire Contract between the parties hereto consists of this Order and the Contract specified in Block 2 above.	
11a. NAME OF CONTRACTOR: International Business & Technical Consultants, Inc. BY: _____ NAME: TITLE: DATE:	11b. UNITED STATES OF AMERICA Agency for International Development BY: _____ NAME: Zachary Clarke TITLE: Contracting Officer DATE:

AID 1420-)

1

SECTION C – DESCRIPTION / SPECIFICATIONS / STATEMENT OF WORK

C.1 INTRODUCTION

Integrated Initiatives for Economic Growth in Mali (IICEM) is a 4-year, $45m dollar project, managed by the Accelerated Economic Growth (AEG) team. The proposed evaluation of IICEM will consider millet, sorghum, and rice value chain activities in the Mopti and Sikasso regions of Mali, the interconnectivity of farmer cooperatives, processors, and banks, and its overall effect on rural livelihoods.

C.2 BACKGROUND

IICEM is an agricultural value chain project implemented by Abt Associates. Its objective is to increase producers' incomes in order to foster economic growth and substantially reduce poverty. The project started in January 2010 and was originally scheduled to end in December 2012. It has since been extended December 2013.

IICEM focuses on the following areas within the value chains of millet, sorghum, and rice: (1) Improved Agricultural Productivity through the expansion/rehabilitation of irrigated perimeters and intensification of agricultural production in target areas; (2) Expanding Markets and Trade by enhancing access to finance; enhancing access to markets and trade; introducing, transferring, and applying improved technologies; (3) Increased investments in Agricultural and Nutrition Related Activities; and (4) Increased Employment opportunities in Targeted Value Chains.

Through its integrated value chain approach, IICEM increases agricultural productivity, improves linkages to markets, and facilitates rural finance in Mali by developing local capacity. Through its partners (US and local NGOs), IICEM uses a comprehensive approach to improve efficiency in those value chains that have significant implications for food security, including rice, millet and sorghum.

IICEM originally focused on a larger set of value chains, including mangos, rice, millet, sorghum, maize, wheat potatoes, fruits and high value horticultural products throughout the country. In April 2011, however, IICEM was modified to better align with Mali's then recently approved Feed the Future strategy. It now only targets activities in the value chains of millet, sorghum and rice in the three selected regions of Mopti, Sikasso and Timbuktu for a total of 141 communes, and two communes in the Segou region. The evaluation will focus on the effects of IICEM interventions in 750 randomly selected cooperative farms in the 114 communes of Mopti and Sikasso that have received assistance since the outset of the project, as well as cooperative farms not involved with IICEM (as a control).

On March 21, 2012, the democratic Government of Mali was overthrown in a military coup d'état, creating a political crisis in the capitol while simultaneously causing a rapid escalation of a brewing internal conflict in the North. From the time of coup, for a period of approximately 10 months, the entire northern region of Mali was under the control of Toureg rebels aligned with the National Movement for the Liberation of Azawad (MNLA), and the Islamic fundamentalist group Ansar Dine. Both groups had been involved in prolonged fighting with the Malian military over control of the region, but the fall of the central government also meant the withdrawal of the military from the north, which in turn paved the way for a takeover of the area by the MNLA and Ansar Dine. On January 11, 2013, following southward movement of the extremists, the French Government intervened to help Malian and African forces repel the insurgents and regain occupied territory. Fighting continues in the north, and efforts are underway to strengthen the African forces that will continue to secure the territory and maintain peace. The transitional government has adopted a roadmap for conducting elections later this year. Significantly, USAID/Mali has undergone two evacuations in the past year, requiring the departure of many staff, and

all dependents, and creating many work challenges. Recently, due to the French intervention, travel outside of Bamako has become easier, particularly to southern regions such as Sikasso.

C.2.1 Theory of Change

USAID/Mali believes that if IICEM strengthens value chains comprehensively, intervening at multiple levels, then economic growth will increase and farmers will ultimately have improved livelihoods. USAID will consider IICEM successful if[34]:

- Farmers' yields in rice, millet, and/or sorghum rise;
- Farmers are able to sell cereals for more money;
- There are enduring market linkages between processors and/or cereal traders and farmers;
- Banks are providing credit to farmers; and
- The above four bullet points have core elements of sustainability that allows them to last past IICEM's project cycle.

C.2.2 Purpose and Use of the Evaluation

USAID/Mali intends to use the findings from the IICEM Evaluation to inform future AEG programs, specifically those targeting rice, millet, and sorghum value-chains. A successful IICEM evaluation will help AEG better understand which activities under IICEM made sustainable gains in the agriculture sector, and which activities may not be as effective in future projects to achieve the desired results. A successful IICEM evaluation will help AEG and USAID/Mali better understand what growth in the agriculture sector can be attributed to IICEM, and what growth occurred outside the scope of IICEM's influence. There is a cost-benefit analysis (CBA) of IICEM's irrigation activities currently underway, whose results, along with other assessments already conducted, will be expected to be incorporated into the IICEM Evaluation. During the evaluation, USAID/Mali will make sure the CBA, as well as all relevant documents, will be made available to the evaluator.

In addition to measuring the impact of IICEM, USAID/Mali will use the IICEM Evaluation to better understand how farmers, bankers, and processors are reacting to the instability caused by both the coup d'état and the northern rebellion. While this will not be the prime focus of the evaluation, USAID/Mali will expect the Evaluation Team to provide qualitative data on possible behavior change taking place amongst IICEM's stakeholders.

C.3 WORK REQUIREMENTS

C.3.1 General Evaluation Questions

This evaluation will assist USAID/Mali by providing information to inform and respond to the following practical questions:

1. How have IICEM's activities resulted in improved livelihoods[35] for members of farming cooperatives and producer organizations?
2. Has IICEM succeeded in helping farmers and farming businesses become more organized, productive, and financially secure?
3. What are IICEM's relative strengths and weaknesses of intervening along the entire rice, millet, and sorghum value chains, as opposed to targeting specific facets?

[34] Desired minimum effect sizes for the following have not been established as of this draft.
[35] Measured using more than one proxy, including but not limited to income, crop yields, and Food Security.

4. What is the value-added (monetary and non-monetary) by the integration of IICEM's infrastructure with other productivity inputs?
5. Will the relationship between farmers, processors (and/or cereal traders), and banks continue to function without the technical and financial support of IICEM?
6. How has the recent instability in the country affected IICEM stakeholder behavior?

C.3.2 Specific Evaluation Questions

To provide a basis for the evaluation to generate relevant findings, conclusions, and recommendations on these questions, the evaluation will address a number of more specific evaluation questions for each of the four topics. The following are guiding questions to help provide further context on what USAID/Mali wishes to learn. USAID/Mali encourages the Contractor to use these questions to help inform the proposed evaluation methodology. USAID/Mali expects all questions to be answered comprehensively and answers to be based on evidence.

1. How have IICEM's activities resulted in improved livelihoods for members of farming cooperatives and producer organizations?
2. Has IICEM succeeded in helping farmers and farming businesses become more organized, productive, and financially secure?
    a. How well are IICEM-supported millet and sorghum farming cooperatives functioning, when compared to millet and sorghum farming cooperatives receiving no external support[36]?
3. What are IICEM's relative strengths and weaknesses of intervening along the entire rice, millet, and sorghum value chains, as opposed to targeting specific areas?
    a. When compared to external donor interventions targeting a specific step(s) in a value chain, is IICEM's approach effective?[37]
4. What is the relative value-added (monetary and non-monetary) of the integration of IICEM's infrastructure with other productivity inputs?
    a. What is the reaction of different populations [inside and outside the IICEM intervention] to IICEM's package of infrastructure and productivity inputs?[38]
    b. What are the advantages and disadvantages of IICEM's infrastructure activities and its corresponding package of inputs when compared to alternative external donor approaches?[39]
5. Will the relationship between farmers, processors (and/or cereal traders), and banks continuing to function without the technical and financial support of IICEM?
    a. How are IICEM-supported farming cooperatives continuing to work with processors to create market opportunities?
    b. Will banks continue to provide credit to farming cooperatives?
    c. What variables factor into banks providing credit after IICEM's intervention has finished?
6. How has the recent instability in the country affected IICEM stakeholder behavior?
    a. Are farmers continuing to use IICEM inputs?
    b. Are farmers continuing the upkeep of IICEM infrastructure?

