

# **CROP POST HARVEST PROGRAMME**

## **Cassava As an Industrial Commodity – Improving Access to Knowledge on Approaches and Options for Expanding Markets for Cassava**

**R8432 (ZB 0374)**

### **PROJECT FINAL REPORT**

**15 January 2005 – 15 January 2006**

#### **Core Partners**

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#### **Managing Partners**

**Dr. Nanam Tay Dziedzoave, Food Research Institute, Ghana  
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## **Section A Executive Summary**

The purpose of this project was to generate and promote new knowledge into how national innovation systems can be mobilised to sustain uptake and adoption of crop post harvest knowledge for the benefit of the poor. Key activities included the development of a data base, the development of a community-owned professionally managed system of management, a public relations strategy, an agribusiness development group and the holding of an exhibition/seminar. The implementation of these activities have led to the establishment of an effective business-oriented management system for a community-owned processing plant at Watro in Ghana, with a resultant increase in its credibility, rate of attraction of support, increase in processing activities and income generation capacity. A data base that will provide easy access to information on sources of funding for improving production activities, SME's involved in the production of cassava-based products, potential markets and end-users of cassava based products, and potential sources of raw material for processing is nearing completion. Various dissemination outputs that would continue to provide valuable knowledge for further expansion of these achievements have been produced notable among which are the Public relations strategy document, the Community-Owned professionally-Managed (CoProM) System of Management document, and the Modalities for the Establishment of the Agri-business Development Group.

In Ghana, practical uptake of project outcomes has resulted in a network of ~5,000 farmers at 15 locations around the country supplying cassava-based products to 30 end-user industries (22 Ghanaian & 8 export opportunities) on a regular basis via three intermediate processing industries. In Zambia, preliminary work established that a high level of interest exists from both public and private sectors to access research outcomes from Ghana. In early, 2006 a seminar will take place in Lusaka to showcase the work from Ghana, involving members of the Ghana coalition and opening the possibility for more extensive south-south collaboration.

Overall the outcomes of projects R6504, R7418, R8268 and R8432, have resulted in a comprehensive package of resources for development of cassava as an industrial commodity starting from initial assessment of market demand and availability of raw material supply, through uptake of specific cost-effective processing technologies to the establishment of an organised supporting institutional framework in the form of an agri-business development group to ensure the long term sustainability of the market opportunity for the farmers. This system is being taken up in Ghana, and has potential for transfer to other countries and would be an ideal candidate for further development and expansion through the new DFID research into use facility. Some elements such as the entrepreneurs database are Ghana specific and the processing technologies relate to cassava, but the wider systems for market development, business support, commercial conflict resolution and close integration of public and private sectors can be applied to any agro-industrial commodity in any country. Within Ghana, all stakeholders – farmers, processors, end-users, entrepreneurs, policy makers and supporting organisations, - know where to go to find adequate resources that would help them address the peculiar problems they face with respect to funding sources, raw material supply, markets into which to sell products, business oriented management systems, and public relations strategies to promote good relations between trading partners; and improve their income earning capacities.

## Section B Identification and design stage

### **Poverty focus & livelihood constraints**

*How did the project aim to contribute to poverty reduction?*

The project aimed at contributing to poverty reduction by increasing the industrial uptake of cassava through improving access to knowledge on approaches and options for expanding markets for cassava.

Dry chips command a lower price than fresh roots but they have proved attractive to farmers due to their greater shelf-life and market stability. Improved small-scale chipping technologies have enabled small groups of farmers in Brong Ahafo to produce high quality chips for sale at a profit. Chips could be used for livestock feed without further processing, or milled into flour for food or industrial purposes. Previous CPHP research by Dziedzoave *et al.* (1998) developed food-grade cassava flour with potential to substitute for at least 50% of the 300,000 tonnes of wheat flour imported to Ghana each year. Cassava flour had been used successfully to substitute for wheat flour as an extender in plywood glues, and as the basis of non-waterproof adhesives for the paperboard industry. Studies indicated that cassava flour has considerable potential as a raw material for production of sugars and industrial alcohol for use in Ghana's expanding industrial sector. An integrated supply chain, which can provide end-users and manufacturers with an assured supply of consistent quality cassava flour (or chips) at a competitive price was developed to promote the uptake of these technologies on a commercial scale. However the lack of easy access to information was still a bottleneck to the fast uptake of the technologies, the exploitation of the market opportunities available, and the consequent improvement in rural incomes.

*Was it enabling, inclusive or focussed (see definitions below<sup>1</sup>)?*

This project comes under the inclusive category of poverty reduction, as work on expanded markets for cassava has benefits for both the rural poor and rich entrepreneurs willing to invest in industrialisation of cassava, and industrial end users of cassava-based products. There is a synergy between the different groups in the chain as no one group can benefit without the involvement of the other groups. However, it should be clearly understood that the primary beneficiaries are the rural poor who grow cassava for a living. As these groups lack resources in terms of capital and technical and business knowledge, the project has built in mechanisms for easy access to knowledge by all stakeholders in the form of a data base and technical support.

