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# QUARTERLY REPORT MARCH – MAY 2009

**INTEGRATED INITIATIVES FOR ECONOMIC GROWTH IN MALI  
(IICEM)**

Contract: EDH-I-00-05-00005-00, Order No. 05

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*A rice farmer from Gladié in Sikasso visits the irrigation infrastructure construction site which will improve farming for the many women who farm on this land.*

### **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

AOM	Citrus Fruits and Edible Oils of Mali (Agrume et Oléagineux du Mali)
AVRCD	Asian Vegetable Research Development Center
BNDA	National Bank for Agricultural Development (Banque Nationale de Développement Agricole)
BOA	Bank of Africa Mali
CAPAM	Mandela Agro-Pastoral Cooperative (Coopérative Agro-pastorale de Mandela)
CESPA	Centre de Services de Production Audiovisuelle
CRRA	Regional Center for Agronomical Research (Centre Régional de Recherche Agronomique)
DNA	National Administration for Agriculture (Direction Nationale de l'Agriculture)
DNCN	National Administration for Nature Conservation (Direction Nationale de la Conservation de la Nature)
DRA	Regional Administration for Agriculture (Direction Régionale de l'Agriculture)
DRCN	Regional Administration for Nature Conservation (Direction Régionale de la Conservation de la Nature)
NRM	Natural Resource Management
IICEM	Initiatives Intégrées pour la Croissance Economique au Mali
IER	Institute of Rural Economy (Institut d'Économie Rurale)
IFDC	International Center for Soil Fertility and Agricultural Development
LOA	Agricultural Orientation Law (Loi d'Orientation Agricole)
NGO	Non-Governmental Organization
NRM	Natural Resources Management
OP	Producer Organization (Organisations Paysannes)
ODRS	Office for the Rural Development of Sélingué
PCDA	Project for Agricultural Competitiveness and Diversification in Mali (Projet de Compétitivité et de Diversification Agricole au Mali)
PIV	Irrigated Village Perimeter (Périmètre Irrigué Villageois)
PRODEPAM	Development Program for Agricultural Production in Mali (Programme de Développement de la Production Agricole au Mali)
UCPMY	Cooperative Union of Yanfolila Mango Planters (Union des Coopératives des Planteurs de Mangue de Yanfolila,)
URCEP	Regional Union of Potato Traders and Exporters (Union Régionale des Commerçants Exportateurs de Pommes de Terre)
USAID	United States Agency for International Development
SICA	Société d'Intérêt Collectif Agricole (Union of Potato Growers and Traders)
SCOFLES	Cooperative Society for the Commercialization of Fruits and Vegetables of Sikasso (Société Coopérative de Commercialisation des Fruits et Légumes de Sikasso)

# INTRODUCTION

Initiatives Intégrées pour la Croissance Économique au Mali (IICEM), is a three year project implemented by Abt Associates, Inc. and its partners ACDI/VOCA, IBEX, and Sheladia Associates, Inc. IICEM promotes economic growth by increasing efficiency in five value chains: rice, potatoes, mangoes, shallots and tomatoes.

This report highlights the achievements over the third quarter of the project's second year, from March – May 2009.

## PROJECT OBJECTIVES

IICEM strategic objectives focus on improving efficiency at key stages of the value chain, improving key services such as finance, and other related areas. The full set of objectives is as follows:

- Expansion/ Rehabilitation of irrigated agriculture and intensification of agricultural production in target areas
- Enhancing access to finance
- Enhancing access to markets and trade
- Introducing, transferring, and applying improved technologies
- Increasing control of village associations over natural resources and the environment
- Enhancing the enabling environment for agriculture, trade, and investment
- Ensuring better coordination among programs

Cutting across these strategic objectives is a special focus on promoting equality between men and women in project activities and building capacity in local institutions to ensure sustainability.

This quarter, there has been highlighted participation of women in sectors such as lowland rice farming in the Sikasso region and shallot production in the Dogon Plateau and Lake Horo zones.

## STRUCTURING THE REPORT BY VALUE CHAIN AND INTERMEDIATE RESULT

The IICEM value chain approach starts with analyzing end markets for each target commodity, mapping the value chain from input suppliers through producers, marketers, processors and retailers and identifying constraints within the chain to meeting the identified market needs. The work plan lays out the activities IICEM will implement to address these constraints. This quarterly report presents IICEM progress in the third quarter of year 2 against those activities, first organized by value chain, and within each value chain, by IICEM's five applicable intermediate results:

- Intermediate Result 1: Increased Agricultural Productivity
- Intermediate Result 2: Improved Access to Markets and Trade
- Intermediate Result 3: Enhanced Access to Finance
- Intermediate Result 4: Improved Agricultural Environment
- Intermediate Result 5: Improved Trade and Investment Environment

The report's final section presents progress against IICEM's Intermediate Result 6, Improved Natural Resource Management. The section on Natural Resource Management also includes activities on conservation of biodiversity.

# EXECUTIVE SUMMARY

## TECHNICAL APPROACH

The IICEM project applies the value chain approach to promoting economic growth focusing on five target commodities: Rice, potatoes, mangoes, shallots, and tomatoes. This approach aims to foster the development of vertical and horizontal relationships among actors involved in the value chain. Activities are intended to bring about increased output more attuned to market needs, improve access to markets and finance and improve the business environment, leading to expanded opportunities and increased incomes for small holder farmers.

As part of the approach, IICEM focused on the following areas that emerged as critical in the five selected value chains:

- Expanding the area under some form of water management through the rehabilitation of lowland and irrigated perimeters (Lack of water is one of the major risks facing Malian producers);
- Intensifying agricultural production through the dissemination of best agricultural production practices, facilitating access to improved seeds, and providing training in proper use of fertilizers;
- Assisting farmers to obtain financing to ensure farmers can acquire inputs, access to motorized pumps, and the adoption of processing technologies;
- Facilitating access to markets by improving the quality of target products, conducting market studies, and fostering strategic business alliances;
- Improving the agricultural, business, and investment environments through institutional strengthening of APEX structures, preparing them for favorable market positioning and enabling them to defend their interests through appropriate lobbying of the country's authorities;
- Developing a mutually beneficial network comprised of all value chain actors including input suppliers, producers, traders, banks, microfinance institutions and processors.

## RICE VALUE CHAIN

IICEM has begun irrigation infrastructure rehabilitation at all sites which will enable a reduction in productions costs and improve rice productivity over 1259 hectares of Irrigated Village Perimeters. In turn, farmers will see a rise in incomes. In more detail, IICEM:

- Developed relationships between technical government partners like DRA, CRA, and DRGR;
- Introduced improved water management through rehabilitating irrigation infrastructure;

- Improved production practices and techniques (production and multiplication of improved seed varieties, integrated soil fertility management, and integrated crop management);
- Reinforced skills of farmer organizations;
- Carried out System of Rice Intensification (SRI) demonstrations;
- Built relationships between farmers and local retailers;
- Constructed rice storehouses for better flow into markets and improved selling prices.

## POTATO VALUE CHAIN

IICEM renovated 20 potato storehouses for SICA members and is in the process of building 22 storehouses for SICA farmers' cooperatives. These storehouses will enable farmers to increase potato storing capacity for a controlled outflow of potatoes into the markets, and thus to receive higher returns. In more detail, IICEM:

- Strengthened relationships between input suppliers : Sikassoise, Inter Agro, and YARA;
- Improved farmers' access to high quality inputs;
- Improved production techniques and practices (new potato variety demonstrations);
- Institutionally reinforced of farmer organizations;
- Constructed and equipped 22 new potato storehouses with an approximate 800 ton capacity;
- Rehabilitated 20 potato storehouses with an approximate 160 ton capacity.