[36] This is quite common in Sikasso and Mopti, as USAID/Mali is one of the only donors working with millet and sorghum farming cooperatives. This question was answered by examining dropped groups when the FtF change was made. A counterfactual was not possible as noted in the report.
[37] With the revised methodology without a counterfactual this sub-question could not be answered.
[38] With the revised methodology without a counterfactual this sub-question could not be answered.
[39] With the revised methodology without a counterfactual this sub-question could not be answered.

c. Are banks continuing to lend credit to IICEM farmers and farming cooperatives?

C.3.3 Evaluation Methodology

Based on the information provided within this Statement of Work, the Contractor is expected to submit a written description of (or approach for developing) the proposed methodology to carry out the evaluation in 750 randomly selected farmer producers in the regions Mopti and Sikasso[40]. USAID/Mali envisions a quasi-experimental impact evaluation with a well-established counterfactual, as well as the implementation of qualitative tools that can help provide lessons learned, specifically looking at rice, millet, and sorghum value chains. Qualitative tools to consider are key informant interviews, focus groups, and a broader, more rigorous survey[41] that can capture a variety of populations both inside and outside IICEM's intervention[42]. A rigorous survey will be one that accounts for biases such as attrition and selection, which is coded, with a sampling size large enough to derive statistically significant conclusions. The Evaluation Team's survey tool will help USAID/Mali understand the impact of IICEM along the entire agricultural value chain[43], as well as learn the effect of instability on IICEM stakeholder behavior. USAID/Mali expects more qualitative evidence for rice value chains and a more quantitative approach for millet and sorghum value chains; however, the finalized methodology will be left to the Contractor to design, based on baseline data that can be reconstructed in comparison farming cooperatives that have not received the IICEM intervention.

In order to answer some of the questions presented in the Specific Evaluation Questions section of this Statement of Work, IICEM's interventions will need to be compared to a rigorously defined counterfactual. These will include millet and sorghum farming cooperatives that have not received any outside interventions. USAID/Mali envisions an IICEM Evaluation closely comparing a sampling of IICEM beneficiaries to the counterfactual, examining potential differences between these groups, and expressing these differences using quantitative and qualitative methods. Intuitively, one may assume that a farming cooperative receiving higher quality inputs, and technical advice, will have larger yields than a farmer without these inputs. However, USAID/Mali wishes to learn how great the difference is between these two groups, and whether that difference was worth IICEM's costs. Data from the cost-benefit analysis already conducted may help the Evaluator determine this. Because there was no randomization of the IICEM intervention during the project's inception, a fully experimental impact evaluation will not be possible. In addition, baseline data was not collected for farming cooperatives outside of IICEM's implementation. Thus, a rapid baseline reconstruction appraisal will be the first deliverable for the

IICEM Evaluation, which will determine: 1) the utility of the original baseline of 1,897 cooperatives for identifying and sampling a counterfactual; 2) accessibility of cooperatives that can be used for a counterfactual; 3) the availability of farmer cooperative records on the crops and business for the baseline year and also the last (2012-2013) year; and, 4) in the absence of said records, the ability of the cooperative leadership to accurately recall the area planted and harvest, sales, consumption, and input data, and prices received.

Based on the rapid appraisal, the level of confidence the Evaluator and USAID/Mali have in the rigor of the proposed quasi-experimental design will be assessed. This rapid appraisal will directly impact the scope and methodology of the quantitative evaluation components. In the case that a counterfactual

[40] The sample of 750 farming cooperatives is out of a total 1,897 farming cooperatives in 114 communes in Mopti and Sikasso, including 300 IICEM farmer cooperatives in Mopti and Sikasso, 300 matched control farming cooperatives, and 150 other farmer cooperatives.
[41] Quantitative if possible, so that broader generalizations may be made later on, as opposed to anecdotal evidence.
[42] Rice value chains lend themselves well to a more qualitative methodology; however, whenever possible quantitative analysis of rice value-chains is encouraged.
[43] Supported by quantitative data wherever possible.

cannot be established, the Evaluator will propose an alternative, qualitative evaluation methodology to assess the impact of IICEM on the value chains. A rich set of baseline data was collected for farming cooperatives within IICEM which should allow for possible quasi-experimental designs such as pre/post, matching, simple difference, multivariate regression, and/or instrumental variables, if appropriate data can be reconstructed in comparison farming cooperatives. The Evaluator will also assess the reliability of this baseline data and subsequent records. If the data is not reliable, then methods for reconstruction will be tested. In the case that recall data, especially with reference to the 2011-2012 cropping cycle, is not reliable, then alternative, qualitative evaluation methodology to assess the impact of IICEM on the value chains will be proposed.

As described above, the Contractor will make any necessary modifications to the evaluation methodology based on its initial rapid baseline reconstruction appraisal of both the non-participating and participating farming cooperatives. This modified (if necessary) evaluation methodology will be the

Evaluator's second deliverable.

To carry out the evaluation, it is anticipated that the Evaluation Team will need to perform the following tasks:

- Initial orientation meetings with USAID/Mali and its' partners;
- Review of project documentation and baseline data provided by the mission;
- Detailed meetings with IICEM and sub-contractors to determine appropriate geographic areas for the evaluation, as well as sampling methodology;
- Rapid baseline reconstruction appraisal;
- Assessment of the baseline and subsequent records of the IICEM cooperatives;
    - Key informant interviews with control farms;
    - Analysis of available data from USAID/Mali partner organizations and other government and non-government agencies;
    - With USAID/Mali decide if the methodology needs modification and how;
- Meetings with external donors[44] in order to:
    - Learn their approaches to rice irrigation;
- Collect relevant data on specific rice farming cooperatives that can be compared with or, matched, to IICEM's rice farming cooperatives;
- Site visits to implement quasi-experimental impact evaluation and qualitative tools in approximately 750 randomly selected farming cooperatives in Mopti and Sikasso communes, respectively;
- Preparation of relevant summary tables, graphs, and annexes;
- Drafting of evaluation narrative, including Executive Summary and other content;
- Preparation of a PowerPoint presentation for Final Briefing;
- Final Briefing that includes Evaluation's findings, conclusions, and recommendations;
- Revision of the Evaluation Report drafts to address comments and questions provided by
- USAID/Mali; and
- Submission of final Evaluation Report.

The final Evaluation Report must differentiate between *findings* (the facts), *conclusions* (interpretation of the facts), and *recommendations* (judgments on what changes need to be made for future programming). The Evaluation Report must highlight best practices, pointing out what works and what does not, so as to thereby contribute to the more general field of tested experience from which future program designers and implementers can draw.

[44] Of particular relevance to this project is GIZ.

ANNEX II
(ORIGINAL) WORK PLAN: TIMELINE AND DELIVERABLES

Task	July 9 - 13 Week 8 Field	July 15 - 20 Weekend 9 Field	July 22 - 27 weekend 10 Field	July 29 - August 3 Week 11 Field	August 5 - 10 Week 12 Bamako	August 12 - 17 weekend 13 Bamako	August 19 - 21 weekend 14 Bamako		August 26 - 30 weekend 15	September 2 - 6 weekend 16	September 9 - 13 Week 17
Team members pilot tools and make necessary adjustments before going to the field based on appraisal results											
Recruitment and training field survey staff		X									
Second phase methodology delivered to USAID											
Key informing interviews -- Bamako		X									
Key informing interviews -- Sikasso and Mopti			X	X							
Site visits to farming communities to conduct evaluation			X	X							
Data entry, cleaning and analysis					X						
Continuation of data analysis and begin developing the draft report and the presentation						X					

Prepared under summary tables, graphs, and appendices & drafting of narrative assessment, including Executive Summary and other content.							X				
Prepared a PowerPoint presentation - 3 days							X				
Deliver a final briefing (with PowerPoint) tb USAID/Mali and the Ministry of Agriculture we Evaluation's findings, conclusions, and recommendations						X					
Discuss Mission comments on the evaluation -1 day; Wrap up draft and submission of Evaluation Reports and Final Briefing (1 day in Bamako)comments back to the Evaluation Team. TL and DTL return to home base							X	X			
USAID draft report review									X	X	
Finalize and submit Final Evaluation Report											X