*What aspects of poverty were targeted, and for which groups?*

The primary beneficiaries of the project were intended to be members of rural households in Ghana and Zambia involved in:

- Cassava farming
- Small-scale processing of cassava
- Medium-scale processing of cassava
- Small-scale utilisation of cassava products (mainly rural bakeries)

The number of households involved in cassava farming activities in the rural forest zone of Ghana is approximately 970,000, and those involved in agro-processing is about 380,000 (GSS, 1995). The annual per capita income for Ghana is ¢527,000 (£44), and for Brong Ahafo Region it is ¢548,000 (£46) both of which are below the average poverty line of ¢900,000 (£75), and the extreme poverty line of ¢700,000 (£58) per annum (Ashong and Smith, 2001; GSS, 2000). The aspect of poverty being addressed therefore in this project is

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<sup>1</sup> **Enabling:** addresses an issue that under-pins pro-poor economic growth or other policies for poverty reduction which leads to social, environmental and economic benefits for poor people

**Inclusive:** addresses an issue that affects both rich and poor, but from which the poor will benefit equally

**Focussed:** addresses an issue that directly affects the rights, interests and needs of poor people primarily

the improvement in incomes of the rural poor. The groups targeted under this project were mostly rural farmers and processors and fall within the poverty groupings described

The secondary beneficiaries of this project were the entrepreneurs investing in medium-scale processing of cassava-based products, and the industrial users of these products in the urban centres. These groups cannot be classified as poor in terms of income, although they do lack information and technology to develop market opportunities for cassava. However, they form a vital link in the market chain and must be involved if the primary beneficiary is to benefit from expanded markets for cassava. The entrepreneurs involved in medium-scale processing help to create rural employment as their existing factories are situated in rural areas >25km from the urban limits of Accra or Kumasi. The focus of this project therefore was to promote the sustainable industrialisation of cassava as a means of improving rural livelihoods.

*Please describe the importance of the livelihood constraint(s) that the project sought to address and specify how and why this was identified.*

The major livelihood problems faced by the primary beneficiaries were as follows: lack of access to markets for fresh cassava; unreliability of existing markets; inability to access existing potential markets; unavailability of appropriate technologies and technical know-how to meet the demands of existing potential markets; high production costs and low profit margins on food products; high unemployment rates especially during off-peak farming seasons, and the absence of a conducive policy environment for industrial utilisation of cassava products. The importance of these constraints lies in the fact that the estimated cassava surplus for 2001 after making allowances for consumption was 3.5 million metric tonnes which accounted for 38% of national production (SRID/MOFA, 2001; Quaye *et al.*, 2002) the equivalent of 400 million cedis eluding the farmer annually.

These constraints were identified through analysis of statistical data from national surveys (GSS, 2000), needs assessment studies (Kleih *et al.*, 1994), discussions with farmers, cost benefit analysis, commercial trials and market research studies (Day *et al.*, 1996; Graffham *et al.*, 1998). The purpose for identifying these constraints was to find possible avenues to address them and improve farmers' income.

*How and to what extent did the project understand and work with different groups of end users? Describe the design for adoption of project outputs by the user partners?*

The project sought to understand and work with different groups of end-users through a combination of personal communication and technical visits. The design for the adoption of project outputs by the user partners involved the strategic use of private sector intermediaries, and the promotion of outputs to the IFAD-funded Root and Tuber improvement programme of the Ministry of Food and Agriculture of Ghana, and the Ga-Rural District Assembly.

***Institutional factors***

*Describe the process of forming the coalition partnership from the design stage and its evolution during the project?*

The coalition partnership formation process started before the advent of the current project. The step by step process was as follows:

- the managing partners identified the livelihood improvement issues and the constraints militating against the adequate redress of those issues,
- Possible institutions that have the potential for addressing the issues were identified.
- Contacts were made with the identified institutions and discussions held with respect to the project objectives and the issues at stake and the possibility of the institutions participating in the project.
- A meeting of all interested institutions was then held to discuss together individual roles, separation of responsibilities, the interrelationships between institutions, and how these should be properly respected, harnessed and coordinated for the overall achievement of project objectives.

In the course of implementation of the project new roles were identified and in situations where no existing partner can take on those roles, new partners were identified, contacted and invited to join the coalition. Through this procedure the coalition grew from an initial number of three through five and nine to ten.

## **Section C      Research Activities**

This section should include a description of all the research activities (research studies, surveys etc.) conducted to achieve the outputs of the project analysed against the milestones set for the implementation period.

Information on any facilities, expertise and special resources used to implement the project should also be included.

### **Management system for Cassava SME's**

Through a review of different management systems and the peculiar constraints facing cassava SME's; and in attempt to improve the management of community owned small and medium scale enterprises (SME's), a community/private partnership system of management dubbed Community-owned Professionally-Managed system of management (CoProM) was developed for promotion to potential stakeholders. The system is seemingly a marriage of some aspects of a Cooperative and those of a limited liability company. Key components of the system include the establishment of a Management Board, and a Management Team, a clear definition of the roles and benefits of potential stakeholders, the establishment and implementation of a shareholding /dividend payment policy and a procedure for brokering partnerships. The application of the system is expected to improve the profitability of SME's and bring significant benefits to all stakeholders and most especially the communities within which the various processing plants are established. The system has been promoted to two NGO's (Association of Progressive Entrepreneurs in development-APED and Global Non-Traditional Exporters and Producers Association - GNTEPA) and the RTIP. APED has adopted the system and is currently testing the system at a Community processing plant at Watro in the Atebubu District of the Brong Ahafo Region.

