

ROOT AND TUBER IMPROVEMENT AND MARKETING PROGRAMME

MINISTRY OF FOOD AND AGRICULTURE



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List of Abbreviations and Acronyms

AEA	Agricultural Extension Agent
AWPB	Annual Work Plan and Budget
CBB	Cassava Bacterial Blight
CRI	Crops Research Institute
CSIR	Council for Scientific and Industrial Research
DADU	District Agricultural Development Unit
DSF	District Stakeholders Forum
FBO	Farmer-Based Organization
FFF	Farmer Field Forum
FRI	Food Research Institute
GLDB	Grains and Legumes Development Board
GPC	Good Practices Centre
GRATIS	Ghana Regional Appropriate Technology Industrial Services
HQCF	High Quality Cassava Flour
IPM	Integrated Pest Management
IEC	Information, Education and Communication
IF	Initiative Fund
IFAD	International Fund for Agricultural Development
MEF	Micro Enterprise Fund
MoFA	Ministry of Food and Agriculture
MoFEP	Ministry of Finance and Economic Planning
MoU	Memorandum of Understanding
MSEs	Micro and Small Enterprises
NPC	National Programme Coordinator
NPSC	National Programme Steering Committee
PDIP	Programme Development and Implementation Partnership
PFI	Participating Financial Institution
PPS	Processing and Post Harvest Specialist
PS	Production Specialist
RCPMI	Regional Cassava Processing and Marketing Initiative
REP	Rural Enterprises Project
RTIMP	Root and Tuber Improvement and Marketing Programme
SARI	Savanna Agricultural Research Institute
TM	<i>Typhlodromalus manihoti</i> (Moraes)
TN	<i>Teretriusoma negrescens</i> (Tn)
ZO	Zonal Office

EXECUTIVE SUMMARY

The Programme has operated in 56 districts (14 more than the number of districts operated within the first three years) for continuation and enhancement of output delivery and results achievement.

The report covers the period spanning from January to December, 2010. The Programme was implemented through four (4) components as follows:

- Component A: Support to Increased Commodity Chain Linkages.
- Component B: Support to Root and Tuber Crop Production.
- Component C: Upgrading of Root and Tuber Processing and Marketing.
- Component D: Programme Coordination, Monitoring and Evaluation.

RTIMP Coverage

In the period under assessment, RTIMP pursued its planned activities in the various components in 56 operating districts targeted for the fourth year. Planting material production and distribution was however in 106 districts. After 4 years of implementation, the various platforms (FFF, exposure visits to GPC, business development training and planting material distribution) on which clients are equipped to respond to the “demand pull” created by increased access to MEF, were well developed.

Promotional Activities

Radio announcements were organized to educate communities on R&T issues. Through the radio programmes, RTIMP activities were highlighted in the districts. Phone ins by listeners indicated the interest of various stakeholders in the R&T commodity chain. It also brought to the fore, the importance of root and tuber crops as a staple food in the country. Documentaries of the Programme were telecast on 3 Television networks in the Country.

District Stakeholder Fora

The focus of the DSFs was mainly on establishing structures that ensure effective participation in the commodity chains. In terms of participation, males dominated their female counterpart. The various stakeholders / players along the value chain of R & T, consisting of Bankers, Researchers, Farmers, Processors, Traders, Fabricators, MoFA staff, NGOs and Transporters, participated in the Fora. The DSFs have provided the various value chain actors a platform to interact to build relationships and even make trade deals. It is well patronised and serve to disseminate Programme information. Interview results have shown that, the DSFs have become the think-tank on root and tuber development in the operating districts.

Commodity chain linkages developed

The Programme is supporting the development of commodity value chains in the country. Small producers and processors were linked to larger scale processors and to markets in the operational

Zones. Commodity chains developed included HQCF, Gari, Yam and Agbelima chains. The Gari chain remains the most popular of the chains being developed.

On a chain by chain basis, the Gari chain is the most developed while the least developed chain was that of agbelima in the communities with a female dominance.

Formal arrangement in the form of simplified MoUs which enjoins the producers or processors to see the other player as the first point of call when the producer has roots to sell or the processor needs roots to buy, were signed by the farmers and processors.

The traders and farmers involved in the chain were provided with business training and technical support to improve profitability and general trading conditions. The value chain actors have been linked to the GPCs such as those in Jenefal, Asueyi, JOSMA, Aworowa and Hansua for possible supply of gari whenever the need arises.

Distribution of Planting Materials to Tertiary Farmers

During the reporting period, a total of 54,950 farmers were targeted to be supplied with healthy planting materials being multiplied by the Programme. In all, a total of 43,434 tertiary farmers were reached with healthy planting materials representing 79% achievement.

Farmer Field Fora

Farmers have also been provided the opportunity to learn from their peers, researchers and extension workers under the Farmer Field Fora. The Programme has instituted the Farmer Field fora (FFF) as a platform for innovation and sharing of knowledge and experience by farmers, researchers and extension workers. The farmers involved in the FFF are learning to improve the productivity of their farms.