ANNEX III
CONTACTS AND INTERVIEWEES

USAID/Mali Contacts

Baou Diane, Agricultural Project Management Specialist for IICEM, Bamako
Dennis Knecht, Private Enterprise Officer, Bamako
Gaoussou Traore. Contracts Officer, AEG, Bamako
Lee Cohen COTR, Bamako
Mamadou Coulibaly, Contact person with USAID/Mali during start-up.
Mamadou Augustine Dembele, Retired USAID/Mali Monitoring and Evaluation Specialist, Bamako
Mary Norris, Director of AEG Office, Bamako
Michelle Corzine, M&E specialist, Bamako
Oumarou Camara, Monitoring and Evaluation Accelerated Economic Growth Team
Timothy Stein 2nd COTR, Bamako

List of IICEM staff and staff of the implementing partners interviewed in Bamako, Sikasso and Mopti

1. Ed Keturakis, Home Office Project Director for Abt Associates, Inc
2. Jean-Fracois Guay, COP, IICEM, Bamako
3. Raven Smith, DCOP – Operations, IICEM, Bamako
4. Ismaila Zorom. Data Base Manager, IICEM, Bamako
5. Kadiatou Traore, Quality specialist, IICEM Bamako
6. Moctar Traore, Business development officer, IICEM Bamako
7. Zoumana Goita, Deputy Rehional coordinator, IICEM Mopti
8. Djiguiba Kouyate, Regional coordinator, IICEM Mopti
9. Ali Niangado, Regional Coordinator, Sikasso
10. Oumar SIDIBE, Business development specialist, IICEM Mopti
11. Ibrahim Konate, Coordinator, Subcontractor AIID, Koutiala
12. Mamoutou Coulibaly, Coordinator, Subcontractor BEACIL, Bougouni
13. Pierre Coulibaly, Coordinator, sub contractor GREFA
14. Amadou Diop, Coordinator, Subcontractor, PEENAL, Mopti
15. Mamoutou Traore, Coordinator, Subcontractor, AMPRODE Mopti

List Interviewees at the Mopti Regional Office of Ministry of Agriculture

N°	Name	Position
1	Oumar Maïga	Directeur de la DRA Mopti
2	Ibrahima Dicko	Chef DLCP DRA Mopti
3	Elhadji Mahamane Traoré	Chef Section conseil vulgarisation; Point of Contact for IICEM in Mopti

List Interviewees at the Sikasso Regional Offices

Mahamadou Diaby, Governor of the Sikasso region
Mr. Flatiè SANOGO, Counselor for Economic Affairs,
Mr. Kamafilié Sissoko, Advisor Administrative Affairs,
Mr. Sidi Konate, Chief of Staff to the Governor
Mr. Yaya Diallo, Deputy Regional Director of Agriculture Sikasso
Mr. Pière Traore, Deputy Coordinator of the Agricultural Market Observatory (OMA)
BNDA: M.Yaffa and colleague
MPC: Mr. Traore and colleague

List of Key Informants from the credit, marketing and supply industry in Bamako, Sikasso and Mopti

Contact	Person Interviewed	Location	Sector
BNDA Bamako	Seydina Omar Diako	Bamako	Financial Services
BNDA Sikasso	Oudjeri Yaffa (Dir.)	Sikasso	Financial Services
Association d'acheteurs de Produits Locaux de Sikasso	Zacharia Traore	Sikasso	Grain marketing
Koni Djiguine	Kalilou Diallo	Sikasso	Grain Marketing
Mali Protection de Cultures (MPC)	Sekou Traore	Sikasso	Input Supply – Ag. chemicals
Societe Doumbia et Fils (SODEF)	Doumbia Badjan	Kotiala	Grain Marketing
Sounkoro et Freres	Moulaye Sounkoro	Mopti	Grain Marketing
Planete Distribution	Ousmane Alai Cisse	Sevare	Processing – rice mill
Ets. Guindo et Freres	Mamouto Guindo	Mopti	Grain Marketing
Union des Societes Cooperatives de Producteurs de Mais de Diedougou (USCPMD)	Balla Togola (Pres.) + 19 members	Diedougou	Input Supply – Seeds

Participant list, Focus group with the USCPMD of DIEDOUGOU (in Koulikoro region) (Union des Sociétés Coopératives des Producteurs de Maïs de Dièdougou USCPMD)

1	Balla Togola	President
2	Solomane Diarra	Secretary out reach
3	Amadou Dirra	Secretary supplya
4	Ba Zoumana Coulibaly	Deputy accountant
5	Assana Coulibaly	S. aux crédits
6	Yaya Fomba	Comité d'achats
7	Chaka Sangaré	Membres
8	Chaka Togola	Animateur
9	Sinaly Diabaté	Membre
10	Bamoussa Fomba	Membre
11	Madou Diarra	Adjoint au S. Approv.
12	Alou Diabaté	S. Conflit
13	Membre Broulaye Traoré	Membre
14	Seydou Togola	
15	Dramane Tieta	Membre
16	Dramane Togola	Membre
17	Chaka Fomba 1	Membre
18	Bouréma Fomba	Membre
19	Dramane Diabaté	Directeur technique USCPMD

List of Focus group Participants - OP de Bondo-Téna (Coopérative Barassoro Téna)

1	Gabelou Togo	Président de l'OP
2	Amadou Togo	Membre
3	Hamidou Togo	Organisateur 1
4	Alaye Kéné Togo	Organisateur 2
5	Assa Enguimé Togo	Membre
6	Mamadou Togo 1	Trésorier
7	Abdouramane Togo	Membre
8	Djibilirou Togo	Membre
9	Badjin Togo	Membre
10	Sidiki Togo	Membre
11	Mamadou Togo 2	Membre
12	Djibilirou Enkougnon Togo	Membre
13	Arma Togo	Membre
14	Yousouf Togo	Membre
15	Badjin Togo	Membre
16	Boukari Togo	Membre

List of Focus Group Participants OP (SOROMOGNO) Somadougou ICRISAT/WASA

N°	Name	Position
1	Samba yalcouyé	President
2	Bakari traoré	S. production
3	Sidi Tangara	Member
4	Daouda Dembélé	Organisateur
5	Ali Goulaka	Member

ANNEX IV
QUESTIONNAIRES AND INTERVIEW GUIDES

Annex IV-A: Interview guide – Suppliers and Traders

Approach with and without IICEM

- Supplier Name/Company: /_____/
- Number of the company or Number: /_____/
- Area of intervention on the market:
  - ✓ Marketing /_____/
  - ✓ Supply inputs /_____/
  - ✓ Transport /_____/
  - ✓ Other (please specify) /_____/
- Number of years of experience in the activity: /_____/

What are the products that you sell? • Mil • Sorghum • But • Rice: • Cowpea	Without IICEM	With IICEM
Turnover:		
Volume of purchases / Sales:		
Purchase Price:		
Sales Price:		
Who sets the price?		
Period of the purchase/sale:		
Who are your current customers and your potential customers;		
Costs: • Sacherie/twine + needle • Transport • Handling • Costs of taring • Cost of storage/conservation • Taxes related to transportation • Other (please specify) /_____/ • What are your constraints with transaction costs	✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓	
What suggestions do you to alleviate the costs of		

transactions, Etc.		
Number of employees:		
Do you have any contracts: • OF purchase • Of Delivery • Autres_____		
Describe the conditions of these contracts		
Pre-financing -- • Inputs: • Materials: • Other: • Comments and other:		
Access to credits: Yes/No • Credit to campaign • Credit marketing		
Conditions of access to loans		
Difficulties of access to credits		

Annex IV-B: Interview guide - Banks and Financial Institutions

Approach with and without IICEM

- **Institution Name:** /_____/
- **Type:**
  - ✓ Bank: /_____/
  - ✓ Institution of micro finance: /_____/
  - ✓ Other: /_____/
- **Credits Volume by sector:**

Sector	Without IICEM	With IICEM
Trade		
Industry		
Transport		
Export /Import		
Agricultural Production		

- **Terms credits: (in proportion to the general portfolio)**

	Before IICEM	**With IICEM**
Short term		
Medium term		
Long-term		

- **Interest Rate:** **Before IICEM**/_____/ With IICEM /_____/
- **Due Date:** **Before IICEM**/_____/ With IICEM /_____/
- **Reimbursement Rates: Before IICEM**/_____/ With IICEM /_____/
- **Guarantee Fund:** **Before IICEM**/_____/ With IICEM /_____/
  - ✓ Status /_____/
  - ✓ IICEM /USAID /_____/
- **What has been the role of the guarantee fund in your strategy v. a v. the agricultural sector?**

- **Other banking products available for the actors:**

- **Comments and other:**

Annex IV-C: Producer Organizations - OPs

Approach: With and without IICEM

Region of:

Circle of:

Common:

Village of:

Name of the OP: Date of creation of your OP:

Value Chain framed by IICEM: Rice (Bottom or PIV) Mil-------- -- -Sorghum---------

Date of interview: Many adherents of the OP:

Investigator Name (s): Number of years of partnership with IICEM:

For the questions which are on the first column of the table below, please share with us your opinion by referring to the period before support IICEM and to the period with IICEM support.