### **HQCF Distribution**

A package for establishing HQCF distribution centres in selected districts of the Brong Ahafo Region of Ghana has been developed. The package was developed on the following key components;

- The use of wheat flour distribution centres as depots for HQCF
- Provision of training and technical assistance to SME's, and wheat flour distribution centres (WFDC).
- Introduction of SME's to WFDC.

A survey was conducted which led to the identification of sixteen (16) wheat flour distribution centres by the Ministry of Food and Agriculture (MoFA), Brong Ahafo Directorate, under the project in five Districts of the Brong Ahafo region. Principles and procedures were developed for establishing sixteen HQCF distribution centres (Depots) in the Brong Ahafo region using the data collected.

## **PR Strategy**

Through a review of secondary literature and interviews with different media practitioners, a public relations strategy was developed to sustain the interest of all stakeholders in the project. The principal component of the strategy are as follows:

- Development and Distribution of Project Newsletters
- Development and Distribution of Seasonal Greeting Cards, Calendars and other promotional items
- Development of a system of physical and electronic contact with all stakeholders
- Radio Talk shows and workshops to inform the general public about the project and its prospects
- Newspaper articles are also effective publicity tools. These can be written and sent to the media houses or the press could be invited to take notes during workshops and conferences.

Because of time constraints the implementation of the strategy within the project life span was not possible. However the idea has been promoted to the coordinator of the RTIP project for possible adoption and implementation within the next phase of the RTIP which is now RTIMP.

## **Agri-Business Development Group**

Through a review of business development principles and agricultural development objectives, modalities for the formation of an Agri-Business development Group was established through which an Agri-Business Development Group was formed. The idea of forming the Agri-Business development Group was to draw on the expertise from different institutions and yet working as a unitary group with a single objective and focused on promoting research, technology transfer, agro-industry development and expanded markets for agricultural products. The experiences and benefits gained from working together in a similar fashion but within the context of a project (the DFID-funded project on Expanded Markets for cassava), had provided enough evidence to believe that this is a workable proposition with significant national benefits. The purpose of mooted the idea of the formation of the group is to formalize the existence of the group, give it an identifiable face that can win national and international credibility in promoting agro-business in Ghana and in the West African Sub-Region. The group expects to pool the individual strengths of the member institutions to take advantage of opportunities available for attracting funds, project management and business development in general and deliver on this much more effectively than an individual institution can do. The composite strength of the group is expected to offer more attraction and promote better progress than the strengths of individual institutions. The group currently comprises the project leaders of the coalition of the currently ended DFID-Funded project (R8432). It is expected that the group would operate for a trial period of at least one year and then a formal launching of the group would take place and then consideration would be given to bringing other members on board.

## **Data Base Development**

A review of secondary literature as well as a national survey in collaboration with regional directorates of MOFA and the Business Advisory Centers of the National Board for Small scale Industries was undertaken to compile information on:

- Cassava production capacities of the various districts in Ghana.
- Cassava SME's and cassava processing associations in the main cassava producing regions in the Ghana,
- Funding Sources for cassava SME's as well as other processors in Ghana
- Identifiable potential end-users for cassava-based products within and without Ghana.

The information is currently being developed into a data base to facilitate business development efforts for cassava producers, processors and end-users as well as policy makers and potential entrepreneurs.

## **Promotion of Project Outputs to the Ga-Rural District assembly**

Through the initiative of Afrimart Global Enterprise, one of the coalition partners, the projects market linkage system was promoted to the Ga District Assembly with the added proposal of organising and linking up farmer groups to processors to facilitate easy access to raw materials. Several discussions have led to Mr. Baffour Asare-Bediako, project Leader for Afrimart Global enterprise being appointed the Chairman of the Steering Committee for the Farmer Based organisation Development Fund. This initiative is going to give cassava farmers and processors access to about ₵2.2 billion for training, rehabilitation/acquisition of facilities, capacity building etc., amongst other things. The training component of the programme is to be taken up by the coalition when things finally get off the ground.



## **Section D Outputs**

**Output 1** Sustainable environment for business development created using an innovation partnerships approach to incorporate project outcomes into the national system (Ghana).

- Modalities for the creation of the Agri-business development group have been developed. The group has been formed and includes all the eight local project leaders of the coalition in Ghana. The launching of the group has been deferred because the coalition thought the group must operate for at least a year and have some results on the ground to show at the time of its launching.
- Sufficient data has been collected to improve access to business information. These include:
  - Data on over 150 funding sources for SME's
  - Data on about 150 cassava SME's and processing groups from seven regions in Ghana.
  - Data on about 50 end-users of cassava-based products.
  - Data on about 16 wheat flour distribution centres in five districts in the Brong Ahafo region.
- The 'Community-owned Professionally managed' system of management has been developed and promoted to two NGO's and the RTIP for adoption. The system is currently being tested at Watro in the Atebubu District of the Brong Ahafo Region by APED – a microfinance NGO. No data has been generated yet from the tests.
- Strategies for improving the accessibility of cassava flour in the Brong Ahafo Region have been developed but are yet to be tested.
- The Ga District Assembly has embraced the project's concept of market linkages and has appointed the project leader of Afrimart Global Enterprises, Mr Baffour Asare-Bediako, as Chairman of the MOFA-Farmer-Based Organisation Development Fund.