Technology Transfer

Four (4) prototypes of mechanical cassava harvesters were developed and tested. Engineers were tasked to work on some few challenges of the best performing prototype to perfect it for adoption and promotion.

Good Practices Centers

RTIMP has undertaken upgrading of cassava processing facilities into Good Practices Centres (GPCs). These GPCs are serving as demonstration centers for clients of RTIMP, who are adopting some of the technologies by accessing the Micro-Enterprise Fund (MEF) and other innovative financial services.

Exposure visits

In line with technology transfer to processors, a number of exposure visits were organized for other processors to the GPCs. By virtue of the larger number of females in the small scale agro-processing activities, participation in the exposure visits was undoubtedly dominated by women 719 out of 1,022 participants (representing 70.3%)

The Centers are now attracting high patronage because of the expanded capacities. The upgrading has impacted positively in terms of income, profit and general productivity of the GPCs. The participants are exposed to accepted standards of equipment, hygiene and processes. Processors who took part in exposure visits indicated their satisfaction of the concepts. They have applied the knowledge gained. The GPCs at Apesika, Asueyi and Woraso near Mampong-Ashanti are serving as a model to processors. Most entrepreneurs in the GPCs and other processors have started keeping proper records that help to determine profitability more accurately.

Programme Management

The Programme management includes those of supervision and coordination of activities. The Programme Coordinating Office (PCO) pursued its planned activities to activate the components under the Programme. It provided support to the components, carried out the necessary supervision and coordination of the implementation of the Annual Work Programme and Budget for the year. The PCO also collaborated extensively with Implementing Partners for the implementation of the relevant planned component activities.

A Mid-Term Review Mission and two follow-up Missions to the Programme were completed in May, June and November, 2010 respectively.

1.0 INTRODUCTION AND BACKGROUND

1.1 Goal and Purpose

The Goal of the Root and Tuber Improvement and Marketing Programme (RTIMP) is to enhance income and food security in order to improve livelihoods of the rural poor.

The main purpose of the programme is to build a competitive and market-based Root and Tuber Commodity Chain (RTCC) supported by relevant, effective and sustainable services that are available to the rural poor.

In the reporting period, the Programme was implemented through four (4) components as follows:

- Component A: Support to Increased Commodity Chain Linkages.
- Component B: Support to Root and Tuber Crop Production.
- Component C: Upgrading of Root and Tuber Processing and Marketing.
- Component D: Programme Coordination, Monitoring and Evaluation.

This report presents progress of programme implementation for the period (January to December, 2010), observed effects, challenges in implementation and the way forward for improvement.

The Programme has made steady progress in consolidating the establishment and functioning of the various entry points and learning platforms of District Stakeholder Fora (DSF), Good Practices Centres (GPCs) and Farmer Field Fora (FFF).

In 2010, the Programme focused largely on establishing and consolidating the services on which the rural poor rely to ensure effective participation in the commodity chains through;

- Identification and promotion of more efficient processing technologies
- Establishment of Good Practices Centres (GPCs) for exposure visits
- Facilitating access to the Micro-enterprise Fund (MEF) for retooling

Key outputs expected to be achieved were as follows;

- Public awareness of the services provided by RTIMP created and potential beneficiary stakeholder interest/participation sustained
- Effective and Efficient Linkages in the R&T Commodity Chains Fostered
- A Viable Commodity Chain Partnership System Developed
- Availability and access to planting material of root and tuber crops improved
- Biological agents mass-produced and released to control pests of root and tuber crops
- Capacity to Facilitate Farmer Field Fora enhanced
- Relevant processing technologies identified and transferred
- Good Practice Centers (GPCs) Established
- Clients equipped with business development & marketing skills
- Micro-Enterprise Fund Establishment and Functional

2.0 PROGRAMME IMPLEMENTATION, KEY ACHIEVEMENTS AND RESULTS

2.1 RTIMP Coverage

In the period under assessment, RTIMP pursued its planned activities in the various components in 56 operating districts targeted for the fourth year. Planting material production and distribution was however in 106 districts.

2.2. Support to increased commodity chain linkages

The main objective of this component is to build competitive, market-driven inclusive Root and Tuber Commodity Chains (R&T CCs) supported by relevant, effective and sustainable delivery mechanisms of services that are easily accessible by the rural poor. A number of results were achieved in the reporting period.

2.2.1 Promotional Activities (Information, communication and Knowledge Management)

2.2.1.1 Radio and Television Programmes

A number of radio announcements were organized to educate communities on R&T issues. Through the radio programmes, RTIMP activities were highlighted in the districts. Phone ins by listeners indicated the interest of various stakeholders in the R&T commodity chain. It also brought to the fore, the importance of root and tuber as a staple food in the country. Documentaries on the Programme activities, benefits and achievements were broadcast on 3 Television Networks of the Country.