## MANGO VALUE CHAIN

Training sessions were aimed at various farmers, processors, and traders to help them better satisfy market demands. IICEM efforts also resulted in the organic certification of certain partner processing centers. In more detail, IICEM:

- Established a quality control system for 180 organic certified farmers and 102 Global Gap certified farmers;
- Created 100 signs rendering farmers in compliance with the organic certification regulations;
- Trained 110 farmers in orchard grafting techniques;
- Trained 150 farmers in harvest techniques;
- Improved processing centers to be in compliance with organic certification (BIO) standards (built crates and sheds);
- 4 processing centers and 80 mango farmers were inspected for ECOCERT certification;
- Established a fresh mango supply system for processing centers
- Improved access to finance for three fresh mango exporters

## SHALLOT VALUE CHAIN

IICEM's major shallot activity this quarter was the restructuring of APEX farmers' organizations and the re-establishment of the Union of Shallot Farmers and Processors on the Dogon Plateau. This will allow farmer's organizations to work together to improve market access through group sales and negotiating leverage to achieve higher profits. In more detail, IICEM:

- Introduced shallot-specific fertilizer, Yara, to farmers and conducted experiments, providing technical supervision of experimentation plots;
- Restructured the Dogon Plateau's Shallot Farmers and Processors Union into one APEX organization, collaborating with FAO, PCDA of Mopti, World Bank, and local authorities;
- Developed women's leadership within cooperatives.

## TOMATO VALUE CHAIN

IICEM focused on diffusing results of activities aimed at combating the tomato-virus. In addition to this, IICEM has been making efforts to inform tomato farmers from other regions of Mali in order to have a wide-scale adoption of the Integrated Pest Management techniques. Joint efforts will help to make a lasting impact on reducing cases of tomato virus in Mali. In more details, IICEM:

- Spread tomato virus combating techniques to the ODRS, OHVN, and Segou (PCDA) zones;
- Captured techniques on communication materials for information sharing: Designed and produced a documentary, fliers, and posters featuring IICEM's steps towards combating the tomato virus.

## NATURAL RESOURCES MANAGEMENT AND BIODIVERSITY

This quarter, IICEM made significant progress in protecting 74,300 hectares of the Bougouni-Yanfolila complex forest. In addition, results from various surveys conducted on the Sourou Flood Plain make this zone a potential candidate for the Ramsar sites, wetlands of international importance. In more details, IICEM:

- Undertook flora, fauna, and forest inventory surveys of the Bougouni-Yanfolila forest complex, in addition to marking the limits of the protected areas;
- Developed a pilot study for the classification of the Galerie Forest of the Bagoé River;
- Conducted an inventory survey of the bird species and hippopotamus in the Sourou flood plains and the Inner Niger Delta;
- Initiated contact with various actors involved in the development of the Zindiga conventions in Gao and those needed in the agreement protocol for marking Klela's pastoral path in Sikasso;
- Building awareness and support among rural populations in order to implement conventions approved in Year 1;
- Reconstruction of dune pastures to prevent sand from moving onto farmland.

# RICE VALUE CHAIN

## IR I INCREASED AGRICULTURAL PRODUCTIVITY

### **Activities RI.1 - RI.4 Rehabilitation and expansion of irrigation infrastructure, Strengthen water management capacity and access to water-pumps**

Rehabilitation and expansion of irrigation infrastructure, which begun during Year 1 continues during IICEM's 3<sup>rd</sup> quarter. Approximately 20 sites (Mopti-8, Timbuktu -5, Gao-3, Sikasso-4) covering a total of 1259 hectares will benefit from improved irrigation infrastructure. Of this total area, 880 hectares will be rehabilitated and irrigation will be extended to 379 hectares of rice land which can not presently be irrigated. The affected area by region is: 251 hectares in Mopti, 527 hectares in Timbuktu, 31 hectares in Gao and 450 hectares in Sikasso.

This construction work will last approximately three months per site and will consist of excavation, dike construction, work on rehabilitating canals (foundation, elevation, coating), and other infrastructure work.

This work is being carried out in collaboration with technical government administrations such as the Regional Administration for Rural Engineering (DRGR) and the Regional Administration for Agriculture (DRA). In addition, 4 partner NGO's and 5 research & supervision firms will closely monitor the execution of irrigation works.

### **IICEM's Irrigation Work in the Mopti Region**

In the Mopti region, IICEM will invest 271,978,260 FCFA (\$593,000) in the rehabilitation of irrigation infrastructure and in the improvement of land used for rice cultivation. Infrastructure rehabilitation will consist of resurfacing more than 7,400 linear meters of primary and secondary waterways which will result in minimized water loss and significantly reduced costs related to water pumping. Not only will reduced costs lead to higher incomes for farmers, but it will alleviate a major constraint of pump- dependant irrigation systems. These repairs are to improve production and productivity.

This irrigation work will be carried out using two methods according to zone specifications and time constraints. One part of the work will be done by community participation under supervision of DRGR technicians and partner NGO's, while the second part will be executed by construction firms. The estimated cost of irrigation work through community participation is about 9,000,000 FCFA (approx. \$18,000). See Table 1 and Table 2 in the annex for breakdown of Mopti's irrigation sites.

This quarter, all necessary preparatory actions were taken to inform communities, determine measurements of work sites, introduce parties to construction sites, and estimate materials needed.

### **IICEM's Irrigation Work in the Timbuktu Region**

Five sites in the Timbuktu region will undergo irrigation improvement implemented by construction firms namely, Kabara, Kondi, Goubo, Siboney, and M'Bétou. IICEM will invest 364, 435, 842 FCFA (approx. \$795,000) in improving irrigation infrastructures at these sites. See Table 3 in the Annex for a breakdown Timbuktu sites to be developed by construction firms.

Irrigation work in Timbuktu will be mostly carried out through contracting a construction firm, with the exception of one site, Baramandougou, which will be executed by community participation. The estimated cost of irrigation work through community participation is 16,557,400 FCFA (approx.

\$36,000). The community will be providing over 11% of this amount while IICEM will cover the remainder.

This quarter, all necessary preparatory actions were taken to inform communities, determine measurements of work sites, introduce parties to construction sites, and estimate materials needed.

### **IICEM's Irrigation Work in the Gao Region**

Construction work will be carried out at 3 sites (Djefilani, Adourourou, and Tondithio) in Gao which make up a total of 3,405 linear meters of waterways to be resurfaced. This work, which will be implemented by construction firms, amounts to 66, 825,000 FCFA (approx. \$145,000). For a breakdown of sites, please see Table 4 in the Annex.

Irrigation work in Gassi will be completed through community participation, supervised by partner NGO CONFIGES, a topographer, and a DRGR technician.

This quarter, all necessary preparatory actions were taken to inform communities, determine measurements of work sites, introduce parties to construction sites, and estimate materials needed.

### **IICEM's Irrigation Work in the Sikasso Region**

In Sikasso, irrigation infrastructure work is being carried out by construction firms. Four sites namely, Finkolo, Gladié, Niéna, and Kouroumasso are currently under full construction.



Photo 1: Construction workers at Finkolo village in Sikasso are fully engaged in infrastructure work

### **Improving Irrigation Infrastructures**

This quarter, IICEM launched construction of irrigation infrastructures at 20 sites throughout Mali. This will improve farming productivity on over 1259 hectares of land. Higher productivity means increased incomes and food security for farmers.

### **Activities RI.5 and RI.6 Increase access to improved seeds**

#### **Receipt of NERICA4 improved rice variety seeds from CRRA of Sikasso**

IICEM signed a contract with the Center for Agronomic Research (CRRA) in Sikasso for the 2008-2009 farming season in order to facilitate farmers' access to improved rice seeds. Through this collaboration, 5 tons of NERICA 4 seeds (1<sup>st</sup> Regeneration –R1) were produced by CRRA. Seeds have been received by Sikasso's IICEM field office and will be used to conduct community-based seed multiplication training on 70 hectares of land for women's farmer organizations in the Sikasso region. The aim of this activity is to produce improved rice seeds to satisfy participating farmers' individual needs that will enable rice production and productivity to increase. IICEM's efforts contribute greatly to the Malian Government's *Rice Initiative*.

### **Rice seed production at the CRRA station in Diré, Timbuktu**

After evaluating quantities of improved rice seeds available for IICEM from the Diré station, IICEM received 5 tons consisting of Kokoni, Watt 310, Nionoka, Wassa varieties.