**Output 2** Concepts and Approaches for development of agribusiness involving innovation partnerships and knowledge management systems introduced to key stakeholders in Zambia.

- A preliminary evaluation of conditions in Zambia was completed by FRI and NRI during 2005 and a Zambian coalition group consisting of the National Institute for Scientific and Industrial Research (NISIR), the Programme Against Malnutrition (PAM) and the Ministry of Agriculture and Cooperatives (MACO) was established to organise a dissemination event in Zambia. Considerable interest in this event has been received from both public and private sector institutions in Zambia (via email communications). However, the event has been postponed as NISIR, FRI and NRI could not find a convenient date when all parties were available during 2005, but the event will run by 31<sup>st</sup> March 2006 and bring public and private sector experts from the Ghana coalition and NRI to Zambia to provide a showcase of knowledge and approaches for stakeholders in Zambia.

**Output 3**      Effective Management of the project coalition ensured leading to timely delivery of all project outputs.

- Monitoring visits were undertaken to various coalition partners to monitor progress on project activities.
- Institutional and Coalition quarterly meetings were held as planned and the relevant reports – periodic as well as technical - prepared and submitted.
- Even though some of the outputs were not delivered on time the performance of partners could be considered as 65% satisfactory.

**Section E: Purpose**

Based on the values of your purpose level OVIs, to what extent was the purpose achieved? In other words, to what degree have partners/other users adopted the research outputs or have the results of the research been validated as potentially effective at farmer/processor/trader level?

To a reasonable extent the purpose level OVI's would be considered to have been partially achieved. The OVI's were as follows:

- By 2006, evidence-based strategies on how to facilitate the exchange of knowledge/information between suppliers and users documented within >2 regions, and disseminated to intermediary organisation in four regions
- By 2006, CPHP outputs under all five research themes demonstrate self-sustaining extension and impact on a wider scale in >2 regions each.
- By 2006, evidence-based insights on how research innovations can be introduced sustainably into local knowledge systems are disseminated to intermediary organisations in 4 regions.
- By 2006, thematic synthesis of CPHP's technical outputs are disseminated to intermediary organisations in 4 regions.
- By 2006, databases of partners and organisations involved in, and processes involved in management of innovation and knowledge by the CPHP are made available to intermediary organisation in 4 regions.

Most of the documentation relating to these OVI's have been achieved as reported under the outputs and in the attached internal reports. The dissemination to the four regions is what has been lacking because the documentation took a little bit more time and expense than estimated and there was thus not enough time and funds to address the dissemination issues. So far one NGO, the RTIP and the Ga district Assembly in Accra are the only beneficiary intermediate organisations reached in two regions.

## Section F Goal

The project goal was that: National and international crop-post harvest innovation systems respond more effectively to the needs of the poor. The availability of the various documentations from the project would enable:

- user agencies access information more easily,
- SME's to be managed more efficiently,
- Improved publicity for cassava-based products

Leading to improved business practices, increased patronage and consequently improved incomes for the poor cassava farmers and farmer processors.

## Section G Project effectiveness

This section of the evaluation report uses the rating criteria for the purpose and your outputs previously used in your annual reports.

<b>Purpose</b>	<b>Rating</b>
To generate and promote new knowledge into how national innovation systems can be mobilised to sustain uptake and adoption of CPH knowledge for the benefit of the poor.	2
<b>Outputs</b>	<b>Rating</b>
<b>Output 1:</b> Sustainable environment for business development created using an innovation partnerships approach to incorporate project outcomes into the national system (Ghana).	2
<b>Output 2:</b> Concepts and Approaches for development of agribusiness involving innovation partnerships and knowledge management systems introduced to key stakeholders in Zambia.	3
<b>Output 3:</b> Effective Management of the project coalition ensured leading to timely delivery of all project outputs.	2

1= completely achieved

2= largely achieved

3= partially achieved

4= achieved only to a very limited extent

X= too early to judge the extent of achievement (avoid using this rating for purpose and outputs)

## **Section H Uptake and Impact**

### ***Organisational Uptake***

The Community-owned Professionally-managed system of Management (CoProM) has been adopted by the Association of Progressive Entrepreneurs in Development (APED) at their regional office in Atebubu. In addition there has been interest in the outcomes of project R8432 from the RTIP secretariat as part of the second phase of RTIP in Ghana.

