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FACILITATING AGRIBUSINESS CLUSTER DEVELOPMENT AT GRASSROOT LEVEL

FINDINGS FROM TWO CASE STUDIES IN GHANA

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FACILITATING AGRIBUSINESS CLUSTER DEVELOPMENT AT GRASSROOT LEVEL: FINDINGS FROM TWO CASE STUDIES IN GHANA

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This report is a product of team work with equal contribution from the authors whose names are listed in alphabetical order

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ABSTRACT

IFDC, having implemented the integrated soil fertility management project (ISFM), found the need for the 1000s+ project to mainstream and scale up the Competitive Agricultural Systems and Enterprises (CASE) approach. In so doing it fostered collaboration with ICRA to train its partners in facilitating multi-stakeholder processes by the use of ARD. The NCST was constituted, made up of representatives from partner organisations in Ghana. ICRA assisted in capacity building of the NCST it the Netherlands and in the field in Ghana.

The conceptual framework for implementing the CASE approach in this study is anchored on the Chain Empowerment Strategy. The strategy assesses the commodity chain and seeks to strengthen smallholder farmers' vertical and horizontal integration in commodity value chains.

Facilitation of multi-stakeholder analysis is used for beginning the processes to the development of agribusiness clusters. Key concepts, tools and skills in facilitation were considered.

Two case studies were used in testing facilitation guidelines for agribusiness cluster development. These are the Pepper Cluster in Tamale and the Maize Cluster in Wenchi.

The study found the tested facilitation guideline as a good tool for agribusiness cluster formation up to the second stage in the process. The third and forth stages are yet to be tested.

ACKNOWLEDGEMENT

We are grateful to the International Fertiliser Development Centre (IFDC) and the 1000s+ Project, for the partnership with our organisations which gave us the opportunity to come together as a team and for the financial support provided for our training in the Netherlands and the field work in Ghana.

We also acknowledge our organisations; the Savannah Agricultural Research Institute (SARI) Tamale Ghana, the University for Development Studies (UDS) Tamale Ghana, the Methodist University College of Ghana (MUCG) Wenchi Ghana, the Ghana Agricultural Associations Business Information Centre (GAABIC) Accra Ghana, and the Opportunities Industrialisation Centre (OIC) Tamale Ghana, for giving the time and space to further equip us to perform our scheduled responsibilities better.

We appreciate the International Centre for development oriented Research in Agriculture (ICRA) Wageningen, The Netherland, all the staff and particularly the Anglophone Coordinator, Juan Ceballos-Muller who spent so much time to develop our capacity building programme, coordinating the programme and delivering according to our needs.

We will not forget the actors in the pepper cluster in Tamale and the maize cluster in Wenchi who spent their valuable time to share their experiences with us and also acknowledged the need to work together.

We may not be able to mention many others including our families whose sacrifices and contributions have made this work possible. We say ‘Thank You all’.

TEAM COMPOSITION

The National Capacity Strengthening Team (NCST) is composed of individuals representing their organisations working in partnership to facilitate multi-stakeholder processes involved in the formation of agribusiness clusters at the grassroot level. Members are:

Osman Gyasi (Agricultural Economist) from the Savannah Agricultural Research Institute (SARI) Tamale Ghana**,**

Joseph Saakuur Bapule (Marketing) representing Apex Farmers Organization of Ghana (APFOG); Ghana Agriculture Input Dealers Association (GAIDA); Ghana Agricultural Producers and Traders Organization (GAPTO)

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Joseph Nketiah (Agricultural Extensionist) representing the Faculty of Agriculture of the Methodist University College of Ghana (MUCG) Wenchi Campus,Ghana

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1 CONTEXT OF THE TASK

1.1 IFDC 1000+ project to mainstream and scale up the CASE approach

Building on its experience with the Integrated Soil Fertility Management (ISFM) project, the African division of the International Fertiliser Development Centre (IFDC-A) and its partners have developed an approach to further promote agricultural intensification and strengthen the integration of farmers and local entrepreneurs. This has become known as the “Competitive Agricultural Systems and Enterprises” (CASE) approach, and it focuses on agribusiness clusters consisting of the farmers, entrepreneurs, technical, financial and business development services that are involved in a particular commodity within a well-defined target region.

To date, the CASE approach has been piloted in several West African countries, to the benefit of some 60,000 farmers, including many women. In a four-year project known as the "From Thousands to Millions Project" or "1000s+ Project" that started in 2006, IFDC intends to scale out the CASE approach to two or three regions and some 10 agricultural product chains in West Africa: Benin, Burkina Faso, Ghana, Mali, Nigeria and Togo. Scaling out at this level requires improving the capacity of national R&D and educational institutions in each country to collaborate in strengthening the collective innovation capacity of the multi-stakeholder groups involved in the grass roots business clusters to be developed

1.2 ICRA’s collaboration with IFDC

The purpose of ICRA’s collaboration with IFDC is to strengthen the capacity of national partners of IFDC in Benin, Burkina Faso, Ghana and Mali to collectively mainstream and scale out the use of the CASE approach in these countries through capacity building in support of institutional change.