2.2.2 Commodity Chain Partnership developed

2.2.2.1 District Stakeholder Fora

In all, Seventy nine (79) District stakeholder fora (DSF) were organized. This was far above the annual target of 56 representing 141% achievement. The focus of the DSFs was mainly on establishing structures that ensure effective participation in the commodity chains. In terms of participation, males dominated with 2,398 out of a total of 3,928 (61%) while female participants numbered 1,530 (39%). of the total (Table 1).

The various stakeholders / players along the value chain of R & T, consisting of Bankers, Researchers, Farmers, Processors, Traders, Fabricators, MoFA staff, NGOs and Transporters, participated in the Fora. The DSFs have provided the various value chain actors a platform to interact to build relationships and even make trade deals. It is well patronized and serves to disseminate Programme Information. Interview results have shown that, the DSFs have become the think-tank on root and tuber development in the operating districts.

These awareness programmes and Fora have also helped in educating and providing technical information to a wide range of stakeholders in the R&T industry. MoFA staff, farmers and processors, interacted with during field visits, had good knowledge about RTIMP and what the Programme seeks to do. They indicated their awareness of the potential business opportunities within the chain.

Table 1. Participants of the District Stakeholder Fora by Gender

Sex of Participant	Number	% Achieved
Male	2,398	61
Female	1,530	39
Total	3,928	100

2.2.3. Commodity chain linkages developed for Small holder Farmers and Processors

The Programme is supporting the development of commodity value chains in the country. There is evidence of RTIMP's efforts to build linkages especially between farmers and processors. Small farmers and processors were linked to larger scale processors and to higher end markets in the operational Zones. Four product commodity chains were developed. The chains included HQCF, Gari, Yam and Agbelima chains. The Gari chain remains the most popular and well developed of the chains.

A total of 2,731 farmers out of a planned target of 3,000 (91%) were involved in 4 commodity chains. On a chain by chain basis, the Gari chain is the most preferred / popular (920 out of a target of 1,000 farmers) was achieved representing 92%) with a female dominance of 59%.

The least developed chain was that of agbelima in the communities. Out of a planned total of 50 actors, 28 were achieved representing 56% achievement with a female dominance.

Formal arrangement in the form of simplified MoUs which enjoins the producers or processors to see the other player as the first point of call when the producer has roots to sell or the processor needs roots to buy were signed by the farmers and processors.

Linkages have also been carried out by five (5) Technical Service Providers (TSPs) working within the Zones under the Initiative Fund.

The traders and farmers involved in the chain have been provided with business training and technical support to improve profitability and general trading conditions. In the reporting period, RTIMP Zonal Offices continued with the linkages especially of the local trade. Memoranda signed between traders, processors and farmers. The value chain actors have been linked to the GPCs such as those in Asueyi, JOSMA, Aworowa and Hansua for supply of gari.

Traditional unassisted linkages however still persist among stakeholders in the chain due to financial dependence on each other.

2.3 SUPPORT TO ROOT AND TUBER PRODUCTION

2.3.1 Planting Material Multiplication and Distribution at Primary Sites

2.3.2 Planting Material Multiplication at MoFA Research Stations and GLDB Sites

In 2010, the Programme multiplied breeder planting materials in 14 primary sites from where healthy planting materials were coppiced for secondary multiplication. A total of 91.64 Ha was established in 2010.

Table 2. Cassava Primary Multiplication at MOFA Research Stations

Primary site	Varieties Established (Ha)									Total
	Afisiafi	Nkabom	Bankye hema	IFAD bankye	Esambankye	Agbelifia	Dokuduade	Cape Vars	Tek bankye	
Mampong Research Station	1.50	1.20	3.28	0.36	1.00	0.54	1.00	1.16	0.54	10.58
Asuansi	0.40	2.20	4.00	2.20	2.20	2.70	2.30	-	0.44	16.44
Wenchi Agri Station	0.60	0.08	1.04	0.40	0.52	0.72	0.08	0.60	0.44	4.48
Totals	2.50	3.48	8.32	2.96	3.72	3.96	3.38	1.76	1.42	31.50

Table 3. Cassava primary Multiplication at MOFA- GLDB Sites

Primary Sites	Achievement (Ha) per improved variety												
	Afisiafi	Nkabom	Bankye hema	IFAD	Esam bankye	Agbelifia	Dokuduade	Cape Vars	Tek. bankye	Filindiakong	Eskamaye	Nyerikogba	Total
Ejura	-	-	1.00	-	-	-	1.00	-	-	-	-	-	2.0
Kyiremfa so	-	-	0.80	3.00	-	0.60	0.40	-	-	-	-	-	4.8
Afraku	-	-	2.50	-	-	0.50	0.50	-	-	-	-	-	3.5
Kwamoso	-	-	3.40	2.40	1.60	-	-	-	-	-	-	-	7.4
Duayaw NKwanta	-	0.80	11.20	-	-	-	-	-	-	-	-	-	12
Kintampo	-	1.20	6.80	-	-	-	-	-	-	-	-	-	8.0
Salaga	1.00	-	-	-	-	-	-	-	1.0	2.00	2.00	2.0	8
Damango	-	-	-	-	-	-	-	-	-	1.0	1.0	1.2	3.2
Winneba	-	-	1.04	-	-	0.20	0.60	0.40	-	-	-	-	2.24
Godenu	2.40	-	2.80	-	-	-	-	-	-	-	-	-	5.2
Total	3.40	2.00	29.5	5.40	1.60	1.30	2.50	0.40	1.0	3.0	3.0	3.2	56.34