### **Rice seed production at the CRRA station in Gao**

At the Bagoundié station in Gao, just over 2 tons of seeds have been produced and made available to IICEM. Improved seed varieties include Watt 310, Nionoka, and Wassa.



### **New Seeds, New Profits**

Women from Association FOKABEN in Loutana produced 22 tons of rice seeds this year to serve individual needs and for sale. Seed sales brought in almost \$11,000 in new income. IICEM to date has trained 650 women in producing high-performance seeds.

### **Acquisition of rice seeds produced at the community level in Sikasso**

Community-based seed multiplication is a very efficient method for making high-quality basic seed available to smallholder farmers. To this effect, IICEM, in collaboration with the Regional Administration for Agriculture (DRA) of Sikasso, undertook basic seed multiplication with women's farmer organizations at the community level. The DRA of Sikasso, according to IICEM's agreement protocol, furnished IICEM with over 2.2 tons of rice variety NERICA 4 basic seed (R2), which was produced by the women's farmer organization of Loutana. These seeds will be used by partner women farmer organizations for rice production on 45 hectares of land. In addition to the basic seed received by IICEM, this multiplication activity was able to satisfy the individual seed needs of all members of the participating women's groups.

### **Basic Rice Seed Multiplication in the Timbuktu Region**

During this quarter, quantities of basic improved rice seed available at the rural level were assessed. These amounts and monetary values are shown in Table 5 of the Annex. After members from 5 participating farmer organizations satisfied their basic seed needs, 10 tons were made accessible to local smallholder farmers. See the table below for details:

## QUANTITY OF BASIC SEED AVAILABLE IN TIMBUKTU

Farmer Organization	Variety		Quantity (in Kg)	Unit Price (in FCFA)	Total (in FCFA)
Kabara	Nionoka	3 500	4,900	300	1,470,000
	NERICA	1 400			
Bourem Inaly	Nionoka	1 638	3,131	400	1,252,400
	Watt 310	1 493			
Kondi	Nionoka	800	1,600	400	640,000
	Watt 310	800			
Beregoungou Farmers' Association	Watt 310		100	400	40,000
« Gorkome » Agicultural Cooperative of Kano	Nionoka		360	400	144,000
Totals			10,091Kg		3,546,400 FCFA

### Community-Based Basic Rice Seed Multiplication in the Gao Region

In the Gao region, after satisfying individual seed needs of members from participating farmer organizations, 13 tons of improved basic rice seed produced at the community level has been made accessible to rural farmers. The selling price of this high quality basic seed is 300 FCFA per kilogram. The 13 tons of basic seed will be sufficient to plant 262 hectares.

### Activity RI.7 Build capacity of producers and disseminate improved production practices including SRI

The following activities were carried out in Timbuktu during IICEM's third quarter:

- 20 farmers (6 women) of Berengoungou received training in rapid composting. 200 kilograms of compost were produced and will serve as fertilizer during the 2009-2010 farming season.
- Monitoring of rapid compost production at 6 farmer sites in Kabara was carried out.
- Testing of the System of Rice Intensification (SRI) technology in 6 farming plots was conducted at Kabara and Koriomé.
- Selection of 16 farmers from Berengoungou (3 men and 2 women), Kabara (6 women), and Bourem Inaly (5 men) to conduct SRI tests during the upcoming farming season.
- Assistance was provided to various farmer organizations in preparation of the 2009-2010 farming season (establishment of farming schedules).

### Rice Production Results from Partner Sites in the Timbuktu Region

#### *Rice Farming on Irrigated Village Perimeters*

During the 2008-2009 farming season, farmers at 17 Irrigated Village Perimeters (PIV) produced 2,742 tons of paddy rice on 555 hectares of land. The average yield was found to be 4.95 tons per hectare. To see a detailed chart of rice production at the various sites, see Table 5 in the Annex.

#### *Rice Farming on Lowlands*

Farmers in the Lake Horo zone produced rice on 4,650 hectares of lowland farmland. With a yield of 3 tons per hectare, farmers produced a total of 13,950 tons of rice.

## **IR.2 IMPROVED ACCESS TO MARKETS AND TRADE**

### **Activity R2.1 Promoting grouped sales and warehousing**

During this quarter, IICEM rehabilitated rice storage facilities for 6 women's organizations from the following villages in Sikasso : Loutana, M'Pégnesso, Nantoumana, Bamadougou, Finkolo Ganadougou and Gladié. These storehouses were improved using local materials and a high degree of community participation, consisting of furnishing mud bricks and masonry work.

Rice storehouses managed using a system of inventory credit, called "Credit Stockage Vivrier (CSV)" in French, are established to help farmers receive better selling prices for their goods. After harvest, farmers can store rice rather than flooding the market with their products. Once rice supplies diminish in markets, farmers can slowly sell rice to meet demands, receiving higher prices per unit. Relationships between CSV-possessing farmers and local banks have been developed so that farmers can receive small loans to satisfy day-to-day needs as rice is being stored. As rice is sold, farmers reimburse loans. This storehouse rehabilitation will enable women's farmer organizations to increase storing capacity from 50 tons to more than 180 tons of rice paddy, which will result in a significant increase in returns.

Storehouses in Bamadougou, Nantoumana, M'Pégnesso et Loutana are entirely finished while those in Finkolo Ganadougou and Gladié are in progress.

### **Sikasso Region**

Since February 2009, 35 tons of rice paddy from the 2008-2009 farming season has been in storage. Marketing of this rice has not yet begun. For a breakdown of quantities of rice stored at each site, please see Table 6 in the Annex.

### **Timbuktu Region**

During IICEM's 3rd quarter, 13 farmer organizations sold 203 tons of paddy rice in the local markets for a total revenue of 34,807,249 FCFA. Additional data will be provided in the next quarterly report as rice marketing is still underway. For detailed marketing data per site, see Table 7 in the Annex.

### **Gao Region**

Five farmer organizations in the Gao region produced a total of 31 tons of basic rice seed. 18 tons of seed were sold by these PIV seed farmers while 13 remains in storage.

## **IR3 ENHANCED FINANCIAL SERVICES**

### **Activities R3.1-R.3.3 Facilitate access to input financing; Develop internal skills to secure loans; and Strengthen skills in financial management**

### **Mopti Region**

During this quarter, IICEM submitted 12 funding applications to BNDA of Mopti for a total financing request of 65,471,800 FCFA, which will be used to purchase a motorized pump, threshing machine, and inputs. Funding will be used during the 2009 off-season and the 2009-2010 regular farming season. See Table 8 in Annex for a detailed information on these funding requests.

### **Timbuktu Region**

IICEM provided advisory services to farmer organizations for the completion of loan applications submitted to BNDA. Financing will be used to carry out production and sales activities as well as purchase production equipment. During IICEM's third quarter, 5 farmer organizations have

received financing or are in the process of receiving a total of 45,523,485 FCFA. See Table 10 in the Annex for detailed financing information per farmer organization.

During this quarter, IICEM is monitoring the loan reimbursements of 10 partner farmer organizations who previously received financing.

### **Gao Region**

In Gao, IICEM conducted awareness building activities focused on the necessity of loan reimbursement and consequences of defaulting. In addition, IICEM provided advisory assistance to 3 farmer organizations for the completion of loan applications to purchase production equipment (motorized water pumps) and inputs for 2009 off-season farming. Financing requests total 6,400,000 FCFA.

## **IR 4/5 IMPROVED AGRICULTURAL AND TRADE ENABLING ENVIRONMENT**

### **Activity R4.I Improving capacity of cooperative unions to defend members' interests**

#### **Functional Literacy Training for Women's Organizations in Sikasso**

IICEM provided functional literacy training for 240 women from 4 Sikasso women's organizations of Bamadougou, M'Pégnesso, Loutana, and Nantoumana villages.

#### **Technical Assistance for Farmer Organizations in Mopti**

This quarter, IICEM provided technical assistance to improve productivity and strengthen institutional capacities of partner farmer organizations in the Mopti Region:

- Provided technical assistance in the monitoring of off-season and early regular season farming for farmers of Sah, Diogui Gomni Kondey, and Wafa Koy villages.
- Carried out installation of ComptEx accounting tools and monitoring of practices at the organization level with 12 farmer organizations and 1 input boutique. See Table 11 in Annex for list of participating organizations.