### ***End user uptake***

The CPHP funded family of cassava projects (R6504, R7418, R8268 & R8432) followed an iterative system of ongoing research feeding back to development in the field and feedback from the field guiding further research, and the private sector were not only involved from day 1 of the cycle of projects but the process of developing cassava as an industrial commodity was clearly private sector driven, making use of the demand of end-users of starch-based products for cheaper locally produced alternatives to expensive imported materials and the demand from cassava farmers for a market for surplus cassava. As a result practical uptake has been extensive and by end 2005, a network of farmers had been established in 15 areas across Ghana selling via three intermediate processing companies to 30 end-user industries.

### ***Knowledge***

The CPHP funded family of projects have created a complete range of knowledge necessary for developing cassava as an industrial commodity, starting with methods for value chain analysis, and cost effective processing technologies and running through to systems for community owned professionally managed processing industries and packages for the establishment of an agribusiness development group. This knowledge has proved to be useful in Ghana for expanding markets for cassava as an industrial commodity, and could be transferred readily to other countries such as Zambia and most of the components of the system could be applied to almost any agro-industrial commodity. For example FRI has applied some of these approaches to work on red palm and NRI has made use of the value chain analysis component for work on the coconut, handicrafts and horticulture sub-sectors in Mozambique.

### ***Institutional***

One of the main institutional failings commonly found in countries such as Ghana is the apparent lack of strong links between many public sector institutions, private sector organisations and farmer groups that share common goals. The integrated approach taken throughout the CPHP funded family of cassava projects in Ghana has culminated in bringing together a wide ranging group of stakeholders, creation of a sustainable supporting institutional framework in the form of the agri-business development group (ABDEG) and a system and approach that is private sector and demand driven. There is potential for the group of institutions forming the ABDEG to build on their experience with cassava by applying this knowledge and approach for other agro-industrial commodities in Ghana.

In Zambia, preliminary work has already brought three disparate organisations with common goals closer together, there is clearly potential for the National Institute for Scientific and Industrial Research (NISIR), Programme Against Malnutrition (PAM) and the Ministry of Agriculture and Cooperatives (MACO) to integrate their work programmes on cassava and form the foundations for a Zambian ABDEG rather than the current situation of several completely separate projects. The visit by the R8432 managing partners to Zambia, showed the importance of south-south cooperation and the potential for transfer of knowledge and skills from Ghana to avoid many of the common errors faced in developing cassava as an industrial commodity by bringing in public and private sector experts from Ghana.

### ***Policy***

The government of Ghana, has remained committed to the development of cassava as a major commodity as evinced by the Presidential Special Initiative (PSI) on cassava starch and the Root and Tuber Improvement Programme (RTIP) which is now entering a second phase. However these large programmes have taken a very different approach to the problem of expanded markets for cassava. The PSI went for a single large-scale starch factory and RTIP phase 1 focussed heavily on increasing production with less effort being made on post-harvest processing and marketing of cassava-based products to end-users. The second phase of RTIP appears ready to redress the balance on post-harvest handling, processing and marketing of cassava-based products in Ghana. The agri-business development group established under project R8432 is well placed as part of the national innovation system to support RTIP to implement the successful outcomes of CPHP funded research more widely and to provide the necessary policy advice to avoid some of the mistakes normally made by donor driven initiatives.

### ***Poverty and livelihoods***

Research projects frequently fail to have any impact on poverty within the life of the project, as often the focus is simply on research, leaving practical uptake to occur later. In the CPHP family of cassava projects (R6504, R7418, R8268 & R8432) in Ghana an integrated approach was taken that involved all stakeholders from day 1 of the project and sought to implement research outcomes as part of the ongoing research process. The projects impact on poverty has operated at more than one level.

In 1998, the project helped establish a processors group in Watro (Brong Ahafo) with 22 members. At this time the farmers had a mean per capita income of £46 per annum, no bank accounts, no access to loans, no access to a market intermediary and only sold to a local town 9km from Watro. During 1998, the total income for the group from cassava processing was just £125. However, by 2004, the Watro group had grown to 60 members, all having access to bank accounts. 20 of these farmers had accessed micro-finance loans of between £32 and £125, successfully repaid these loans and taken out second loans of between 14 and 50% higher than the first loan as credit worthiness increased. The group income for 2004 was £2,552.

On a national level by 2004, 3 market intermediary processors had been established supporting a network of some 3,000 farmers. The leading processor AAPC, had a network of 1,200 farmers whose income from cassava had shifted from a mean of £96 per annum (pre-product) to a mean of £304, with income from cassava ranging from £20.31 to £1,787 per farmer.

By the end of 2005, the cassava processing network supported by the 3 intermediate processing industries in Ghana had expanded to ~5,000 farmers spread around 15 geographically separate locations. Sales of cassava based products are being made on a regular basis to 30 end users, 22 of these being Ghanaian companies with the remaining 8 being export sales to Angola, Burkina Faso, United Kingdom and the United States of America.

### ***Environment***

Production of native cassava starch on a medium to large-scale can have a negative impact on the environment due to the production of large amounts of liquid effluent containing cyanogenic glucosides and having a high biological and chemical oxygen demand due to the level of suspended solids and high levels of readily digested carbohydrates. This problem was eliminated in the system developed under projects R6504, R7418, R8268 & R8432 by concentrating on conversion of raw cassava into high quality cassava flour, a process that generates very little liquid effluent. Furthermore processing was spread over 15 geographically dispersed locations across Ghana, thus minimising the environmental impact of processing at any given location.