QUESTIONS	Period: BEFORE IICEM	Period: WITH IICEM
I. VALUE CHAINS OF THE OP:		
✓ PIV Rice:		
✓ Mil:		
✓ Sorghum:		
✓ Rice Low-funds:		
- But		
- Potato		
- Cowpea		
- Eshalot		
- Cotton		
II: USE OF AGRICULTURAL INPUTS		
- What are the agricultural inputs that you use? (Seeds; engrais; ...)	DAP---------- Improved seeds ---------- Certified seed ---------- NPK---------- Pesticides ---------- Other to clarify----------	DAP---------- Improved seeds ---------- Certified seed ---------- NPK---------- Pesticides ---------- Other to clarify----------
Is this that you have seen some changes in the use of inputs since the beginning of the project:	0 No change 1 Increases 2 Decreased	
- What are the doses of inputs that you use per hectare	DAP---------- Improved seeds ---------- Certified seed ---------- NPK---------- Pesticides ---------- Other to clarify----------	
-	**BEFORE IICEM**	**WITH IICEM**
- How is organized the supply of agricultural inputs?		
- How you enjoy the use of agricultural inputs?		
- How you enjoy the intervention of the IICEM in the facilitation of access to agricultural inputs?		
- What are the difficulties you have in using the system of supply current?		
- What are the opportunities that you have in the supply of agricultural inputs?		
- Other (please specify)		
III. USE OF EQUIPMENT AND AGRICULTURAL EQUIPMENT	**BEFORE IICEM**	**WITH IICEM**
- What are the hardware and agricultural equipment that you use?		
- What are the infrastructure (shops, biomes		

QUESTIONS	Period: BEFORE IICEM	Period: WITH IICEM
of bottom-funds, etc.) that you use?		
- How is organized the supply of hardware and agricultural equipment?		
- How you enjoy the use of the materials and agricultural equipment?		
- How you enjoy the intervention of the IICEM in access to the materials and agricultural equipment		
- What are your difficulties in the supply of materials and agricultural equipment? -		
- What are the opportunities that you have in the supply of hardware and agricultural equipment? -		
- Other (please specify)		
IV. ACCESS TO AGRICULTURAL CREDIT		
- Source of agricultural credit (Bank,IMF, etc.)	Tontine village------- Private - shopping Private - supplier Project Bank---------- The institutions of micro-finance- --- Body OP---------- Other to clarify	Tontine village------- Private - shopping Private - supplier Project Bank---------- The institutions of micro-finance- --- Body OP---------- Other to clarify
- Credit **to campaign** : seed, fertilizer	Tontine village------- Private - shopping Private - supplier Project Bank---------- The institutions of micro-finance- --- Body OP---------- Other to clarify	Tontine village------- Private - shopping Private - supplier Project Bank---------- The institutions of micro-finance- --- Body OP---------- Other to clarify
- Credit **marketing**	Tontine village------- Private - shopping Private - supplier	Tontine village------- Private - shopping Private - supplier

QUESTIONS	Period: BEFORE IICEM	Period: WITH IICEM
	Project Bank---------- The institutions of micro-finance- --- Body OP---------- Other to clarify	Project Bank---------- The institutions of micro-finance- --- Body OP---------- Other to clarify
- How you enjoy the intervention of the IICEM in the facilitation of access to credit		
- Difficulties of access to credit -		
- Other (please specify)		
V: AGRICULTURAL PRODUCTION - what has been the level of change as a result of your participation in the project:	0 No change 1 Increases 2 Decreased	
- The cultivated areas have they increased?		
- The production of different agricultural products has t-it increases:		
- Improvement of the quality of products:		
- What uses do you of your production	Consumption---------- Sale---------- Other----------	Consumption---------- Sale---------- Other----------
- Difficulties related to the production:		
- What are the opportunities for the production of your products?		
- What appreciation do you of the intervention of IICEM at the production level?		
- Other (please specify)		
VI. PROCESSING OF PRODUCTS		
- How is the transformation of your product? (It ságit culture framed by IICEM)-		
- How to sell your products processed?		
- What are the difficulties that you have in the transformation of your products?		
- Is there a difference between the volume of sale of your products since you are working with IICEM	0 No change 1 Increases 2 Decreased	
- Is there a difference between **the quality of** your products since you are working	0 No change 1 Increases	

QUESTIONS	Period: BEFORE IICEM	Period: WITH IICEM
with IICEM	2 Decreased	
- What appreciation do you of the intervention of the IICEM in the processing of products?		
- What are the opportunities for transformation of your products?		
- Other (please specify)		
VII. MARKETING OF PRODUCTS	**How is the marketing of your products?**	
- What appreciation do you of the intervention of the IICEM in the marketing of your products?		
-	**BEFORE IICEM/NGOS**	**WITH IICEM/NGOS**
- What are the difficulties that you encounter in the marketing of your products?		
- How negotiate -you the price of your products? -		
- Do you of contracts to purchase your products?		
- Is there a difference in the selling price of your products since you are working with IICEM	0 No change 1 Increases 2 Decreased	
- Is there a difference in **the volume** of sale of your products since you are working with IICEM	0 No change 1 Increases 2 Decreased	
- What are the change opportunities for marketing your products?		
- Other (please specify)		
VIII. SUSTAINABILITY ACTION IICEM		
The interventions of the IICEM in your OP will they continue after the IICEM?		
What are your suggestions for ensuring the sustainability of interventions of IICEM		
What impacts the political crisis has had on the development of your OP.		
Other		

Annex IV-D: Questionnaire guides – "Spouses"

Approach: With and without IICEM

Region of:---------- Circle of:----------

Common:---------- Village of:----------

Name of the OP: ----- ------ ------ ------ ------ ------ ------ --Date of creation of the OP: --------

---

Value Chain framed by IICEM: Rice PIV---- -----Rice fund Low--------Mil-------- -- -Sorghum---

---

Date of interview: ---------- Number of participants in the Focus group: -------

---

Investigator Name (s): ----------

For the questions which are on the first column of the table below, please share with us your opinion by referring to the period before support IICEM and to the period with IICEM support.

QUESTIONS	What has been the level of change as a result of your participation in the project: = + -
I: How would you rate your living conditions in a general way?	0 No change 1 More interesting 2 Least interesting
- Production (Soro)	
- Purchases/Sales (Sani fere)	
- Food security (Dounkafa)	
- The length of the period of weld	
- The diseases	
- Health	
- Peace (hɛrɛ)	
- The image of the members of the OP in the community	
II. What judgment do you of your conditions of daily work in the field?	0 No change ---------- 1 More interesting---------- 2 Least interesting----------
- Quantity of Work	
- How arduous the work	
- Level of use of technology	
- The level of mastery of technologies	

QUESTIONS	What has been the level of change as a result of your participation in the project: = + -
-	
- Other (please specify)	
III. What judgment do you of your conditions of daily work at home	0 No change ---------- 1 More interesting---------- 2 Least interesting----------
- Quantity of Work	
- How arduous the work	
- Participation in roscas	
- Free Time	
-	
- Other (please specify)	
IV: Food	0 No change ---------- 1 More interesting---------- 2 Least interesting----------
- Number of meals per day	
- Number of goûtterparjour /child	
- Number of goûtterparjour /Adult	
- Quantity of food per meal	
- Quantity of the sauce of the main dish	
- Quality of the sauce of the main dish	
- Availability of vegetables	
- Consumption of vegetables	
- Meat Consumption	
- Consumption of Pollet	
- Other to clarify	
V. Family Economy	0 No change ---------- 1 More interesting---------- 2 Least interesting----------
- Level of sales (cereals, vegetables, etc.)	
- Level of purchases	
- Level of income of men	
- Level of income of women	
- Level of clothing children	
- Level of clothing women	
- Level of clothing men	
- Level of prices on the market	
- Economic prosperity in general of the family	
-	
-	
- Other (please specify)	

Annex IV-E: Interview guide – Discontinued Groups

Approach: With and without IICEM

Region of:

Circle of:

Common:

Village of:

Name of the OP: Date of creation of your OP:

Value Chain framed by IICEM: Maiz---------- Mil-------- -- -Sorghum---------

Date of interview: Many adherents of the OP:

Investigator Name (s): Number of years of partnership with IICEM:

For the questions which are on the first column of the table below, please share with us your opinion by referring to the period **WITH** support IICEM and to the period **AFTER PHOTOS** IICEM support.