#### **Technical Assistance for Farmer Organizations in Gao**

- Conducted awareness building activities for System of Rice Intensification (SRI) demonstrations. Following activities, 35 farmers volunteered to participate in SRI demonstrations at 7 sites.
- Provided training in GIFS/GIC techniques and crop maintenance during 2009 off-season farming for farmers of Tonditihio, Djéflani and Adourourou.
- Provided technical training to farmer organizations in maintenance of irrigation canals, soil preparation, identification of input needs, mobilizing resources, and water pump maintenance in preparation for the upcoming farming season.
- Provided training to farmer organizations in preparing income statements and establishing crop calendars.

# POTATO VALUE CHAIN

## IR 1 INCREASED AGRICULTURAL PRODUCTIVITY

### **Activities PI.1-PI.3 and PI.5 Facilitate access to quality potato inputs, Training and starter kits for potato production, Introduce new potato varieties through a Public-Private Alliance**

In Sikasso, IICEM in partnership with potato seed suppliers, Inter Agro and Sikassoise, set-up 8 demonstration plots to test new potato varieties this quarter. Results will be shared with potato farmers to enable increased potato yields.

In Mopti, IICEM conducted potato farming demonstrations at the following sites to promote advantages of crop diversification and to create new sources of income :

- At N'Gomi village, 35 members of a women's farmers organization participating in potato farming demonstrations produced 1,598 kilograms of potatoes on their Irrigated Village Perimeters;
- At Bagui village, 6,583 kilograms of potatoes were produced from potato production demonstrations.

In Timbuktu, IICEM conducted potato production demonstrations for 8 farmer organizations, producing a total of 118 tons of potatoes.

In Gao, IICEM recorded and analyzed data found from potato variety tests and production activities that were carried out with 4 farmer organizations. In all, 8 tons of potatoes were produced for sale.

### **Activities PI.4 and PI.6 Introducing new technologies and disseminating good practices to existing producers**

IICEM aims to improve the potato value chain by increasing potato yields through best seed sowing techniques, by reducing watering time, and better managing production costs. The following activities were carried out in preparation for large scale potato production:

- Awareness-building among SICA's cooperative members on the advantages of large-scale potato production;
- Informed farmers of conditions for conducting large scale potato production tests;
- Identified 3 villages in the Sikasso region (Kouroumasso, Sokourani, and Karamogobougou) appropriate to host large scale introductory potato farming technology tests.

## IR 2 IMPROVED ACCESS TO MARKETS AND TRADE

### **Activity P2.1 Promote grouped sales by producer organizations**

During IICEM's 3<sup>rd</sup> quarter, 253 members of SICA organizations in Sikasso received training enabling potato sales committees to better track members' sales. In addition, IICEM collected sales information on national and sub-regional markets and made this available to potato farmers. The following training sessions were offered:

- Training potato sales committees in preparing income statements;
- Training potato sales committees in marketing.

### Activity P2.2 Progress of local/national potato sales

In Sikasso potato sales of partner farmers reached 70% of IICEM's 2008-2009 targets. IICEM's training of partner farmers enabled them to fix common selling prices. After IICEM helped to establish and train sales committees of SICA cooperatives, they went on to set up joint selling points. These actions led to an increase in the potato outflow rate.

The tables below demonstrate the volume and value of potato sales by IICEM's partner farmers :

<b>Volume of Potato Sales in IICEM's 3rd Quarter (in tons)</b>			
Product	Volume Sold during Quarter	IICEM's 2008-2009 Target Volume	Rate Achieved (in %)
Potato	7443	10500	70

<b>Value of Potato Sales in IICEM's 3rd Quarter (in Billions of FCFA)</b>			
Product	Value Sold during Quarter	IICEM's 2008-2009 Target Value	Rate Achieved (in %)
Potato	1.3	1.8	72

In Timbuktu, 8 partner farmers organizations who participated in IICEM's potato demonstrations sold 79 tons of potatoes for a total of 19,661,600 FCFA in revenues. See Table 15 in Annex for detailed information by farmer organization.

### Activity P2.3 Promoting sub-regional potato exports

IICEM assisted in gathering and making available information on sub-regional sales, permitting exporters to receive higher profits from potato exports. The following table features volume and value data of potatoes exported to the sub-region (Ivory Coast) from January to March 2009.

<b>Volume of Potato Exported to the Sub-Region (in tons)</b>			
Product	Volume Sold during Quarter	IICEM's 2008-2009 Target Volume	Rate Achieved (in %)
Potato	1975.26	2500	79

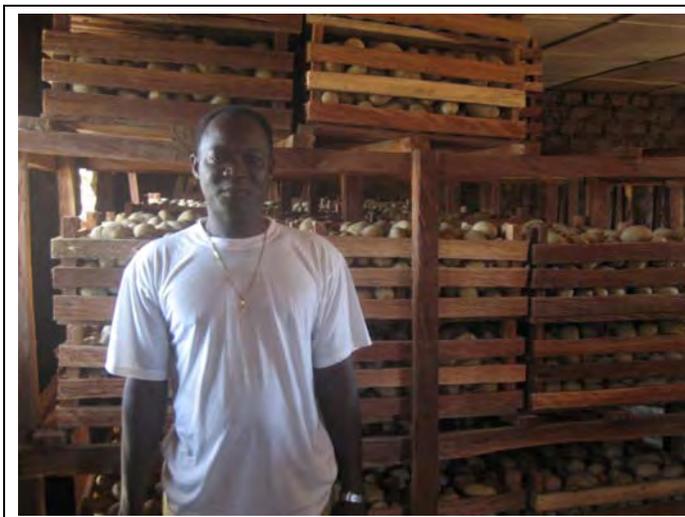
  

<b>Value of Potato Exported to the Sub-Region (in Million of FCFA)</b>			
Product	Value Sold during Quarter	IICEM's 2008-2009 Target Value	Rate Achieved (in %)
Potato	553	937.5	59

### **Activity P2.4 Renovating storehouses for improved potato conservation and sales**

IICEM renovated 20 storehouses of SICA members in Sikasso, enabling longer conservation of potatoes and a significant reduction in the loss rate caused by spoiling. IICEM equipped storehouses with wooden crates and required that storehouses be built with an improved ventilation system.

More than 160 tons of fresh potatoes are currently being stored in appropriate conditions rather than placed on the floor, as done traditionally. With conservation storehouses, farmers will be able to store potatoes during harvest time when markets are usually flooded with potatoes, and sell when prices have increased by 100% (in July).



#### **Smoothing Out the Potato Flow**

After 17 years of traditional potato conservation, Djibril Sanogo has modernized his methods with help from IICEM. His storehouse was renovated and equipped with wooden crates. Increased incomes, resulting from reduced potato spoilage and higher market prices due to controlled outflow, will benefit Djibril and his 32-member family household.

### **Activity P2.5 Construction and equipping communal potato storehouses**

IICEM launched the construction of 22 potato storehouses which will allow SICA's farmers organizations to collectively store and conserve a total of 600 tons of potatoes. This will aid in the reduction of losses due to spoilage and will enable a slower outflow of potatoes into markets permitting farmers to sell at higher prices. IICEM will equip storehouses with wooden crates and provide certain building materials while communities will provide all locally found materials. All storehouses will be part of a network well managed by SICA cooperatives.

# MANGO VALUE CHAIN

## IR | INCREASED AGRICULTURAL PRODUCTIVITY

This quarter, IICEM continued its' capacity building activities with partner mango producers from the Koulikoro and Sikasso regions.