Figure 1. A Primary Multiplication Field at Kwamoso in Akwapim North District

Table 4. Yam Planting Material Multiplication at Primary Sites

No	Primary Site	Ha	
		Target	Achieved
1	Wenchi Research Station	3	1.2
2	Mampong Research Station	3	0.1
	Total	6	1.3

Table 5. Sweet Potato Planting Material Multiplication at Primary Sites

No	Zone	Ha	
		Target	Achieved
1	Zone 1	1	1.5
2	Zone 3	3	1.0
	Total	4	2.5

2.3.2 Cassava Planting Material Multiplication at Secondary Sites

A total of 345.89 ha of field was established at secondary sites with 670 farmers involved (Table 6).

Table 6. Cassava Planting Material Multiplication (ha) by Farmers at Secondary Sites

Zone	Ha	No. of Farmers
1	22.32	45
2	137.72	278
3	132.40	302
Central	33.45	45
Total	345.89	670

Table 7. Yam Planting Material Multiplication (Ha) by Farmers at Secondary Sites

Zone	Target		Achieved			
	Ha	No. of Farmers	(Ha)	No. of Farmers	Males	Females
1	12	40	2.35	65	45	20
2	12	44	4.94	62	47	15
3	3	30	0.9	9	8	1
Total	27	114	8.19	136	100	36

Table 8. Sweet Potato Planting Material Multiplication (Ha) by Farmers at Secondary Site

Zone	Target	Achieved	
	(Ha)	Ha	No. of Farmers
1	1	0.3	2
Total	1	0.3	2

Table 9. Cocoyam Planting Material Multiplication (Ha) by Farmers at Secondary Sites

	Target		Achieved			
	(Ha)	No. of Farmers	(Ha)	No. of Farmers	Males	Females
	12	60	11.6	49	45	4
Total	12	60	11.6	49	45	4

Farmers engaged in multiplication of improved planting materials have benefited from their activities especially increase in income generation and as avenue for job creation for other chain actors such as transporters, off takers/traders.

Lucy Mensah –a Farmer /Processor in Bechem in the Tano South District for instance has been planting local cassava variety to process into gari . She could not process gari in 2006 due to lack of roots (raw materials). After being linked to a producer of improved variety who supplied her processing facility with cassava roots, she has since 2007 become a cassava secondary multiplier and also buys from other secondary multipliers.

Her current acreage is 3 acres (1 acre of Esambankye and 2 acres of Bankyehemaa). She now supplies gari to Bechem Senior High School, School for the Deaf, Goaso market and traders. She also fortifies gari with soya bean and sells at the International Trade Fair in Accra.

2.3.2 Distribution of Planting Materials to Farmers

During the reporting period, a planned target of 54,950 farmers was targeted to be supplied with healthy cassava planting materials being multiplied by the Programme. In all, a total of 43,434 (24,909 males and 18,525 females) farmers were reached with the improved planting materials representing 79.0% achievement.

Table 10. Farmers reached with Improved Planting Materials

Crop	Farmers Reached		Total
	Secondary	Tertiary	
Cassava	670	42,010	42,680
Yam	136	-	136
Sweet Potato	2	567	569
Cocoyam	49	-	49
Total	857	42,577	43,434

Table 11. Sweet Potato Planting Material Distribution at Tertiary Sites

Zone	Beneficiaries	
	Target	Achieved
1	839	557
3	100	10
Total	939	567

2.3.4 Participatory Research

The RTIMP competitive research grant scheme (CARGS) has been set up. Research activities have started and are on course. RTIMP supported the following research activities.