WE UNDERSTAND THAT YOU WERE INVOLVED WITH iicem (NGOS) IN PREVIOUS YEARS. We would like to know what changes if any took place in your way of producing, arranging credit, and marketing since then, that is, how did the OP operate during this last agricultural cycle after IICEM stopped working with you.

QUESTIONS	Period: WITH IICEM	Period: AFTER IICEM
I. VALUE CHAINS OF THE OP:		
- PIV Rice:		
- Mil:		
- Sorghum:		
- Rice Low-funds:		
- But		
- Potato		
- Cowpea		
- Eshalot		
- Cotton		
II: USE OF AGRICULTURAL INPUTS		
- What are the agricultural inputs that you use? (Seeds; engrais; ...)	DAP---------- Improved seeds ---------- Certified seed ---------- NPK---------- Pesticides ---------- Other to clarify----------	DAP---------- Improved seeds ---------- Certified seed ---------- NPK---------- Pesticides ---------- Other to clarify----------
Is this that you have seen changes after the departure of the project	0 No change 1 Increased 2 Reduced	
- What are the doses of inputs that you currently use per hectare	DAP---------- Improved seeds ---------- Certified seed ---------- NPK---------- Pesticides ---------- Other to clarify----------	
-	**Period: WITH IICEM**	**Period: AFTER IICEM**
- How is organized the supply of agricultural inputs?		
- How you enjoy the use of agricultural inputs?		
- How you enjoy the intervention of the IICEM in the facilitation of access to agricultural inputs?		
- What are the difficulties that you have by using the supply system?		
- What are the opportunities that you have in the supply of agricultural inputs?		
- Other (please specify)		
III. USE OF EQUIPMENT AND AGRICULTURAL EQUIPMENT	**WITH IICEM/NGOS**	**AFTER IICEM/NGOS**
- What are the hardware and agricultural equipment that you use?		
- What are the infrastructure (shops, biomes of bottom-funds, etc.) that you use?		
- How is organized the supply of hardware		

QUESTIONS	Period: WITH IICEM	Period: AFTER IICEM
and agricultural equipment?		
- How you enjoy the use of the equipment and agricultural equipment?		
- How you enjoy the intervention of the IICEM in access to the materials and agricultural equipment		
- What are your difficulties in the supply of materials and agricultural equipment?		
- What are the opportunities that you have in the supply of hardware and agricultural equipment?		
- Other (please specify)		
IV. ACCESS TO AGRICULTURAL CREDIT		
- Credit **to campaign** : seed, fertilizer	Tontine village------- Private - shopping Private - supplier Project Bank---------- The institutions of micro-finance- --- Body OP---------- Other to clarify	Tontine village------- Private - shopping Private supplier Project Bank---------- The institutions of micro-finance- --- Body OP---------- Other to clarify
- Credit **marketing**	Tontine village------- Project Private - shopping Private - supplier Bank---------- The institutions of micro-finance- --- Body OP---------- Other to clarify	Tontine village------- Project Private - shopping Private - supplier Bank---------- The institutions of micro-finance- --- Body OP---------- Other to clarify
- How you enjoy the intervention of the IICEM in the facilitation of access to credit		
- Difficulties of access to credit **after the intervention of the** IICEM -		
- Other (please specify)		
V: AGRICULTURAL PRODUCTION - what has been the level of change after the participation in the project:	0 No change 1 Increases 2 Decreased	
- The cultivated areas have they increased?		
- The production of various agricultural products has t-it increases:		
- Improvement of the quality of products:		
- What uses do you of your production	Consumption---------- Sale----------	

QUESTIONS	Period: WITH IICEM	Period: AFTER IICEM
	Other----------	
- What are the difficulties related to the production:		
- What appreciation do you of the intervention of IICEM at the production level?		
- Other (please specify)		
VI. PROCESSING OF PRODUCTS	**WITH IICEM/NGOS**	**AFTER IICEM/NGOS**
- Is this what you made of the transformation of your product		
- How is the transformation of your product? (It ságit culture framed by IICEM)-		
- How to sell your products processed?		
- What are the difficulties that you have in the transformation of your products?		
- Is there a difference between the volume of sale of your products after the departure of the IICEM project	0 No change 1 Increases 2 Decreased	
✓ Is there a difference in the quality of your products after the departure of the IICEM project	0 No change 1 Increases 2 Decreased	
- What appreciation do you of the intervention of the IICEM in the processing of products?		
- **Is there anyone that the changes made by IICEM have continued after the departure of the project? If not, explain**	Yes No	
-	**WITH IICEM/NGOS**	**AFTER IICEM/NGOS**
- What are the difficulties related to the processing of your products?		
- Other (please specify)		
VII. MARKETING OF PRODUCTS	**How is the marketing of your products?**	
✓ What appreciation do you of the intervention of the IICEM in the marketing of your products?		
	WITH IICEM/NGOS	**AFTER IICEM/NGOS**
✓ What are the difficulties that you encounter in the marketing of your products?		
✓ Is it that you negotiate the price of your products with multiple buyers?		
✓ Do you of contracts to purchase your products?		

QUESTIONS	Period: WITH IICEM	Period: AFTER IICEM
✓ Is there a difference in the **selling price** of your products after the departure of the IICEM project	0 No change 1 Increases 2 Decreased	
✓ Is there a difference in the **volume of sales** of your products after the departure of the IICEM project	0 No change 1 1 Increased 2 Decreased	
✓ What are the change opportunities for marketing your products after the departure of the IICEM project?	0 No change 1 More interesting 2 Least interesting	
✓ Other (please specify)		

What impacts the political crisis has had on the development of your OP?

Other Comments on the situation after IICEEM depart?

ANNEX V
(REVISED) METHODOLOGY FOR THE SECOND PHASE

(All references to annexes refer to the original)

Presented by: IBTCI/SENESO

16 JULY 2013

During the Rapid Data Base Analysis conducted in June we found that there is sufficient data from the PIV rice program to permit a statistical analysis of the impact of the technical package in that production system. However, the same cannot be said for the sorghum/millet value chain. We know that the bulk of Millet and sorghum production in the IICEM project area is used to satisfy household consumption needs. An unknown portion of that production, however, does make it into the value chain. The data from the PIV Rice system will be analysed as a time series in a trend type analysis. The results of this analysis will be triangulated against more qualitative data gathered during a second phase field inquiry to assess the impact of IICEM on participants in the remaining value chains.

Statistical analysis of the PIV data

The data from the PIV rice production system in Mopti is reliable, that is small measurement error is expected and it is not based on small samples and projections. Accordingly, this data will be used for trend analysis. For example, we expect to be able to graph the productivity and the value of sales per hectare for the groups that have been producing for 4, 3 and 2 years to see if there are trends. Regression analysis will be used to determine correlations between the use of the technological package and the principal output indicators. The hypothesis is that with each year of technical assistance the productivity should increase and the return to participants from application of the skills learned, eg. better price negotiation, should also increase sales. Because most of the participating farmers received technical assistance , credit, and marketing assistance through Farmer's Organizations (Organisations Paysannes or Ops),it should be possible to test the individual or interactive effects of these independent variables and their relative importance.

Key Informant Interviews

Individual interviews with the bankers, processors, traders and suppliers who are participants in the IICEM will be used to obtain their assessment of the program. At the same time, certain quantitative data will be asked of them concerning sales, employment generation and profitability. In the cases where the IICEM provided grants, credit, or other incentives/support, the importance of those supports to the overall business will be asked of the interviewees in order to determine the multiplier effect of IICEM funds and training.

Participant Focus Groups

In the revised technical proposal by IBTCI of March 2013[45] the need to shift to a mixed methods approach was anticipated in the case of participant self-assessment of the impact of project interventions:

> " the impact evaluation will probably shift from a predominantly quantitative approach using numerical data from the 2009 base line, data files from each farming cooperative, and data that will be collected on comparative farming cooperatives, to a qualitative approach of process evaluation reviewing the IICEM inputs along a selected sample of value chains. This will require greater emphasis on the qualitative side of the evaluation involving two key qualitative areas: 1)

[45]IBTCI, MAR 2013. Evaluation of the Integrated Initiatives for Economic Development in Mali (IICEM) Project; SOL-688-12-00001

the analysis of documents reporting the events or inputs for given farming cooperatives and 2) the surveys that will be conducted to ascertain the presence or absence of IICEM inputs. That effort will require interviews with farming cooperative leaders and the use of their opinions as to if and how services from IICEM and other similar programs began and their assessment of them."