### **Activity MI.1 Prepare best practice guide**

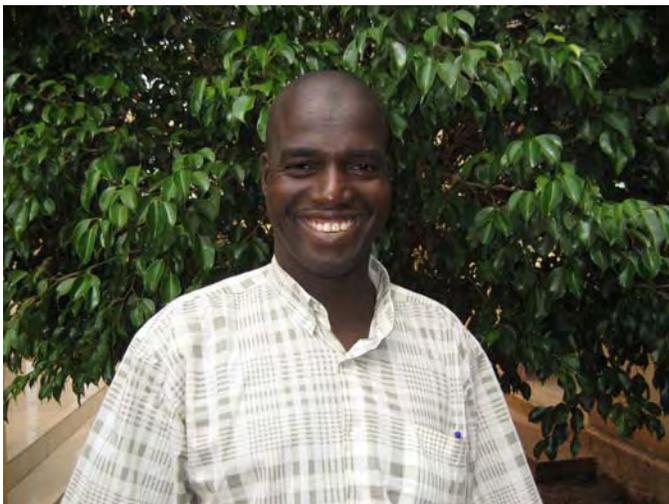
IICEM decided not to pursue this planned activity, as the World Bank project, PCDA, created in December 2008 a guide with good drawing, suited for the goal that IICEM was looking for.

### **Activities MI.2 and MI.3 Building capacity of mango producers & exporters in preparation for IICEM disengagement**

During this quarter, the following training was offered to partner mango farmers:

- 100 mango farmers from Sankarani, Sélingué and Balama villages received training in harvesting techniques.
- 645 mango farmers in the Sikasso region received a series of trainings in technical itineraries for establishing new mango orchards.
- Training in the use of phytosanitary products, best production practices, and orchard treatment was provided to partner farmers.

Quality control supervisors from IICEM's partner exporters participated in all mango trainings. This will ensure that learnt practices will continue to be exercised in the years to come. In addition, Partner exporters will possess the capacity to conduct trainings with appropriate training materials and the necessary competencies for successful knowledge transfer.



### **Irresistible Mangoes**

Yanfolila mango farmer Moussa Diallo has participated in various training programs organized by IICEM. With themes such as *Best Harvesting and Packing Practices*, Moussa and his partners have been able to supply increased quantities of high quality mangoes destined for international markets.

## **IR 2 IMPROVED MARKETING OF AGRICULTURAL PRODUCTS**

### **Activity M2.1 Exploring new markets**

#### **Prospection for New National and Sub-Regional Markets**

With aims to improve sales of agricultural products, IICEM organized a mission to prospect markets in Senegal and Mauritania. The objective of this mission was to allow Malian exporters an opportunity to witness existing market expectations in order to better position itself to satisfy them. This would enable an increase in sales of mangoes which are not appropriate for European export.

After fruitful exchanges with potential buyers, 30 tons of mangoes is expected to be ordered and shipped to Senegal in June 2009 as an export test.

#### **Exporting Malian Mangoes Internationally**

Four of IICEM's partner mango exporters in Sikasso have exported 1,242 tons of mangoes to the Netherlands, France, and Belgium during the 2009 mango season. See Table 12 for details per exporter.

#### **Organic Certification Acquired**

Following market prospection missions conducted in prior quarters, IICEM identified that acquiring organic certification would be the only way to enable partner mango processors to export to international markets. Mango farmers along with processors will need to meet standards and regulations in order to receive certification. IICEM carried out the following activities to achieve this goal:

- Established document procedures in order to prepare actors for certification;
- Organized numerous awareness building sessions on organic certification regulations for 100 partner mango farmers from the Dalakana, Baguineda et Sélingué areas;
- Assured that participating farmers took measures to meet certification standards, resulting in signed contracts between mango farmers and exporters;
- Farmers signed agreements to allow internal auditing by ECOCERT agents;
- Established a quality control system for 80 mango farmers and 1 processing center who have already undergone auditing by ECOCERT inspectors;
- Created 100 coded signs identifying orchards of participating farmers for easy tracking of product source;
- Established a mutually beneficial relationship between Bamako-based mango exporter IB Negoce and mango processor US TAKO to solve an existing supply shortage.

Once farmers have been certified, they will be able to supply certified organic fresh mangoes to IICEM partner processor US TAKO located in Bamako.

#### **Activity M2.2 Reinforcing capacities of harvesting and packaging agents**

890 individuals from the AOM packaging center, Yanfolila's Fruit Company, and the Union of Yanfolila Mango Farmers (UCPMY) were trained in best harvesting and packaging practices.

In order to be competitive in European markets, Malian mangoes must undergo high quality harvesting and packaging treatment. IICEM organized a series of training sessions aimed at improving pisteur's harvesting methods, enabling the selection of high quality mangoes which will

see lower rejection rate by packaging stations. Training will also permit packaging station agents to better sort mangoes, lowering rejection rates while selecting homogenous fruits more likely to be sold in Europe. Quality control agents from partner exporters participated in all trainings to ensure lasting and successful transfers of competencies. See Table 11 in the Annex for detailed information of training sessions.

### **Creating Connections to Suppliers of Appropriate Packaging Materials**

IICEM sought out suppliers of appropriate packaging materials that comply with certification regulations. Malian mango processors have been put in contact with these 2 European companies. Previously, processing centers were purchasing packaging materials from the sub-region which were not in compliance with certification standards.

### **Activity M2.3 Support exporters of fresh fruit in quality control**

#### **Equipping Mango Processing Centers with Appropriate Materials**

4 of IICEM's partner processing centers are in process of acquiring organic certification. In order to bring these Bamako and Bougouni based centers into compliance with all regulations and standards, IICEM provided mango storing and maturing materials. The following equipment was provided:

- 100 wooden crates for mango maturing were built for the US TAKO center in Bamako. In addition to improving quality and hygiene standards, this style of crate will reduce the rate of spoiled mangoes;
- 200 similar wooden crates were built for Kéné Yiriden and GIE/AGSA centers in Sikasso;
- 2 mango reception overhangs constructed for protection against harmful objects at US TAKO and Balimaya processing centers;
- 40 wood pallets constructed for US TAKO processing center.

#### **Developing Mutually Beneficial Relationships between Mango Farmers and Bamako's Processing Centers**

Each year, mango farmers and processors are confronted with problems when healthy mangoes that do not meet certain export requirements are turned away by packaging centers. To alleviate this issue, IICEM initiated a meeting between select mango farmer organizations and mango processors in Bamako. During this meeting, the two parties developed measures to enable farmers to supply processing centers with fresh unexportable mangoes.

#### **Malian Processing Centers Are Audited by ECOCERT Certification Inspectors**

During this quarter, IICEM undertook many activities in preparation for an ECOCERT audit which would certify processing centers as producers of organic products. All IICEM's partner processing centers in the Bamako and Sikasso areas were subject to the ECOCERT audit.

#### **Supporting Partner Mango Exporters with Quality Control at Packaging Centers**

IICEM is providing technical support to 5 mango exporters in the Sikasso region, enabling them to identify high quality fruit which meets export standards. Mango export is currently underway with 60 containers already shipped. IICEM's partner exporters are (1) AOM packaging station; (2) TEM; (3) Katopé; (4) Yanfolila's Fruit Company; (5) the Union of Yanfolila Mango Farmers.

#### **Supplying Processing Centers with Gas Resources**

In Sikasso, IICEM, and the representatives of 4 partner mango processing (drying) centers, met with 2 gas distribution companies namely, Total Mali and Sud Energie Company. A meeting with the Commercial Director of Total Mali in April resulted in the following agreements:

- Total Mali will supply all IICEM partner processing centers;
- A 500,000 FCFA security deposit, the cost of 40 gas tanks, will be afforded to Total Mali;
- 6 kilogram gas tanks to be supplied to processing centers for wholesale price of 1,630 FCFA;
- After Total Mali has issued a stocklist, gas delivery payments will be made (on the 15<sup>th</sup> of each month).

The contract with Sud Energie Company states:

- No deposit is needed on the 40 gas tanks;
- Gas delivery payments will be made of the 15<sup>h</sup> of each month.

#### **Activity M2.4 Promoting dried mangoes to support diversification and value addition**

IICEM organized a trip aimed at promoting Mali's dried mangoes and establishing trade relations in the West African sub-region. 4 mango processors were sponsored to participate in this trip where they met with two companies namely Guébana Afrique and Association Wouol. Sales negotiations are currently underway.