ICRA has a strong and long-standing reputation of organising and delivering experiential learning programmes focussing on strengthening the competencies (knowledge, skills and attitudes) that inter-institutional teams need to integrate the contributions of different disciplines, institutions and stakeholders in collective rural innovation processes. These include the competencies to develop the required technological, social, organisational, institutional and policy innovations through interactive learning. ICRA also seeks to embed these activities in an institutional change process at national level aimed at enhancing the relevance, effectiveness and efficiency of knowledge generation and application for rural innovation through collective action.

The expected result of this collaboration is that in each of the four countries an inter-institutional national capacity strengthening team (NCST) of six members has strengthened its capacity to design, organise and implement capacity building services for multi-actor teams involved in grassroot business clusters and aimed at developing the integrative competencies needed to apply and mainstream the CASE approach.

1.3 National Capacity Strengthening Team (NCST) in Ghana

1.3.1 Partners of IFDC in Ghana represented in the NCST

As pointed out above, IFDC entered into an Interagency Agreement with ICRA to strengthen the capacity of national partners of IFDC in Ghana in order to collectively mainstream and upscale the use of the CASE approach. A six-member team, called the National Capacity Strengthening Team (NCST), was selected from the national partners of IFDC to build their capacities at ICRA. The following are the institutions from which the team was selected:

- Methodist University College , Ghana (MUCG), Faculty of Agriculture, Wenchi Campus
- University for Development Studies (UDS), Faculty of Agriculture, Department of Agricultural Economics and Extension, Tamale
- Savannah Agricultural Research Institute (SARI), Economics Section, Tamale
- Opportunities Industrialization Centres International – Tamale (OICI-T)
- Apex Farmers Organization of Ghana (APFOG); Ghana Agriculture Input Dealers Association (GAIDA); Ghana Agricultural Producers and Traders Organization (GAPTO)
- Ghana Agricultural Associations Business Information Centre (GAABIC)

The **Faculty of Agriculture, Methodist University College Ghana (MUCG),** is a private institution established by the Methodist Church, Ghana, and currently supported partly by a national programme, Export Development Investment Fund (EDIF). The new Faculty is envisaging quite a unique approach to learning and teaching: Acquiring land to provide each student with a small piece of land to run as a small business enterprise and to learn to deal with the same real problems that farmers face. In addition, the profits students make out of farming are partly meant as seed money for their own future as entrepreneurs. With this strong focus on agribusiness and being open minded to explore new ways of learning, this new Faculty seems to be a good choice as partner of IFDC.

The **University for Development Studies (UDS)** is a young University in the North of Ghana. It has four faculties in a multi-campus arrangement. Its mandate makes it community-based and practically oriented to produce professionals with practical insight. The Faculty of Agriculture runs degree programmes in Agricultural Economics and Extension, Agronomy, Horticulture, Animal Science, Renewable Natural Resources and Mechanisation and Irrigation Technology. There are developments to establish the faculty of Agribusiness by the Department of Agricultural Economics and Extension. The Faculty of Agriculture has several collaborations and partnerships including the partnership with IFDC to mainstream and up-scale the CASE approach. The Faculty in collaboration with SARI, OICI-T and Animal Research Institute are facilitating the process of the formation of pepper and small ruminant agribusiness clusters.

In addition to these Universities, further sources to generate and ‘transfer’ knowledge are the research institutes active in the North of Ghana. **The Savannah Agricultural Research Institute (SARI)** is a partner of IFDC since the Integrated Soil Fertility Management (ISFM) activities that led to the development of the CASE approach to facilitate agribusiness cluster formation and commodity chain development. The economic section (profitability of crops, markets) and other sections (irrigation, varieties, fertilization, crop techniques) of SARI are playing an important role in the development of the pepper business clusters in the North of Ghana. With the second business cluster concentrating on small ruminants, the Animal Research Institute (ARI) is also a partner of IFDC.

Another organisation partnering with IFDC at grassroot level is the **'Opportunities Industrialization Centres'-Tamale (OIC-T).** OIC is an international non-governmental organisation supported by USAID with branches in Ghana. This organisation is active in the formation and organisation of farmer groups and small input dealers and provides training/advice in financial and administrative management, business management affairs, post-harvest, inputs (credits), micro-enterprise development and community storage (structures) to the formed and organised farmer groups. With their training activities with farmers, organising them in groups and providing knowledge and skills relevant to agribusiness development, OIC is an important partner of IFDC.