The units of analysis, the farming groups and the managers of marketing, credit, and processing enterprises forming the value chains of the four types of crops remain the same as in the first phase assessment, but modifications will be made in the types of questions that will be asked, the manner in which they will be asked and the sampling frame. In addition, the sustainability question will be addressed by interviewing a sub- sample of farming groups that were dropped in the course of the modification of the program to fit the FtF framework in 2012-2013. The individual interviews with value chain businesses will serve as a control group for information gathered from farmer group interviews.

For a sample (see Table 1, Annex1) of farmer organizations in each value chain, focus groups will be held with members of the group. The group discussion will be guided to focus on the question of what participation in the IICEM program means to them compared with the way they farmed, obtained credit, accessed inputs (both seeds and fertilizers), stored and graded quality of grains, and negotiated the marketing of crops, and water management before IICEM. In this way, we will obtain a farmer assessment of the specific components of the IICEM theory of change that should lead to increased production and to link farmers to the value chain. Their assessments would be rated as positive, neutral, or negative per group and relevant assessments by them used to illustrate the points as well as provide ideas for improving the program.

A second section of the group discussions will focus on what the changes identified in the first section mean in terms of the livelihood of the families – changes in health, food security, education, savings, and material wellbeing if that is the case. This aspect will be addressed by weighting the sample of groups interviewed to include women's groups. A limited sub-sample of spouses of interviewed OP members will be included when necessary. Questions on livelihoods will be limited to those specifically tied to the overarching technology issue in order to assure the continuity of information obtained.

Sampling of the groups in the value chains

Because we are using a focus group approach for the majority of interviews in this portion of the field work, the quality of the perceptions given is more important than the quantity. The sampling issue is therefore simplified (see Table 1, Annex 1). We will work with IICEM field personnel to select a limited number of groups to interview. This purposeful selection will be based primarily on OPs that are representative of the OPs within the IICEM system and accessibility. The information sought during the focus group stage is of a perceptual nature – that is, participants perceptions of the impacts of the technology promoted in the project. Therefore, we believe this method will meet criteria for providing the best information as well as being manageable with the resources available.

We anticipate interviews with at least 50 OPs – 30 from the Sikasso zone and 20 from the Mopti Zone. As indicated above, these samples will include sub-samples of women's groups, groups dropped by IICEM and seed producer groups. Value chain participants (input suppliers, financial services providers and marketers) will be selected from among those who have or are currently working with IICEM. This simplified approach will allow us to carry out the field studies within a reasonable logistical framework. We anticipate recruiting and fielding around six two-person teams along with the appropriate vehicle and logistical support.

The Sustainability question

The sustainability of the Linkages that have been introduced to support the technological package (credit, marketing, access to supplies) will be evaluated from two angles. Because of the changes that came with the FtF policy, many producer groups that had been in the program for two or three years were dropped. The degree to which these groups were able to maintain the linkages with suppliers and buyers will serve

as a proxy for information on IICEM's capacity to build commercial relationships between producers and other actors in the value chain. A sub-sample of these groups will be interviewed to assess the sustainability of the IICEM approach by ascertaining how they coped with credit, suppliers and marketing during the cropping cycle since IICEM ended its assistance to them (see Table 2, Annex 1). Interviews with key informants in the value chain cited above will also include questions as to whether they intend to or are able to continue commercial relations with IICEM groups once the project has ended.

In the case of traders, processors, bankers, and input suppliers the approach will be direct interviews about what the IICEM has meant to them in terms of their volume, profits, attention to quality, value added because of IICEM facilitated negotiations, guarantee fund, aggregation of producer crops and, if the case may be, the provision of equipment for better storage or transformation.

Summary

The evaluation of the IICEM project will take a two-prong approach. Where sufficient numerical data exist, as in the Mopti PIV rice production system, we will submit that data to statistical analysis in order to gauge the impact of the technological package on output. Where insufficient statistical data exist, our approach will allow an assessment of the impact on the participating farmers and businesses from their own perspective and within the terms stated in the TO evaluation question. The combination of quantitative and qualitative analysis outlined here is expected to provide rich feedback on the processes implemented by IICEM as well as ideas for improving this type of a program from an FtF perspective and a value chain development perspective.

Summary of Types of Interviews (see Table 1, Annex 1)

1. Focus groups of a sample of PO's with specific questions: structured interviews;
2. Focus groups with female groups of low land rice production PO's;
3. Focus groups with spouses of PO's in specific livelihood questions;
4. Focus groups with dropped out PO's that were sufficiently in charge by IICEM.
5. Individual interviews of a group of selected traders in the Sikasso area, the Mopti area but also a number of non-IICEM traders;
6. Interviews with a number of NGO's that also intervened in the program area for specific questions with the aim to compare;
7. Statistics available from the SAP or EWS if available and reliable.

Expected Responses

1. Impact on production;
2. Impact on marketing in general;
3. Impact on sustainability;
4. Impact on livelihood

ANNEXES

Annex 1

Table I Universe of IICEM Groups that Experienced Two Cropping Cycles or More[46]

Value-chain	Region of Mopti				Region of Sikasso			
	NGO	Cercle	Two Cycles+	Sample	NGO	Cercle	Two Cycles+	Sample
Sorghum/millet in Sikasso, only Millet in Mopti	AMPRODE	Bankass	20+	6	BEACIL	Bougouni	80-	**6**
	AMPRODE	Koro	18+	6	GREFA	Sikasso	51-	6
	-	-			AIDD	Koutiala	23+	6
Rice Lowland	-				GREFA	Sikasso	18-	6
Rice PIV	PEENAL	Mopti,Yavarou and Djenné	49	6[47]	-	-		
Total			87	**18**			172	**24**

Table II Distribution of Dropped Groups by crop and NGO

Value-chain	Mopti IICEM Program				Sikasso IICEM Program			
	NGO		Universe	Sample	NGO/Union	Cercle	Universe	Sample 25%
Sorghum or millet								
					Union Diedougou[48]	Koulikoro	7	1union board group
					AIID	Koutiala	81	6
Potato**	PEENAL		9	NA	GREFA	Sikasso	42	NA
	RCGOP	Tom*	13	NA				
	COFIGES	Gao*	12	NA				
Shallot**	PEENAL		4	NA				
	RCGOP	Tom*	11	NA				
Corn					GREFA	Sikasso	13	5
					BEACIL	Bougouni	14	5
Sweet Pea**					GREFA	Sikasso	20	NA
Mango**					GREFA	Sikasso	12	NA
Rice PIV	RCGOP	Tom*	27	NA				
	COFIGES	Gao*	13	NA				
							Sum	27

[46] This data has to be gleaned from the data bases that IICEM has sent to the evaluation team.

[47] Because these Ops are the subject of the trends analysis, only 6 focus random groups for males and 6 for females are necessary to obtain an assessment of the IIEM facilitated linkages

[48] This case needs to be reviewed from a dropped perspective about all of the linkages to markets, AND see production. Coordination between H & Sokona timing. It is also a key group for the seed certification and production effort of IICEM

							(115)	

Annex 2

Questionnaire Organisations des Producteurs (OP)

Région de:

Cercle de:

Commune de:

Village de:

Nom de l'OP: Date de création de votre OP :

Date de l'interview : Nombre adhérents de l'OP :

Nom enquêteur (s): Nombre d'années de partenariat avec IICM :

QUESTIONS	PERIODE: SANS IICEM	PERIODE: AVEC IICEM
I. CHAINES DE VALEUR DE L'OP:		
✓ Riz PIV :		
✓ Mil :		
✓ Sorgho :		
✓ Riz Bas-fonds :		
✓ Autres (à préciser)		
II: UTILISATION D'INTRANTS AGRICOLES		
- Quels sont les intrants agricoles que vous utilisez? (semences; engrais;...)		
- Quels sont les intrants agricoles que vous recevez de IICEM?		
- Comment est organisé l'approvisionnement en intrants agricoles?		
- Comment appréciez vous l'utilisation des intrants agricoles?		
- Comment appréciez vous l'intervention de l'IICEM dans la facilitation de l'accès aux intrants agricoles?		
- Quelles sont les contraintes que vous avez dans l'approvisionnement en intrants agricoles?		
- Quelles sont les opportunités que vous avez dans l'approvisionnement en intrants agricoles?		
- Autres (à préciser)		
III. UTILISATION DU MATERIEL ET EQUIPEMENT AGRICOLES		
- Quels sont les matériaux et équipements agricoles que vous utilisez?		
- Quels sont les matériaux et équipements agricoles que vous recevez de IICEM?		