#### **Training Processing Agents in Drying Techniques and Nectar Production**

20 women from US TAKO and JEKA BAARA processing centers of Bamako received training in the proper mango drying techniques as well as nectar production techniques for mango, papaya, and hibiscus products. IICEM organized this training at the IER laboratory for food technologies at SOTUBA.

## **IR 3 IMPROVED ACCESS TO FINANCIAL SERVICES**

### **Activity M3.1 Facilitating access to financing**

During this quarter, IICEM assisted 3 mango exporters and 1 processing center to receive financing for a total of 61.5 Million FCFA. See Table 13 in Annex for more information.

## **IR 4/5 IMPROVED AGRICULTURAL AND TRADE ENABLING ENVIRONMENT**

### **Activities M4.1 and M5.1 Building awareness of the LOA and of requirements for sub-regional export.**

IICEM trained 180 farmers from 4 mango cooperatives in cooperative management and in Agricultural Orientation Law. This training will enable cooperative members to efficiently manage resources, ensure democratic functioning, and defend their interests.

### **Establishment of a Processors' Association**

With an aim to create a more synergetic network, IICEM organized a round table for partner processors. This meeting, which was held in Sikasso, enabled processors to reach an agreement and establish a new association named "Processors' Society of Mali", headed by Kene Yiriden's owner Youssouf Coulibaly. Through this association, processors will be able to unite forces to defend their interests and potentially engage in group sales.

# SHALLOT VALUE CHAIN

## IR | INCREASED AGRICULTURAL PRODUCTIVITY



### Watch Them Grow!

Farmers have been using cereal fertilizer for years to grow shallots, but productivity remains low. This quarter, IICEM introduced Yara's "Partner Fertilizer", a formula intended for vegetable farming, and conducted farming tests with 10 partner farmers' organizations such as Yawakanda's Women's Association (at left). Here, the women explain the advantages of using vegetable-specific fertilizer.

### Activity SI.1-SI.2 Testing more appropriate inputs including fertilizers accessed through alliances with Yara and other private sector partners

IICEM introduced shallot-specific fertilizer, Yara, to farmers on the Dogon Plateau to improve productivity. Previously, farmers were using fertilizer which is generally used for cereal production but which does not allow for maximum shallot production levels. Tests revealed that shallot production with Yara fertilizer resulted in an average yield of 59 tons per hectare while non-Yara fertilizer demonstrated yields of 45 tons per hectare. This yield increase of 31 % can possibly result in an increase in gross revenues by 2,000,000 FCFA per hectare.

Farmers who participated in the tests discussed future mechanisms for supplying Yara fertilizer to the Dogon Plateau with the local NGO, technical agricultural agencies, and the Regional Agricultural Chamber. See Table 16 in Annex for details on Yara test results. IICEM led the following activities:

- Conducted productivity tests in collaboration with 8 farmers' organizations to demonstrate the benefits of shallot farming with Yara fertilizer. Participating villages were: Yawakanda, Dandoli, Golgou, Kokodiogou, Dioundioulou, Anakanda and Wolo- Wolo;
- Compared and analyzed yields and production levels;
- Organized a "Farmer's Day" to allow nearly 100 shallot farmers to receive test results and exchange experiences on shallot production with Yara fertilizer.

### Activity SI.3 Introducing best practices in production including better composting

- Carried out composting demonstrations in Anakanda and Dandoli villages with 50 (11 men and 39 women) participating farmers;
- Provided technical assistance to 10 farmers' cooperatives to ensure proper use of fertilizers.

### Monitoring Shallot Production

On the Dogon Plateau, IICEM assessed the overall production for the 2<sup>nd</sup> farming cycle and found that 4424 tons of shallots were produced.

In Timbuktu, shallots were produced on 280 hectares and resulted in a total production of 3,640 tons of shallots.

## IR 2 IMPROVED MARKETING OF AGRICULTURAL PRODUCTS

### Activity S2.1-S2.3 Promote grouped sales, Develop new sub-regional markets, Promote improved value added through improving warehouses and shallot grinders

In the Dogon Plateau, IICEM monitored the production and sales of 10 partner farmers' organizations. During this quarter, 211 tons of fresh shallots were sold to domestic and sub-regional markets for a total of 28,412,500 FCFA in revenues.

FRESH SHALLOT SALES DATA			
Market	Volume (in tons)	Price per Kilogram (in FCFA)	Revenues (in FCFA)
National (Domestic)	163	137.5	22 412 500
Sub-Regional	48	125	6 000 000
Total	211	131.25	28 412 500

The table below shows information regarding the sale of processed shallots in the Plateau Dogon.

PROCESSED SHALLOT SALES DATA			
Market	Volume (in tons)	Price per Kilogram (in FCFA)	Revenues (in FCFA)
National (Domestic)	130	700	91 002 100
Sub-Regional	64	700	44 800 000
Total	194	700	135 902 100

## **IR 3 IMPROVED FINANCIAL SERVICES**

### **Activity S3.1 Facilitate access to input financing**

IICEM counseled farmers' organizations on proper loan reimbursement practices and consequences for defaulting.

## **IR 4/5 IMPROVED AGRICULTURAL AND TRADE ENABLING ENVIRONMENT**

### **Activity S4.1 Training farmer organizations**

IICEM provided the following training sessions to farmers on the Dogon Plateau:

- Provided literacy training to 270 women of 9 farmers' cooperatives from Anakanda, Dioundioulou, Kokodiogou, Yawakanda, Sinkarma, Dandoli, Gougou, Wolo-Wolo, and Soningué villages;
- Provided negotiation and empowerment training to 180 women from 9 farmers' cooperatives at Anakanda and Dandoli villages. This enabled partner farmers to grasp IICEM's gender strategy, notions of leadership, and negotiation techniques;
- Provided training to 35 members of farmers' cooperatives and traders in management of shallot grinder for processing. This training enabled farmers to grasp equipment maintenance, operation, and determine processing costs;
- Provided training for 60 farmers, including shallot traders and members of 9 sales committees, in developing sales contracts.

IICEM provided the following training in the Horo Lake area of the Timbuktu region:

- Provided training to 135 shallot farmers (105 men and 30 women) in crushed shallot (in ball form and in bulk) production technologies.

### **Activity S4.2 Strengthen the organizational capacity of the Dogon Plateau Shallot Union**

#### **Restructuring the Dogon Plateau Shallot value chain**

The steps and the various strategies undertaken by IICEM, PCDA, and FAO led to the restructuring of ULPTE, the APEX farmers organization in the Dogon Plateau. Through grass-roots level awareness-building, farmers were able to recognize the existing organizational problems which have been creating a choke in the development of the shallot value chain, especially in the area of marketing.

This restructuring - of which the need was identified following an organizational analysis led by IICEM in July 2008 - did not seem feasible due to the complexity of the problem. However, the synergy between the three participating projects (of USAID, World Bank, and FAO), who met prior to define common restructuring objectives, enabled successful rallying at the farmer level which resulted in the re-establishment of ULPTE. Women were fully involved in the restructuring process, new leaders were elected for the organization, and a woman now proudly holds the post of the Vice President

Today, it is imperative to reinforce capacities of ULPTE's leaders and to develop a marketing strategy which will allow rural members to see an increase in their revenues due to their democratic and transparent organization



### **A New Dynamic**

Farmer organizations participated tremendously in this General Assembly where 193 members attended. Individuals representing 63 cooperative societies, 38 village groups, and 2 board of directors were recorded on the attendance sheet. Farmers expressed their happiness to have a more representative and more global organization, which will permit to tackle the marketing challenges of Dogon Plateau's Shallot sector.

### **Building Shallot Conservation Storehouses on the Dogon Plateau**

IICEM has 10 shallot conservation storehouses underway on the Dogon Plateau which are at various stages of completion. The storehouses are located in the following villages : Kokodiogou, Dandoli, Soningué, Anakanda, Dioundioulou, Wolo-Wolo, Golgou, Sinkarma, Tabagolo, and Yawakanda.