Table 12. Themes and Leading Institutions in Participatory Research

	PROJECT TITLE	LEAD INSTITUTION
1	Cocoyam fertilization for leaf and corm production	Faculty of Agriculture, KNUST Kumasi
2	Participatory Development of High Yielding Disease and Pest Tolerance Cultivars of Cocoyam for the Ghanaian Farmer	CSIR-Crop Research Institute
3	Weed Control in Commercial Cassava production	CSIR-Crop Research Institute
4	Development of fertilizer recommendations for optimum starch content of cassava roots	CSIR-Soil Research Institute
5	Development of fertilizer recommendations to enhance yield of yam without compromising the shelf life of yam tubers	CSIR-Soil Research Institute
6	Farmers participatory Field Research strategy for development of improved disease and pest tolerant Frafra potato varieties	CSIR-Savanna Agriculture Research Institute
7	In-situ and In-vitro conservation of root and tuber germplasm	CSIR-PGRRI
8	Development of cost- effective post-harvest storage technology for harvesting fresh sweet potato tubers through farmer participatory research	University of Cape Coast
9	Development of efficient and cost –effective on-farm storage technology for harvested fresh white yam tubers through farmer participatory research	CSIR-Crop Research Institute



Figure 2. Integrated crop management (Plantain-Cocoyam intercrop)



Figure 3. Farmers' practice (Plantain-cocoyam intercrop)

Table 13. Dissemination of improved pest and disease management technologies

No	Activity	Target	Achieved
1	Bio agents released against LGB	100,000	144,100 actives of <i>Teretrius nigrescence (Tn)</i>
2	Bio agents released against CGM	400,000	411,000 actives of <i>Typhlodromalus manihoti(Tm)</i>
	Number of Locations	100	101 locations

Table 14. Tn releases against CSM by CSIR –SARI and MoFA –PPRSD

Zone	Region	Districts involved	No. of Locations	No. of Actives Released
1	Northern	Kpandai	9	28,000
		West Gonja	6	20,000
		East Gonja	8	14,000
		Tamale Metropolis	7	16,000
		Yendi	8	18,000
2	Brong-Ahafo	Nkoranza South	5	5,600
		Nkoranza-North	5	5,600
		Jaman North	5	5,500
		Jaman South	5	5,000
		Wenchi	6	9,400
3	Eastern	Upper Manya Krobo	5	10,000
		Fanteakwa	4	7,000
	TOTAL		73	144,100

Table 15. Tm. Releases against Cassava Green Mite

Zone	Region	Districts Involved	Number of Locations	Number of Actives Released
1	Brong-Ahafo	Berekum	3	50,000
		Dormaa West Municipal	3	45,000
2	Eastern	Birim South	3	30,000
		Birim Central	2	35,000
		Wesk Akim	2	31,000
		Kwahu West	2	31,000
		Kwahu East	2	32,000
3	Central	Twifo Heman	2	40,000
		Lower Denkyira	2	
		Assin South	2	35,000
4	Volta	Hohoe	2	32,000

		Jasikan	2	35,000
		Biakoye	1	15,000
	TOTAL		28	411,000

2.3.2 Farmer Field Fora

Farmers have been provided the opportunity to learn from their peers, researchers and extension workers under the farmer Field Fora. The Programme has instituted the Farmer Field Fora (FFF) as a platform for innovation and sharing of knowledge and experience by farmers, researchers and extension workers. The farmers involved in the FFF are learning to improve the productivity of their farms.

In the reporting period, a planned total of 2,800 farmers were to be reached by Farmer Field Fora. A total of 2,766 farmers (representing 98.7%) were reached in 2010. Of the total number of farmers reached by FFF, male farmers constituted the majority 1,675 (60.5%) while 1,091 (39.4%) of the beneficiaries of the FFF were female farmers. The FFF farmers interviewed showed clearly that they understood the principles and practices behind the FFF.



Figure 4. Participants at FFF



Figure 5. Cocoyam FFF

Table 16. FFFs conducted in Districts

ZONE	No Of Districts	No. of FFFs	No. of FFFs by Crop			
			Cassava	Yam	Cocoyam	Sweet Potato
1	10	20	6	10	-	4
2	13	26	4	15	7	-
3	10	18	7	-	5	6
Central	6	10	5	1	4	-
TOTAL	39	74	22	26	16	10

Farmer Field Fora groups in Sogliboi in the Kintampo North District and Abogyam in Kintampo South District, who have benefitted from a season-long yam FFF in cultivation practices have currently adopted the recommended spacing 1m × 1m for mounding, weed management and timely milking and harvesting of yam. Farmers who used to crop once in a year (February) have accepted to adopt planting twice (February and May) which is more profitable.

2.4. UPGRADING OF ROOT AND TUBER PROCESSING AND MARKETING

2.4.1 Transfer of Relevant Processing Technology

Four (4) prototypes of mechanical cassava harvesters were developed and tested at Mampong Agricultural Station. Out of the four, one was found to perform best in terms of harvesting and less damaging to the tubers. Engineers were tasked to work on some few challenges to perfect the best performing prototype for adoption and promotion. The prototypes were produced by Department of Agric Engineering of Kwame Nkrumah University of Science and Technology (KNUST), Kumasi, GRATIS Foundation and Glucoset Company Ltd, Tema.



Figure 6. Cassava harvester on trial

Also, in collaboration with IITA, prototypes of one (1) flash dryer, two (2) mechanical gari roasters, five (5) digital moisture meters and ten (10) PH meters were ordered and paid for from Nigeria.

Major Fabricators e.g. SIS engineering designed and fabricated prototype equipment (self feeding stainless steel graters, re-enforced single screw press).