QUESTIONS	PERIODE: SANS IICEM	PERIODE: AVEC IICEM
- Comment est organisé l'approvisionnement en matériaux et équipements agricoles?		
- Comment appréciez vous l'utilisation du matériel et équipement agricole?		
- Comment appréciez vous l'intervention de l'IICEM dans l'amélioration de l'accès aux matériaux et équipements agricoles		
- Quelles sont vos contraintes dans l'approvisionnement en matériaux et équipements agricoles?		
- Quelles sont les opportunités que vous avez dans l'approvisionnement en en matériaux et équipements agricoles?		
- Autres (à préciser)		
IV. ACCES AU CREDIT AGRICOLE		
- Source de credit agricole (Banque,IMF, etc.)		
- Crédit **de** campagne: semences, engrais		
- Crédit de commercialisation		
- Comment appréciez vous l'intervention de l'IICEM dans l'accès au crédit		
- Contraintes d'accès au crédit		
- Autres (à préciser)		
V: PRODUCTION AGRICOLE		
- Les superficies cultivées ont elles augmenté?		
- La production des différentes chaines de valeur a t-elle augmenté:		
- Amélioration de la qualité des produits:		
- Quelles utilisations faites vous de votre production		
- Contraintes liées à la production:		
- Quelles sont les opportunités de la production de vos produits?		
- Quelle appréciation faites vous de l'intervention de IICEM au niveau de la production?		
- Autres (à préciser)		
VI. TRANSFORMATION DES PRODUITS		
- Comment se fait la transformation de vos produits?		
- Quels sont les produits transformés que vous avez?		
- Comment se vendent vos produits transformés?		
- Avez vous des contrats d'achat de vos produits transformés?		
- Quelle appréciation faites vous de		

QUESTIONS	PERIODE: SANS IICEM	PERIODE: AVEC IICEM
l'intervention de l'IICEM dans la transformation des produits?		
- Quelles sont les contraintes que vous avez dans la transformation de vos produits?		
- Quelles sont les opportunités de transformation de vos produits?		
- Autres (à préciser)		
VII. COMMERCIALISATION DES PRODUITS		
- Comment se fait la commercialisation de vos produits?		
- Avez vous de contrats d'achat de vos produits?		
- Comment se fixe le prix de vos produits?		
- Quelle appréciation faites vous de l'intervention de l'IICEM dans la commercialisation de vos produits?		
- Quelles sont les contraintes que vous rencontrez dans la commercialisation de vos produits?		
- Quelles sont les opportunités de la commercialisation de vos produits?		
- Autres (à préciser)		
VIII. DURABILITE ACTION IICEM		
- Les interventions de l'IICEM dans votre OP sont elles durables?		
- Quelles sont vos appréciations générales des interventions de IICEM?		
- Quelles sont vos suggestions pour assurer la durabilité des interventions de IICEM		
- Autres (à préciser)		
IX. BIEN ETRE		
- Vos revenus ont-ils augmenté?		
- Quelles utilisations faites vous de vos revenus?		
- Comment appréciez vous votre bien être?		
- Autres (à préciser)		

Annex 3

Guide de l'entretien – Fournisseurs, Commerçants

Approche sans et avec IICEM

- Nom fournisseur/Entreprise:/_____/
- Numéro de l'entreprise ou Numéro :/_____/
- Domaine d'intervention sur le marché :
  - ✓ Commercialisation /_____/
  - ✓ Approvisionnement intrants /_____/
  - ✓ Transports /_____/
  - ✓ Autres (à préciser) /_____/
- Nombre d'années d'expérience dans l'activité: /_____/

Quelles sont les produits que vous commercialisez ? • Mil • Sorgho • Maïs • Riz: • Niébé	Sans IICEM	Avec IICEM
Chiffre d'affaires :		
Volume d'achats / Ventes :		
Prix Achat :		
Prix Vente :		
Qui fixe les prix ?		
Période de l'achat/vente :		
Qui sont vos clients actuels et vos clients potentiel;		
Couts : • Sacherie/ficelle + aiguille • Transport • Manutention • Frais de tarage • Coût de stockage/conservation • Taxes liées au transport • Autres (à préciser) /_____/ • Quelles sont vos contraintes avec les coûts de transaction	✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓	

Quelles suggestions faites vous pour alléger les coûts de transactions, Etc.		
Nombre d'employés :		
Faites-vous des contrats : • D'achat • De livraison • Autres_____		
Décrire les conditions de ces contrats		
Pre-financement -- • Intrants : • Matériels : • Autres : • Observations et autres :		
Accès aux crédits: Oui/Non • Crédit de campagne • Crédit de commercialisation		
Conditions d'accès aux crédits		
Difficultés d'accès aux crédits		

Annex 4

Guide de l'entretien – Banques institutions financiers

Approche sans et avec IICEM

- **Nom Institution :** /_____/
- **Type :**
  - ✓ Banque : /_____/
  - ✓ Institution de micro finance : /_____/
  - ✓ Autre : /_____/
- **Volume crédits par secteur:**

Secteur	Sans IICEM	Avec IICEM
Commerce		
Industrie		
Transport		
Export /Import		
Production Agricole		

- **Termes crédits : (en proportion du portefeuille général)**

	Avant IICEM	**Avec IICEM**
Court terme		
Moyen terme		
Longue terme		

- **Taux d'intérêt :** **Avant IICEM**/_____/ Avec IICEM /_____/
- **Echéance:** **Avant IICEM**/_____/ Avec IICEM /_____/
- **Taux de remboursement :** **Avant IICEM**/_____/ Avec IICEM /_____/
- **Fonds de garantie :** **Avant IICEM**/_____/ Avec IICEM /_____/
  - ✓ Etat /_____/

- ✓ IICEM /USAID /_____/

- **Quel a été le role du fonds de garantie dans votre strategie v. a v. le secteur agricole ?**
- **Autres produits bancaires disponibles pour les acteurs :**
- **Observations et autres :**

ANNEX VI
KEY QUESTIONS AND SYNOPSIS OF APPROACH

EVALUATION QUESTION	TYPE OF ANSWER/ EVIDENCE REQUIRED	COLLECTION METHOD	SOURCE OF DATA	SAMPLING/ SELECTION	DATA ANALYSIS METHODS
1. How has IICEM's activities resulted in improved livelihoods for members of farming cooperatives and producer organizations?					
See Annex IV D Spouse Questionnaires	Assessment of participant of multiple health, food, income, etc before IICEM vs. After	Group/discussion Interviews	Spouses of Farmer Groups and Female Bas Fond group members	Approximately 20% of the groups, but at least six groups by cropping system in each of the five implementing partner area	Tabulation of Spouse assessment of condition with IICEM compared with before
2. Has IICEM succeeded in helping farmers and farming businesses become more organized, productive, and financially secure?					
See Annex IV A for Key Informant questionnaires for Businesses	Assessment with examples of the business before and after IICEM	Group/discussion Interviews	Key informants managing trading, input, credit and processing businesses	Not a sample – universe of all businesses engaged in the IICEM value chains	Qualitative analysis of responses
See Annex IV C & IV E for Farmer Group Questionnaires	Assessment with examples by the farmer group or cooperative before and after IICEM	Group/discussion Interviews	Groups of farmers from each cropping system in each of the five implementers areas	Approximately 20% of the groups, but at least six groups by cropping system in each of the five implementing partner area	Tabulation of Groups assessment of condition with IICEM compared with before
2a. How well are IICEM-supported millet and sorghum farming cooperatives functioning, when compared to millet and sorghum farming cooperatives receiving no external support? Compare Annex C & D questionnaires					
3. What are IICEM's relative strengths and weaknesses of intervening along the entire rice, millet, and sorghum value chains, as opposed to targeting specific facets?					
See Annex IV A	Assessment	Group/discussion	Key informants	Not a sample –	Qualitative