Date: 31<sup>st</sup> January 2006

#### Core Partners:

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Dr. David Pessey (FFGL)  
Dr. Daniel. Sekyere (FORIG)  
Mr. Lawrence Krampah (MoFA)  
Mr. E.O. Boateng (NBSSI)  
Prof. G.S. Ayernor (UoG)  
Mr. Baffour Asare-Bediako (AGE)

#### Managing Partners:

Dr A. Graffham (NRI)  
Dr N. Dziedzoave (FRI)

## ANNEX 1: Project Logical Framework

### 3. Project LogFrame:

*All sections should be completed. Please refer to the Guidance Sheet on Developing a LogFrame. Please contact the Regional Coordinator for further guidance, if necessary.*

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Risks
<b>Goal</b>			
National and international crop-post harvest innovation systems respond more effectively to the needs of the poor.	By 2005, a replicable range of different institutional arrangements which effectively and sustainably improve access to post-harvest knowledge and/or stimulate post-harvest innovation to benefit the poor have been validate in four regions.	Project evaluation reports.  Regional Coordinators' Annual Reports.  CPHP Annual Reports.  CPHP Review 2005.  Partners' reports.	National and international crop-post harvest systems have the capacity to respond to and integrate an increased range of research outputs during and after programme completion.  National and international delivery systems deliver a range of services relevant to poor people in both focus and non-focus countries.  Livelihood analysis provides accurate identification of researchable constraints or opportunities that lead to poverty reduction.

Purpose			
<p>New knowledge is generated and promoted into how national innovation systems can be mobilised to sustain uptake and adoption of CPH knowledge for the benefit of the poor</p> <p><i>This is the problem or opportunity that the proposal address. Coalition partners could develop their own Purpose statement in place of the above.</i></p>	<p>1. By 2006, evidence-based strategies on how to facilitate the exchange of knowledge/information between supplies and users documented within &gt;2 regions, and disseminated to intermediary organisation in four regions</p> <p>2. By 2006, CPHP outputs under all five research themes demonstrate self-sustaining extension and impact on a wider scale in &gt;2 regions each.</p> <p>3. By 2006, evidence-based insights on how research innovations can be introduced sustainably into local knowledge systems are disseminated to intermediary organisations in 4 regions.</p> <p>4. By 2006, thematic synthesis of CPHP's technical outputs are disseminated to intermediary organisations in 4 regions.</p> <p>5. By 2006, databases of partners and organisations involved in, and processes involved in management of innovation and knowledge by the CPHP are made available to intermediary organisation in 4 regions.</p> <p><i>Select and indicate which of the above indicators apply to the proposed project.</i></p>	<p>1.1 Reports on documentary and photographic evidence-based strategies.</p> <p>2.1 Impact assessment reports demonstrating self sustainability and scale of expansion</p> <p>3.1 Technical Reports photographically documenting innovative research contribution to local knowledge systems.</p>	<p>No immediate external risks can be identified for this level except the continued timely release of funds from the CPHP.</p>
Outputs			
<p>1.0 Sustainable environment for business development created using an innovation partnerships approach to incorporate project outcomes into the national system (Ghana).</p>	<p>1.1 By Sept., 2005 Agri-Business Development Group (ABDeG) becomes Operational.</p> <p>1.2 By Sept., 2005 Data Base becomes accessible.</p> <p>1.3 By Sept., 2005 'Community-owned-professionally-managed' (COProM) system of management becomes operational in at least 2 RTIP-established cassava processing plants; and one District Assembly-supported processing</p>	<p>1.1 Report on the post-launching operational status of ABDeG and national sectors where project concepts are being applied.</p> <p>1.2 Report on the extent of distribution of CD-ROMS and number of enquirers visiting webpage.</p> <p>1.3 Comparative evaluation report on the performance of the COProM management system in the different SME's.</p>	<p><i>Identify factors which lie outside the control of the project but which affect the ability of the project outputs to contribute effectively to the project purpose(s) eg policies, markets, relationships between organisations .</i></p> <p><i>We ask for these so you and others can assess the likelihood of the project outputs contributing to its purpose. The programme may be able to advocate for these factors to be addressed by a third party.</i></p> <p>RTIP Phase II gets approved.</p> <p>Other national systems agree</p>