2.4.2 Establishment of Good Practice Centres

RTIMP has undertaken upgrading of cassava processing facilities into Good Practices Centres (GPCs). These GPCs are serving as demonstration centres for interested clients of RTIMP, who

are expected to adopt at least some of the technologies by accessing the Micro-Enterprise Fund (MEF).

Ten (10) processing enterprises have been upgraded to Good Practices Centers (GPCs) in 2010. During the Mid-Term Review (MTR), recommendations were given to up-scale the GPCs. Processes were initiated to upgrade more processing facilities to GPCs. The GPCs have gained a lot in the new technology provided them.

Interactions with processors during field visits indicated that, those trained and helped to acquire improved processing equipment, especially graters and presses and roasting units have significantly increased their income levels through higher sales volumes. This is in response to market expansion brought about by promotional efforts by entrepreneurs. For example, processors have now identified markets outside Ghana (Mali, Nigeria, Niger, Burkina Faso, Europe and the USA) and are supplying increased volumes by some processors.

At JOSMA Agro-Industry, the use of improved stoves built by RTIMP has increased production level from 14 bags of 80 kg of gari a week to 35 bags a week. This is as result of increase in the output per worker from 38.5 kg of Gari to between 80 and 100 kg per day.

The company, through its collaboration with RTIMP, now has Comasa Food Company in Accra, Edem and Co. Company in Kumasi and St. Joseph SHS as key product customers. Association with RTIMP has expanded the clientele base of the industry to include the customers outside the country. It can be said that, there is a backlog in supply due to numerous customers at the disposal of the Center which has necessitated an expansion in the production area from 8 to 11 stoves to employ more people to meet the demand for their products.

The company in its small operation has supplied twenty five (25) small holding farmers with an average one acre worth of improved planting materials to augment their production with the support of RTIMP.

This gesture, according to beneficiaries, has increased their production levels from three (3) tons per acre to an average of nine (9) tons per acre. The company employs a total of 25 persons made up of 10 males and 15 females at the factory level and the same number 25 male also at the farm. In all there are 50 people being employed by the processing centre.

In Asuogya GPC at Asueyi near Techiman, 2 KIA loads of 5.2 tons /load of tubers which used to be processed per week before the upgrading has now increased to 5 KIA load of 5.2 tons per week after the upgrading

- For fuel wood consumption, the initial 1 KIA load used to roast 2 KIA load of raw material is now being used to roast 4 KIA loads of raw materials minimum.
- Avenues for sales have now widened from the local market (Techiman) to Niger, Burkina Faso, Nigeria, USA and the UK.

The facilities are linked with farmer-groups who have been organized around the facility to supply raw material for processing.

At the GPC at Kanyitiwelle in Damango, the following are some observed effects from the upgraded processing center to a GPC:

- Increased production level i.e. one person can now roast 2 bags/ day and hence increased income emanating from increased production per person per unit time.
- Working in hygienically sound and environmentally sound condition e.g. dewatering bay.
- Increased security due to the center being fenced. The GPC is protected from domestic animals such as sheep and goats.
- Attractive to buyers.
- High orders are now met
- Generally reduced drudgery i.e. grating, dewatering and roasting

2.4.3 Exposure visits

In line with technology transfer to processors, a number of exposure visits were organized for small-scale processors to the GPCs. In all, 44 exposure visits were carried out in 2010 by the zones in collaboration with the DADUs/MADUs involving 1,022 (719 females and 203 males) small scale processors and other stakeholders. By virtue of the larger number of females in the small-scale agro-processing activities, participation in the exposure visits was undoubtedly dominated by women (70.3%). The Centers now attract high patronage because of the expanded capacities. The participants are exposed to acceptable standards of equipment, hygiene and manufacturing practices in order for them to come out with high quality products.

Processors who took part in the exposure visits indicated that, they were happy to have been exposed to improved technology in processing. They have applied the knowledge gained in their own processing activities.

The exposure visits have created strong desire in the beneficiaries to acquire the improved processing equipment and to adopt the appropriate manufacturing practices. For example, most of the small-scale processors now wash their peeled cassava before grating thus improving the quality and safety of the product.

2.4.4 Training Programmes for Beneficiaries

During the period under review, a total of 1,795 beneficiaries (of a target of 800) representing 224% were provided with skills in Business Entrepreneurship for the promotion of new uses for R&T crops. The achieved result of 1,795 comprise 640 males representing 35.6% and 1,155 females representing 64.4 %)



Figure 7. Training on Potaghurt Preparation

Leading members of Potaghurt processing group in Navrongo have been equipped with skills in better packaging. The group has also been linked to the Chemistry Department of University of Development Studies (UDS) for the supply of starter culture. Leaders in the Group have also been trained in Business Plan preparation.