for Key Informant questionnaires for Businesses	with examples of the business before and after IICEM	Interviews	managing trading, input, credit and processing businesses	universe of all businesses engaged in the IICEM value chains	analysis of responses and assessment of the integrated and interactive effect of the credit, input, marketing and processing facilitation
See Annex IV C & E for Farmer Group Questionnaires	Assessment with examples by the farmer group or cooperative before and after IICEM	Group/discussion Interviews	Groups of farmers from each cropping system in each of the five implementers areas	Approximately 20% of the groups, but at least six groups by cropping system in each of the five implementing partner area	Logical analysis of the integrated and interactive effect of the credit, input, marketing and processing facilitation
3a. When compared to external donor interventions targeting a specific step(s) in a value chain, is IICEM's approach cost-effective?					
4. What is the relative value-added (monetary and non-monetary) of the integration of IICEM's infrastructure with other productivity inputs? Focus on the rice and other processing efforts that involved infrastructure					
4a. What is the reaction of different populations [inside and outside the IICEM intervention] to IICEM's package of infrastructure and productivity inputs?					
See Annex IV C & E for Farmer Group Questionnaires	Assessment with examples by the farmer group or cooperative before and after IICEM	Group/discussion Interviews	Groups of farmers from each cropping system in each of the five implementers areas	Approximately 20% of the groups, but at least six groups by cropping system in each of the five implementing partner area	Logical analysis of the integrated and interactive effect of the credit, input, marketing and processing facilitation
For Non-participating neighbors IV E	Knowldege of participating neighbors' work and benefits with IICEM	informal discussions	Individual males and females	Not a sample – sporadic contact at the time of group interviews	Opinions noted
b. What are the advantages and disadvantages of IICEM's infrastructure activities and its corresponding package of					

inputs when compared to alternative external donor approaches?					
5. Will the relationship between farmers, processors (and/or cereal traders), and banks continue to function without the technical and financial support of IICEM?					
5 a. How are IICEM-supported farming cooperatives continuing to work with processors to create market opportunities?					
See Dropped Groups Questionnaire in Annex IV E and Key Informant interviews for processors, credit, inputs. Annex IV A & B	Group assessment about if and how they continued the credit, input, sales and processor relations facilitated by IICEM	Group discussion of Dropped groups, also during Key interviews ask about how they would continue when IICEM ends	Dropped Corn and Millet groups	Approximately 20% of the dropped groups, but at least six groups by cropping system in each of the five implementing partner area	Qualitative analysis of before and after responses to the effect of the credit, input, marketing and processing facilitation ending in 2011
5 b. Will banks continue to provide credit to farming cooperatives?					
See Key informant interview guide in AnnexIV B	Candid responses explaining the basis for the confidence in the groups or value chains	Individual managers at the national and regional offices	Credit providers	Not a sample, but all credit providers	Logical conclusions or assessments of the responses for consistency and reasons
5 c. What variables factor into banks providing credit after IICEM's intervention has finished? Combined 5 a and 5 b above					
How has the recent instability in the country affected IICEM stakeholder behavior? a. Are farmers continuing to use IICEM inputs? (Annex A, B C & E) b. Are farmers continuing the upkeep of IICEM infrastructure? Annex A c. Are banks continuing to lend credit to IICEM farmers and farming cooperatives? Annex B, C & E					
First in the RDBA interviews with extension agents	Descriptions and examples of impact	One-on-one key informant interviews by Senior National and International Evaluators	Extension Agents	Sample of 32 extension Agents representing all implementers	Categorize and list types of impact on the Implementer and on the credit, marketing and supply

					linakages
Second, as part of the Key interviews Annex IV A & B	Descriptions and examples of impact	One-on-one key informant interviews	Managers of credit, input, processing, and marketing businesses	Not a sample, but all businesses that were involved in the value chain	Categorize and list types of impact on the Implementer and on the credit, marketing and supply linakages
Third, as part of the Farmer Group Questionnaire Annex IV C,D, & E	Descriptions and examples of impact	Group/discussion Interviews	Groups of farmers from each cropping system in each of the five implementers areas	Approximately 20% of the groups, but at least six groups by cropping system in each of the five implementing partner area	Tabulation of types of impacts in relation to linkages and other impacts.

ANNEX VII SUPPORTING DOCUMENTS

1. Annual report: September 1, 2010 - august 31, 2011, integrated initiatives for economic growth in Mali. Contract: EDH-I-00-05-00005-03
2. Cost/benefit analysis of iicem bas?fonds sites, draft report, Prepared by: Pamela Katic-IWMI/West Africa, Regassa Namara - IWMI/West Africa, Jonathan Lautze - USAID/E3/W. May 2012
3. Etude sur le chaine de valeur mil/sorgho au mali, initiatives integrees pour la croissance economique au Mali (IICEM). Contrat No.: EDH-I-13-00005-04
4. Global food security response Mali rice study, Micro report #158
5. IICEM fiches de collecte de données
6. IICEM fiches de collecte de données 2011-2012 organisation paysanne. Incomes and food security through integrated initiatives for economic growth in Mali (IICEM)
7. IICEM maize value chain assessment - August 2010
8. Integrated Initiatives for Economic Growth in Mali. Proposed Modifications to Indicators and Targets Resulting From Program Alignment with Feed the Future Strategy1
9. Mali, FtF 2011 - 2015 Multiyear Strategy, USAID
10. National plan of priority investment in the sector of agriculture (PNIP - SA) of Mali 2011-2015
11. Organisation de la coordination suivi evaluation. Incomes and food security through integrated initiatives for economic growth in Mali - IICEM 2011
12. Performance monitoring plan January 2011 - December 2011 integrated initiatives for economic growth in Mali (IICEM)
13. Performance monitoring plan January 2012 - December 2012 integrated initiatives for economic growth in Mali (IICEM)
14. Performance monitoring plan, January 2013 - December 2013, integrated initiatives for economic growth in Mali (IICEM). Contract No. EDH-I-13-05-00005-08
15. Plan de travail an 3 Septembre 2011 - Décembre 2012 integrated initiatives for economic growth in Mali (IICEM)
16. Plan national d'investissement prioritaire dans le secteur agricole au Mali- 2011-2015 (PNIP), Rapport PNIP-SA Rep. du Mali
17. Questionnaire i for extension agents. Incomes and food security through integrated initiatives for economic growth in Mali (IICEM) 2013
18. Republic of Mali: September 2010; National Plan of Priority Investment in "The Sector of Agriculture (PNIP-SA) of Mali, 2011-2015
19. Superficies emblavees par campagne par membre de l'op incomes and food security through integrated initiatives for economic growth in Mali (IICEM)

20. US AID_IICEM - EAT: Commercial Legal and Institutional Reform form Agricultural Value Chains in Mali, Agenda for Action February 2012

21. US AID_IICEM: Avril 2011; Etude sur la Chaîne de Valeur MIL/SORGHO au Mali, Contrat: EDH-I-00-05-00005-04, par Abdoulaye FALL

22. US AID_IICEM: avril 2011; Promotion de la Compétivité des Produits Agricoles Maliens, Processus de Plaidopyer pour la réduction de Coûts d'Approche des céréales au Marchés.

23. US AID_IICEM: Avril 2011; Quarterly Report Mars-Mai 2010

24. USAID cost/benefit analysis of IICEM bas-fonds sites - Sikasso, Mali. May 2012

25. Work plan year 1 January 2010- august 2011 contract: edh-i-00-05-00005-03, to 13 integrated initiatives for economic growth in Mali (IICEM)

26. Year 4 work plan - proposed extension January 2013 - December 2013 improving farmer incomes and food security through integrated initiatives for economic growth in Mali (IICEM)

27. USAID_IICEM: avril 2011; Etude sur la Chaîne de Valeur MIL/SORGHO au Mali, Contrat: EDH-I-00-05-00005-04, par Abdoulaye FALL

28. USAID_IICEM: avril 2011; Promotion de la Compétivité des Produits Agricoles Maliens, Processus de Plaidopyer pour la réduction de Coûts d'Approche des céréales au Marchés.

29. USAID_IICEM: Avril 2011; Quarterly Report Mars-Mai 2010

30. USAID_IICEM: Avril 2011; Quarterly Report September-November 2010

31. USAID_IICEM: Avril 2011; Quarterly Report November 2010- February 2011

32. USAID_IICEM - EAT: Commercial Legal and Institutional Reform form Agricultural Value Chains in Mali, Agenda for Action February 2012

33. Republic of Mali: September 2010; National Plan of Priority Investment in "The Sector of Agriculture (PNIP-SA) of Mali, 2011-2015