<p>2.0 Concepts and approaches for development of agribusinesses involving innovation partnerships and knowledge management systems introduced to key stakeholders in Zambia.</p> <p>3.0 Effective management of the project coalition ensured leading to timely delivery of all project outputs.</p>	<p>plant.</p> <p>1.4 By Oct 2005 at least two SME's educated and facilitated to gain access to funds from alternative sources of funding.</p> <p>1.5 Concepts integrated into RTIP, District Assemblies and other national systems with consequent increase in business activity for farmers, SME's and end-users by November 2005.</p> <p>2.1 Awareness of at least 50 (per country) private sector companies and supporting institutions (public, private and NGO) raised as to the potential of cassava for non-traditional food and industrial markets, and to approaches for creating and sustaining a supporting framework for agribusiness development in Zambia by June 2005.</p> <p>2.2 At least 10 (in each country) commercial or non-commercial institutions respond positively to the material presented at the workshops and confirm their interest in adopting approaches that will improve the supporting institutional framework for institutional development by working with Ghanaian/UK team to develop outline proposals for taking the new knowledge forward with a clearly identified source of financial support, proposal complete by September 2005.</p> <p>3.1 By November 2005, all coalition partners deliver on all project outputs.</p> <p>3.2 By November 2005, at least 3 quarterly review meetings, one stakeholders' meeting, one managing partners meeting, 4 institutional review meetings and one annual review meeting held.</p>	<p>1.4 Funding Application Forms and Letters offering the funding.</p> <p>1.5 Project Final Report.</p> <p>2.1 Copies of dissemination materials, dissemination lists and feedback and reports from awareness and training workshops available by July 2005.</p> <p>2.2 Copies of evaluation report indicating level of interest in uptake of revised approaches, and copies of outline proposals for taking work forwards available by October 2005.</p> <p>3.1 Project Final Report and Project Completion Summary Sheet.</p> <p>3.2 Report on proceedings of meetings held.</p>	<p>to work with the project.</p> <p>2.1 Production of cassava has expanded very rapidly in Zambia over the last 10 years with production, government priorities and pro cassava policies being driven by sustained changes in climate resulting in repeated periods of severe drought and a desire to reduce farmers' dependence on maize which is far from being a drought tolerant crop. There is always a risk that a further change in weather patterns may shift government and donor interest away from cassava. Although this could disrupt uptake of ideas on cassava as an industrial commodity, the general concepts on approaches for development of agro-industries would remain valid and in addition expansion of the range of marketing options would help to guard farmers against failure of a single market.</p>
<p><b>Activities</b></p>			
<p>1.1 Creation and launching of an Agri-Business Development Group (ABDeG) to facilitate business development and national integration of project outcomes on a sustainable basis.</p>	<p><i>A milestone form (provided with this form) needs to be completed and expenditure forecast by the quarter. The total of the first three quarters must not exceed 75% of the total budget.</i></p> <p><b>See milestone chart in section 12 of the PMF</b></p>	<p>1.1 ABDeG operational document; technical report on the official launching of ABDeG with photographs.</p>	

<p>1.2 Improving access to vital business information and improved management practices through the development of a data base of funding sources, production centres and marketing outlets for cassava-based products; and the establishment of a 'community-owned-professionally-managed' (COProM) system of management.</p> <p>1.3 Documentation of concepts and strategies for improving the accessibility of HQCF for domestic and industrial use; and the introduction and proof-testing of the concepts to the MOFA through RTIP for integration into RTIP Phase II and the national system.</p> <p>1.4 Repackaging of concepts and strategies for increasing accessibility of funds from alternative sources of funding for improving SME facilities and management structures in rural communities; and the introduction and proof-testing of the concepts to selected District Assemblies for integration into the District Assemblies' funding system.</p> <p>2.1 Current status of institutional framework and existing initiatives on processing and marketing of cassava in Zambia assessed.</p> <p>2.2 Manuals, brochures, presentations and short film on the concepts behind the uptake of work on expanded markets for cassava developed, and dispersed to key stakeholders in Ghana and to stakeholders in Zambia via activity 2.3.</p>	<p>1.2 Database on CD-ROM; Web page extracts; COProM management manual; and reports on the implementation process at the processing plants with relevant signatures of the parties involved.</p> <p>1.3 Document on concepts and strategies for improving accessibility; Reports on proof-testing activities.</p> <p>1.4 Document on concepts and strategies for increasing accessibility of funds; Reports on proof-testing activities.</p> <p>2.1 Reports of assessment and initial visits by managing partners to Zambia available by end March 05.</p> <p>2.2 Copies of colourful brochure available Feb 05, copies of training manuals and presentation modules available by Apr 05, and short film on approaches for development of agro-industrial markets available by mid Jun 05.</p>	<p>Any form of inertia from the RTIP, MOFA, or the District Assemblies could adversely affect the contribution of project activities to project outputs. An in-built safety mechanism for this risk is the proof-testing activities which are designed to address this risk by creating a practical participatory environment for appreciating the concepts being promoted and thereby inducing the necessary level of cooperation.</p> <p>2.1 The approach of preparing activity based budgets for Zambia without having the opportunity for discussion in country prior to approval of the PMF has the advantage of allowing flexibility in choice of partners but raises the risk that Zambian partners will be unwilling to commit to the activities. This is however, unlikely as prospective initial partners in Zambia are already connected with NRI via other non-CPHP funded projects (CFC/IFAD &amp; EU respectively).</p>
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<p>2.3 Seminar and exhibition to introduce key stakeholders to the concept of using innovation partnership and knowledge management techniques to develop market chains and supporting institutional frameworks for agro-industries held in Zambia.</p> <p>2.4 Reaction of key stakeholders to the concepts presented at the seminar/exhibition (2.3), and any modification to institutional thinking assessed.</p> <p>3.1 Monitoring and evaluation of project progress to ensure proper cohesion of activities between partners and purposeful progress towards project outcomes.</p> <p>3.2 Organisation of periodic meetings at the institutional, coalition and stakeholders' levels to review activities at these levels for purposes of collating views from other partners for improving performance as well as pooling together information needed for the preparation of quarterly and annual reports.</p> <p>3.3 Preparation of Project management reports for purposes of, informing the CPHP of the progress of project activities, documenting lessons from the project for future use as well as ensuring the technical quality of project technical reports.</p>		<p>2.3 Reports of seminars and post-seminar feedback sessions for Zambia available by mid Sep 05.</p> <p>2.4 Copies of final report on cross regional activities covering both countries available by end Oct 05.</p> <p>3.1 Management and evaluation reports; completed management and evaluation forms.</p> <p>3.2 Minutes of meetings.</p> <p>3.3 Quarterly Reports; Technical Reports.</p>	<p>2.2 Ultimately uptake of new ideas and approaches rests with the Zambian stakeholders. Although no problems are anticipated it is possible that some resistance to new ideas might be encountered especially if players feel that the Ghana/UK team are undermining existing efforts. It will therefore be most important to make positive use of the information gathered in activity 2.1 by maximising on the best features of existing activities and showing that ideas from Ghana can complement and integrate into the existing system rather than disrupting it.</p>
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**ANNEX 2: Partner (user) organisations workplan for adopting project outputs**