In line with the existing collaboration with the NBSSI, RTIMP provided funds for the BACs to conduct Training Needs Assessment (TNA) and training in;

- Record Keeping and Banking Culture
- Occupational Safety
- Business Management

RTIMP has also involved BACs in the following on-going activities;

- Actors identification exercise
- Development of Enterprise Records Books and pr-testing of the books

2.4.5 Accessing the Micro-Enterprise Fund (MEF)

In the period of assessment, a total of 105 R&T Processors (out of a planned target of 273) were able to access the MEF matching grant to purchase improved equipment. This comprised female processors (62 of them representing 59%) with 49% of them comprising male processors. The total grant size was eighty one thousand cedis (GHc 81,000) disbursed by Kwamaman Rural Bank.

MEF beneficiaries have been assessed to be improving on savings and banking attitude through regular interaction with PFIs. It has been noted that, loan saving commitments is urging beneficiaries to keep better financial records and are becoming more cost conscious.

2.5 Programme Management

The Programme Coordinating Office (PCO) pursued its planned activities to activate the components under the Programme. It provided support to the components, carried out the necessary supervision and coordination of the implementation of the Annual Work Programme and Budget for the year 2010. The PCO also collaborated extensively with Implementing Partners and other IFAD funded projects for the implementation of the relevant component activities. Collaboration / partnership were maintained with the following partners during the year.

- Regional Cassava Processing and Marketing Initiative (RCPMI)
- Rural Enterprise Project (REP-II)
- Rural Technology Facilities (RTF)
- Northern Region Growth Project (NRGP).
- Rural and Agricultural Finance Programme (RAFIP).
- West Africa Agricultural Productivity Project (WAAPP)
- Unleashing the power of cassava (UPoCA).
- European Union for the Production of Certified Planting Materials

A Mid-Term Review Mission and two follow-up Missions to the Programme were completed in May, June and November, 2010 respectively.

To improve the management and leadership skills of its core staff, RTIMP sought the services of GIMPA Consultancy to provide a short training workshop in leadership skills and teambuilding. The workshop was to imbue in the Senior Managers, Managerial Leadership Skills whilst at the same time sensitizing them to the creed of teambuilding and group dynamics. Results from the workshop evaluation showed that, it was very relevant to all the participants. Sixty percent (60%) of them assessed it to be very relevant with the remaining 40% indicating that, it was relevant to their needs.

In the period under review, staff of the Programme participated in the following relevant IFAD – funded workshops to build their capacities for improved work performance for the Programme.

- International Workshop on ‘Global Consultation on Cassava as a Potential Bio energy Crop’organised in Accra-Ghana on 18th to 19th October,2010
- ‘International Workshop on ‘Capitalization and Sharing of Experiences’ organized in Abuja-Nigeria by West Africa Rural Foundation-Senegal (27th to 30th September, 2010)

2010 Budget and Disbursements

A budget of USD3, 213,180 of IFAD loans was approved for 2010. An amount of USD 3,174,313 has been disbursed from January 2010 to December 31st, 2010

Table 17. Loan Disbursement in 2010 by Category

Cat No	Category Description	2010 Budget (USD'000)	Disbursement (USD'000)
I	Vehicles and Office Equipment	456.37	663.41
II	Materials and Supplies	174.27	438.93
III	Specialist Service and Studies:		
	A. Technical Assistance, Professional Services and Studies	652.16	344.11
	B. Subject-Matter Specialists	40.06	45.80
IV	Training, Workshops and Farmers and Entrepreneurs Fora.	1,305.63	1,234.91
V	Funds:		
	A. Initiative Fund	150.00	-
	B. Micro-Enterprise Fund	90.00	70.25
VI	Salaries and Allowances	106.99	290.89*
VII	Operating Costs	237.71	86.01
	TOTAL	3,213.19	3,174.31

* This is mainly salaries. However at mid-term review, it was recommended that, all travel expenses (DSA, Fuel, etc) which were previously charged to cat VII, should be charged to this category. This has also led to recorded low disbursement of cat VII.

Cumulative Disbursement of Loan

As at the end of December 2010, a total of USD 8,744,083 representing 46% of the loan had been utilized since Programme effectiveness.

Table 18: Loan Disbursement as at December 2010 By Category

Cat No.	Category Description	Loan Allocation (USD)	Disbursed (USD)	%
	Authorized Allocation		1,000,000	
I	Vehicles and Office Equipment	3,139,035	1,654,750	53
II	Materials and Supplies	1,961,897	1,307,728	67
III	Specialist Service and Studies			
	A. Technical Assistance, Professional Services and Studies	1,816,571	986,987	54
	B. Subject-Matter Specialists	595,835	152,494	26
IV	Training, Workshops and Farmers and Entrepreneurs Fora	5,725,832	2,544,436	44
V	Funds			
	A. Initiative Fund	944,617	73,242	8
	B. Micro-Enterprise Fund	610,368	151,233	25
VI	Salaries and Allowances	2,136,287	546,885	26
VII	Operating Costs	828,356	326,328	39
	Unallocated	1,206,203	-	
	Total	18,965,000	8,744,083	46

Audited Financial Statements

The Programme Financial Statements for the year ended 31st December 2009 were audited by our external auditors, Messrs Deloitte and Touche. The auditors issued an unqualified statement.