### **Shallot Processing Equipment**

IICEM provided 5 shallot grinding machines to enable farmers' cooperatives on the Dogon Plateau to add value to products and in turn receive higher returns. 7 tons of processed shallots were produced using these processing machines. Villages benefiting from shallot grinders are: Kokodiogou, Dioundioulou, Sinkarma, Dandoli, and Wolo-Wolo.

IICEM also equipped partner farmers' organizations with 2 shallot grinders in lake Horo, in the Timbuktu region.

# TOMATO VALUE CHAIN

## IR I IMPROVED AGRICULTURAL PRODUCTIVITY

### **Activities T1.1 and T1.2 Continue and expand Host Free Period (HFP) and disseminate the concept of virus control through**

IICEM, in partnership with OPIB, is currently working with 22 villages from the Baguinéda zone to combat the tomato virus using Integrated Pest Management techniques. In order to avoid reinfection of plants in these villages, it is recommended to expand techniques to 10 additional villages not covered by OPIB and include Selingue and Kati, two large tomato farming zones.

IICEM led the following activities during this quarter:

- Identification of 10 additional villages;
- Set-up demonstration plots at new sites;
- Organized a workshop on May 26, 2009 in Baguinéda for the launch of the 2009 Host-Free Period (HFP), which when combined with farming with virus-resistant seeds makes up the Integrated Pest Management. It is between June and July that farmers will clear fields of virus-host plants, called the HFP, and mobilize surveillance brigades to ensure that farmers are complying to regulations.

Tools were created to documents IICEM's activities undertaken in the fight against the tomato-virus in Mali. The following communication materials will permit IICEM to spread activity information to benefit those interested in the sector:

- 500 posters featuring Integrated Pest Management (IPM) information were created and distributed;
- 300 copies of a documentary on IICEM's efforts in IPM in the Baguinéda zone was created and distributed to various partners;
- Flyers on IICEM's IPM activities was created and distributed.

### **Activity T1.3-T1.4 Spreading IPM techniques and tolerant and resistant seed varieties to new areas**

IICEM's efforts to combat the tomato virus resulted in the spread of IPM techniques to the following areas:

- IICEM trained technical agents in Selingué on the IICEM's strategy for combatting the tomato virus;
- UN's Millenium Villages Project (MVP) purchased virus-resistant seeds from Comptoir 2000 to be used in pilot villages in Mali. IICEM created this connection between MVP and seed

supplier Comptoir 2000, the company responsible for furnishing virus-resistant seeds for IPM activities in Baguinéda.



### **Spreading the Wealth**

It was during IICEM's "Open House" in January 2009 that farmers from various zones were first invited to exchange with Baguinéda farmers about the Integrated Pest Management techniques. Since then, further activities have been organized to assure that farmers join forces for a united fight against the tomato-virus in Mali.

- Farmers from Selingue (ODRS), Segou, and Koulikoro are ready to adopt virus-resistant tomato seeds after witnessing results of a variety test carried out on March 19-24, 2009 by IICEM in collaboration with IER and AVRDC.

### **Activity T1.5 Monitoring & evaluating the impact of the integrated pest management technique**

IICEM established a monitoring and evaluation plan which will enable an analysis of the socio-economic impact of the IPM technology activities. Of the 501 farmers involved in the 22-village program, IER analyzed 31 farmers (August production) and 28 farmers (December production) who produced tomatoes using virus-resistant seeds. OPIB mobilized its field agents to evaluate participating farmers in the entire zone.

An IER evaluation report stated the following:

- August production results showed that the sample yield of Heinz H8804 tomatoes in test plots was 46.3 kilograms per hectare while the sample yield of Shasta tomato test plots measured in at 32.6 kilograms per hectare. This data was compared to the average yield of local tomato variety test plots of 16.2 kilograms per hectare;
- December production results showed that the sample yield of Heinz H8804 tomato test plots was 26.3 kilograms per hectare, while the sample yield of Shasta tomato test plots was 27.2 kilograms per hectare. This data was compared to the average yield of local tomato variety test plots of 16 kilograms per hectare;
- During August production, the tomato gross margin of participating tomato farmers amounted to 3.2 Million FCFA, doubling the maximum gross margin of local tomato varieties, doubling the maximum witness field gross margin. A very good result indeed.

# NATURAL RESOURCES MANAGEMENT & BIODIVERSITY

In the Natural Resources Management sector, the following activities were undertaken:

- Provided 25,000 eucalyptus plants to the women's group of Diré for the installation of the 2 kilometer Diré green belt. This activity is outlined in the existing agreement protocol;
- Initiated contacts with various stakeholders involved in the development of the Zindiga Convention in Gao;
- Initiated contacts with various stakeholders involved in the development of the agreement protocol for marking the livestock path in Kléla, Sikasso. Draft currently in circulation among partners;
- Redevelopment of dune pastures to stabilize sand dunes and preventing sand movement onto farmlands;
- Purchased equipment (25 bikes, flashlights, and uniforms) for the surveillance brigade of the Bouberewol/Djenekila and Dogofing Forests, enabling them to better protect areas.



## Flourishing Forests

Though classified in 1986, no protection activities have been carried out. Through a partnership with the National Administration of Nature and Conservation, IICEM becomes the first to mark the limits and bring 74,300 hectares of the Diangomerila and Dinetoumanina forests in the Sikasso region under protection.

IICEM biodiversity activities this quarter consist of:

- Conducted a fauna, flora, and forestry inventory survey of the Bougouni-Yanfolila forest which identified 28 mammal species;
- Mapped area, planted limit markers, and created a firewall, protecting 74,300 hectares of the Bougouni-Yanfolila Complex Forest (composed of 5 forests) in collaboration with the DNCN;
- Organized a workshop in Sikasso which aided in the development of the pilot project for classifying the Bagoé River Gallery Forest;
- Conduct a bird species and hippopotamus inventory survey of the Sourou Flood Plain and the Inner Niger Delta in collaboration with Wetlands International. The Sourou Flood Plain was identified as a potential "Ramsar Site" candidate, meaning that it could potentially be classified as wetlands of international importance.

# ANNEX

**TABLE 1. Irrigation sites in the Mopti region being rehabilitated through community participation**

Site	Surface Area (in hectares)	Length of canals to be resurfaced (in linear meters)
Touara	12	1000
Touara	7	120
Baramandougou	13	550
Kouana	14	300
Kamaka	22	286
Total	68	2 256

**TABLE 2. Irrigation sites in the Mopti region being rehabilitated by contracting firms**

Site	Surface Area (in hectares)	Nature of Work	
		Irrigating additional rice fields (in hectares)	Resurfaced canals (in linear meters)
Diogui Wafa koye	22		1 783
Diogui Gomni Kondey	20		1 568
Sah	40		2 056
Kouin	20	30	
Korientzé Nassi cesiri	30		2 000
Total	142	30	7 408

**TABLE 3. Irrigation sites in the Timbuktu region being rehabilitated through contracting firms**

Site	Surface Area (in hectares)	Nature of Work	
		Irrigating additional rice fields (in hectares)	Resurfaced canals (in linear meters)
Kabara Riz	9	7	
Kondi	32	12	
Goubo	334		956
Siboney 1 (secondary canal)	30		145
Siboney 2 (primary canal)	30		500
M'Betou 1 (secondary canal)	30		650
M'Betou 2 (secondary canal)	30		735
<b>Total</b>	<b>495</b>	<b>19</b>	<b>2 986</b>

**TABLE 4. Irrigation sites in the Gao region being rehabilitated through contracting firms**

Site	Surface Area (in hectares)	Nature of Work	
		Irrigating additional rice fields (in hectares)	Resurfaced canals (in linear meters)
Djefilani	5		1 000
Adourourou	8		2 195
Tonditihio	22	10	210
<b>Total</b>	<b>35</b>	<b>10</b>	<b>3 405</b>