Thanks to the approach taken in this project and its predecessors uptake is already ongoing with a commercial imperative that will ensure sustainability beyond the life of the CPHP.

**ANNEX 3: Feedback on the process from Partners(s) and users (where appropriate)**

Please see, copies of relevant project reports covering monitoring visits.

#### ANNEX 4: Disseminated outputs

Reference Type (as in NRIL green citation guidelines)	Citation Details	YES/NO**
Internal Report	Dziedzoave, N., Komlaga, G., Glover-Amengor, M., Yawson, I., Kudjawu, B. and Gyato, C. (2005). Modalities for the establishment of an Agri-Business Development Group (ABDeG). DFID Crop Post-Harvest Programme, Final Report on Project Output 1.1.2 , Project R8432. Food Research Institute, Accra, Ghana 6pp [English]	Yes
Internal Report	Frimpong, F., Dziedzoave, N., Komlaga, G., Yawson, I., Glover-Amengor, M., Kudjawu, B. (2005). Development of a 'Community-Owned Professionally-managed' system of management (COProM) for Cassava SME's. DFID Crop Post-Harvest Programme, Final Report on Project Output 1.2.5 , Project R8432. Food Research Institute, Accra, Ghana 11pp [English]	Yes
Internal Report	Glover-Amengor, M., Dziedzoave, N., Komlaga, G., Yawson, I., Kudjawu, B., Gyato, C. (2005). Development of a Public Relations Strategy for Sustaining the Interest of Stakeholders in Project Activities. DFID Crop Post-Harvest Programme, Final Report on Project Output 3.1.3, Project R8432. Food Research Institute, Accra, Ghana 7pp [English]	Yes
Internal Report	Ayernor, G.S., Ocloo, F.C.K., Anom, E. (2005). Easy to Understand Quality Control Manual for The Production of Alcohol From Cassava. DFID Crop Post-Harvest Programme, Final Report on Project Output 2.2.2 , Project R8432. University of Ghana, Legon, Accra, Ghana 11pp [English]	Yes
Internal Report	Yawson, I., Dziedzoave, N., Komlaga, G., Glover-Amengor, M., Kudjawu, B. (2005). Proceedings of the Quarters 1 and 2 Coalition Review Meetings. DFID Crop Post-Harvest Programme, Final Report on Project Output 3.2.2 , Project R8432. Food Research Institute, Accra, Ghana 11pp [English]	Yes
Internal Report	Komlaga, G., Krampah L., Dziedzoave, N., Glover-Amengor, M., Yawson, I., Kudjawu, B. Procedures for establishing Cassava flour Distribution Centers in the Brong Ahafo Region of Ghana. DFID Crop Post-Harvest Programme, Final Report on Project Output 1.3.1 , Project R8432. Food Research Institute, Accra, Ghana 12pp [English]	Yes
Internal Report	Yawson, I., Dziedzoave, N., Komlaga, G., Glover-Amengor, M., Kudjawu, B. (2005). Proceedings of the Quarter 3 Coalition Review Meetings. DFID Crop Post-Harvest Programme, Final Report on Project Output 3.2.2 , Project R8432. Food Research Institute, Accra, Ghana 15pp [English]	No
Internal Report	Dziedzoave, N., Krampah, L., Baeka, D and Komlaga, G. Information on Location of Cassava SME's in	No

	Ghana, Funding Sources for Cassava SME's and Location of Potential Markets for high quality cassava flour (HQCF). DFID Crop Post-Harvest Programme, Final Report on Project Output 1.2.1 and 1.2.3 , Project R8432. Food Research Institute, Accra, Ghana 20pp [English]	
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**Other Dissemination of Results:**

*[use the format in the green guide book]*

Reference Type (as in NRIL green citation guidelines)	Citation Details	YES/NO**
NONE		