The audited Financial Statements were submitted to IFAD in June 2010.

3.0 OBSERVED EFFECTS, CHALLENGES IN IMPLEMENTATION AND WAY FORWARD

3.1 Observed Effects

-Through the radio programmes, the interest levels of various stakeholders in the R&T commodity chain has gone up . It also brought to the fore, the importance of root and tuber crops as a staple food in the country.

- The DSFs have provided the various value chain actors a platform to interact to build relationships and even make trade deals. Interview and assessment results have shown that, the DSFs have become the think-tank on root and tuber development in the operating districts.

- Generally, the enthusiasm of beneficiaries to access healthy planting material was high. Distribution of planting materials to new pilot cassava commercial planting material growers was effective.

--Most target beneficiaries who have been trained are operating along formal business lines (basic record keeping, adopting active attitude towards market forces, operating Bank Accounts, interaction with Banks for loans, etc).

- The GPCs are now attracting high patronage because of the expanded capacities. The upgrading has impacted positively in terms of income, profit and general productivity of the GPCs. Increased adoption of the GPCs has resulted in:

The GPCs have increased in market output, production output and efficiency

-**Increased market** as a result of production of quality/safe products (gari from Asueyi being exported to Niger, Burkina Faso, Nigeria, USA and UK by Nigeria business men)

– Gari from Jenefal Farms exporting to Gambia

Increased production:

- Before: 2-KIA Load (5.2 tons) / wk;
- After: 5-KIA Load / wk minimum

Efficient Operation

- Before: 1 KIA Load of fire wood to roast 2 KIA Load tubers
- After: 1 KIA Load firewood to roast 4 KIA Load raw material minimum

Increased number of processors (and group membership) around GPCs due to increased capacity.

-Most potential beneficiaries from MEF have been exposed to better processing facilities than theirs, thereby adding on knowledge in processing. Most of them have visited RTIMP GPCs and interacted with equipment fabricators who installed the upgraded facilities.

3.2 Key challenges and Way Forward

■ Initiative Fund

The Technical Service Providers (TSPs) undertaking the Commodity Chain Linkages have not been able to develop initiatives for further upgrading of the value chains (VC) using the Initiative. Some TSPs did not appear to have the competency to identify bottlenecks and develop innovative solutions.

Recruitment of Supply Chain Facilitators on the basis of product lines to enhance the value chain development

■ **Micro-enterprise Fund**

Difficulty in enticing the banks to lend credit to actors in the R & T commodity chain
The operation of the MEF was hampered by a number of issues. The key bottleneck is the unwillingness of most of the accredited PFIs to commit from their own resources short-term funds for the 50% investment cost under MEF.

Effort is being made to expand PFI status to universal commercial banks. Funds Management Agreement has been signed with Ecobank-Ghana to this effect.

- There is a high interest charge (of 25-30%) by PFIs which appear burdensome to processors accessing MEF, although the 40% Grant under the programme provides a cushion for potential clients.

■ **Good Practices Centers (GPC)**

There is high cost of stainless steel materials resulting in low adoption of new technologies especially at group-based GPCs. The standards at some GPCs are lower than expected because the entrepreneurs failed to fulfill their part of the agreement (contribution to the upgrading). The number of processors at group-based GPCs are increasing and therefore having pressure on the facilities resulting in breakdowns.

Assist fabricators to assess tax exemption facility on importation of agricultural equipment/machinery and facilitate more processors to access MEF to acquire additional facilities

- *Increase in the number of GPCs in the Zones / Districts. Upgrade facilities of ten (10) selected processing centres to GPC-1 for gari*
 - *Upgrade facilities of ten (13) selected processing centres to GPC-2 for gari*
 - *Upgrade facilities of three (3) selected processing centres to GPC for agbelima*
 - *A lot still needs to be done to enhance the quality of records being kept by the GPCs*
- Farmers around processing facilities need to be well assisted with planting materials to be able grow to feed the facilities for production of High Quality Cassava Flour.

Lessons learnt

IEC

The Consulting Company that developed the Communication Strategy for RTIMP appeared not to be well-placed to implement at the grassroots level.

Initiative Fund

Selected Service Providers for commodity chain linkages were not as knowledgeable and innovative as originally thought. Potential TSPs / Supply Chain Facilitators would require training after short-listing prior to commencement of assignment.

4.0 CONCLUSION

Programme implementation is progressing smoothly. Implementation of programme activities in the year was on track. Planned outputs were largely achieved across the components.

Through partnership meetings and collaboration with Implementing Partners and other IFAD funded projects, experiences have also been shared on implementation strategies for better result. The Program is moving forward to achieve its development objectives.