**TABLE 5. Situation de la production du Riz des PIV en AN 2**

Farming Site	Farmer Organization	Surface Area (in Ha)	Yield (in tons/ha)	Production (in tons)
Kano	Gorgomè	55	4,7	256
Beregoungou	Ass. agriculteurs	45	6,5	289
Kabara	Nafagoumou	9	6,0	54
Bourem Inaly	Coop. agriculteurs CAM	52	7,0	364
Iloa	Goïkassinè CAM	73	5,2	377
Kondi	Tchili Nord	32	4,8	152
Feïndoukeïna	Mayel Farrou	11	6,0	66
	Annya	6	6,0	36
Kessoubibi	Groupement PIV	95	4,0	380
Bagadadji	Coop. agricole	30	3,0	90
Niambourgou	Coop. agricole	30	3,5	105
Dongoy	Coop. agricole	30	3,5	105
Adinakoïra	Coop. agricole	14	3,5	49
UCAMHO PIV	UCAMHO	30	5,0	150
Sibo	Coop. Doundounbangou 1	13	6,0	78
	Coop. Doundounbangou 2	32	6,0	192
Total		555	(ave) 4,9	2 742

**TABLE 6. Rice Stock in the Sikasso Region Available for Sale**

Site	Quantity (in tons)
Niéna	3,4
Loutana	20,2
Mpegnesso	5,1
Nantoumana	3,2
Bamadougou	3,3
Total	35,2

\* Stored From January to February (2008-2009 Farming Season)

**TABLE 7. Rice Sales by Partner Farmer Organizations in Timbuktu**

Site of Sales	Volume (in tons)	Price per Kg (in FCFA)	Value (in FCFA)
Tchili Nord/Kondi	24,2	161	3 895 510
Annya Women's Cooperative	2,5	161	404 989
Cooperative of Bagadadji	6,2	190	1 182 750
Cooperative of Niambourgou	24	125	3 000 000
Agricultural Cooperative of Donghoy	4,5	150	675 000
Agricultural Cooperative of Siboney	4,8	156	750 000
Agricultural Cooperative of Gorkomè of Kano	33,7	180	6 075 000
Farmers Association of Bérégoungou	11,8	180	2 140 000
Agricultural Cooperative of Doundoubangou of Sibou	11,1	175	1 950 000
Agricultural Cooperative of Bourem Inaly	11,7	180	2 110 000
Women's Agricultural Cooperative of Nafagoumo of Kabara	3,9	180	700 000
Agricultural Cooperative of Goïkassinè of Iloa	14	180	2 520 000
Kessoubibi Irrigated Village Perimeter Group	70,4	135	9 404 000
Total	203,3		34 807 249

**TABLE 8. Financing Received by Farmer Organizations in the Mopti Region**

Site	Farmer Organization	Amount of Financing (in FCFA)	Use of Financing	Lending Financial Institution
Diogui	Wafa koye	9 433 800	Inputs	BNDA
Kouin	Cooperative Society of Kouin	4 425 000	Inputs	BNDA
Baramandougou	Peza Culture	7 000 000 750 000	Water Pump Inputs	BNDA
Touara hommes	Cooperative Society of Touara	2 000 000	Inputs	BNDA
Korientzé	Nasi Cesiri	5 000 000	Inputs	BNDA
	Yere Deme ton	2 000 000	Inputs	BNDA
	Korombana jigi	2 000 000	Inputs	BNDA
Sobo	Doun ka fa	4 084 000	Inputs	BNDA
Sah	Benkadi	8 070 000	Inputs	BNDA
Gounki	Djam E tchèlal	3 000 000	Inputs	BNDA
		2 500 000	Threshing Machine	
Aouré	Cooperative Society of Aouré	8 000 000	Inputs	BNDA
Senséladji	Village Association	6 453 000	Inputs	BNDA
Total				65 471 800

**TABLE 9. Financing Received by Farmer Organizations in the Timbuktu Region**

Site	Farmer Organization	Amount of Financing (in FCFA)	Use of Financing	Lending Financial Institution
Tonka	Jigiseme Women	2 000 000	Rice Sales	BNDA
Saraféré	Samama Cooperative	4 500 000	Fertilizer	BNDA
		2 000 000	Fuel	
Bourem Inaly	Agricultural Cooperative	11 690 235	Inputs (fuel, fertilizer)	BNDA
		9 375 000	Water Pump	
Bérégoungou	Farmers' Association	6 108 250	Water Pump	BNDA
Sibonné	Multipurpose Agricultural Cooperative	4 650 000	Fertilizer	BNDA
		5 200 000	Fuel	
Total		45 523 485		

**TABLE 10. Participants in ComptEx Installation in the Mopti region**

1.	Gomni Kondey of Diogui
2.	Nyeta Women's Association of Touara
3.	Men's Cooperative Society of Touara
4.	Cooperative Society of Kouin
5.	Peza culture of Baramadougou
6.	Men's Cooperative Society of Kamaka
7.	Yere Dèmè ton
8.	Dowmbia jigi sème 1
9.	Korombana Jigi
10.	Agro-syvo-pastorale Cooperative Society
11.	Nasi Cesiri of Korientzé,
12.	Sobo Village Association
13.	Sah Input Shop

**TABLE 11. Training for Actors in the Mango Value Chain**

Participating Structure	Theme	Number of Participants		
		Men	Women	Total
AOM	Best harvesting and packaging practices ; Applying hygiene regulations and compliance to export specifications	200	0	200
	Best sorting, grading, and paletizing practices ; Applying hygiene regulations and compliance to export specifications	81	189	270
UCPMY/ Société fruitière de Yanfolila	Best harvesting and packaging practices ; Applying hygiene regulations and compliance to export specifications	200	0	200
	Best sorting, grading, and paletizing practices ; Applying hygiene regulations and compliance to export specifications	81	139	220
<b>TOTAL</b>		<b>562</b>	<b>328</b>	<b>890</b>

**TABLE 12. Malian Mangoes Exported by IICEM Partners to European Markets**

Exporter	Volume Exported (in Tons)	Destination Country
AOM	661,5	Hollande, Belgique
TEM	392,8	Hollande, France
UCPMY	20,0	France
Katopé	168,0	France
Total	1242,32	

**TABLE 13. Enterprises in the Mango Value Chain Who Received Financing**

N°	Enterprise	Contact Person	Amount of Financing (in Millions of FCFA)
1	IB Negoce	Issa Bagayogo	25
2	Sahel Fruits	Moussa Tamboura	18.5
3	Yaffa et Freres	Bakary Yaffa	15
4	Kene Yiriden	Youssouf Coulibaly	3
Total			61.5

**Table 14. Farmers Organizations Participating in Potato Variety Tests in Gao**

No	Association	Potato Variety
1	Women's Cooperative Achilno Wafakey of Djidara/Gao	Spunta and mondial
2	Cooperative Adourourou of Tondibi	Liseta, spunta and mondial
3	Women's Cooperative Cere Faba of Bourem	Liseta, spunta and mondial
4	Women's Cooperative Kalani of Bourem	Liseta, spunta and mondial

**Table 15. Potato Sales by Partner Farmer Organizations in Timbuktu**

Site	Volume of Sales (in Kg)	Unit Price per Kg (in FCFA)	Value of Sale (in FCFA)
Women's Agricultural Association of Nafagoumo de Kabara	6 892	255	1 760 700
Planting and Gardening Association of Kabara	43 890	250	10 972 500
Gardening Association of Tarabangou of Kabara	22 320	250	5 580 000
Women's Association Fafadoboy of Guindigata	1 000	300	300 000
Women's Association Annya of Feindoukeina	256	350	89 600
Village Association of Bouna	1 598	200	319 600
Association Allahidou of Tindahama	1 598	200	319 600
Association Yilwoua Kondey of Tinassena	1 598	200	319 600
Total	79 152	'(ave) 248	19 661 600

**Table 16. Test Results for Shallot Production with Yara Fertilizer on the Dogon Plateau**

Village	Average Yield with Yara (kg/ m2)	Average Yield without Yara (kg/ m2)
Yawakanda	5,4	3,8
Kokodiogou	5,8	4,7
Dioundioulou	5,7	4,1
Anakanda (Women and Men's Cooperative )	5,7	4,8
Dandoli	6,2	4,4
Golgou	7,0	5,2
Wolo-Wolo	6,0	4,9
Superficie totale		
Yield (Tons/ha)	59,6	45,5