At regional and national level, IFDC is partnering with the **Apex Farmers Organisation of Ghana (APFOG),** the Ghana Agricultural Producers and Traders Organisation of Ghana (GAPTO), the Ghana Agricultural Inputs Dealers Association (GAIDA), the Market Information Systems in West Africa (MISTOWA) project and the **Ghana Agricultural Business Information Centre (GAABIC),** formed by a Consortium including APFOG, GAIDA and Croplife Ghana. The Seed Growers Association Northern Region is representing APFOG in the NCST.

These institutions have been involved in promoting the CASE concept in Ghana through various activities some of which include: formation of stakeholder platforms (agribusiness clusters) at local levels; integrating farmers and local entrepreneurs into commodity value chains; strengthening support services/facilitation and financing; advocating for favourable institutional environment; strengthening organizations (farmers and local entrepreneurs).

The NCST is expected to perform the following roles and responsibilities:

- Facilitate collective multi-stakeholder innovation processes
- Provide capacity building services in support of these processes and promote institutionalization of multi-stakeholder approaches to rural innovation and interactive learning
- Assist in the formation of agribusiness clusters
- Mainstream the CASE approach
- Organize programmes for stakeholders
- Strengthen the capacities of collaborating institutions towards the building of a National Innovation Platform (NIP)
- Assist in network formation
- Build capacity to build capacity (BC 2 BC) of Local teams

1.3.2 Capacity building of the NCST

The capacity strengthening of the NCST was partly achieved by its participation in a residential tailor-made learning programme at ICRA's headquarters in Wageningen, the Netherlands, and partly by periods of application in the field in Ghana. The NCST team acquired at ICRA the knowledge and skills to facilitate multi-stakeholder processes and developed a conceptual framework to promote competitive agribusiness clusters. In two selected commodity value chains – the Pepper chain in Northern Ghana and the Maize chain in Brong-Ahafo Region (see case studies in this report) – the NCST then interacted with stakeholders and supported the development of agribusiness clusters. The team documents the process it followed and the results in this report.

2 CONCEPTUAL FRAMEWORK

2.1 Introductory remarks

Agricultural markets in Africa have increasingly become dynamic and complex. The days that any produce of any quality could be brought to the market without a specific buyer in mind are gradually disappearing. As a result, actors without timely market information, leverage for negotiation, effective supply management, high quality standards, and access to credits are being pushed out of the market.

Smallholder farmers are the great losers among all market players. In order to fully integrate and increase farmers' participation in markets, an approach should be promoted that is general but location adaptive, and developed participatory with the farmers needs in mind. The Competitive Agricultural Systems and Enterprise (CASE) is one approach being promoted to enhance the competitiveness of smallholder farmers. The CASE approach promotes agricultural intensification and strengthens the integration of farmers and local entrepreneurs. The approach thrives on the ideas of commodity value chain concepts.

The conceptual framework for implementing the CASE approach in this study is anchored on the Chain Empowerment Strategy of KIT, Faida MaLi and IIRR (2006). The strategy assesses the commodity chain and seeks to strengthen smallholder farmers' vertical and horizontal integration in commodity value chains. Both the CASE approach and the Chain Empowerment Strategy are discussed in this chapter.

Overall, an enabling institutional environment is critical to make markets operate in a sustainable manner, equal opportunity for market-participation and to contribute to the enhancement of the livelihoods of farmers and local entrepreneurs.

2.2 Competitive Agricultural Systems and Enterprises –CASE

2.2.1 Background

The Competitive Agricultural Systems and Enterprises (CASE) approach has been developed by IFDC and partner organizations (see Maatman 2006) as a plausible strategy for promoting agricultural intensification and to strengthen integration of small-holder farmers and local entrepreneurs in attractive commodity value chains through agribusiness cluster formation for livelihood improvement. This approach resulted from an Integrated Soil Fertility Management (ISFM) project implemented in collaboration with the partner organizations (NARES and NGOs) in seven West African countries (Benin, Burkina Faso, Ghana, Mali, Niger, Nigeria, and Togo), to enhance the capacities of farmers, local entrepreneurs and service providers to sustain a process of agricultural intensification within well-chosen target areas. It involved promotion of the judicious use of inherent soil nutrient stocks, locally available soil amendments (including organic resources) and mineral fertilizers to increase land productivity while maintaining or enhancing soil fertility. Thus, emphasis in the project has been on improving land productivity by enhancing farmers' access to improved technology and inputs, especially credit and mineral fertilizers, combining locally available organic resources with mineral fertilizers to build up soil fertility and to improve fertilizer use efficiency.

Technology development, testing and dissemination was undertaken in guided group learning processes that brought together farmers, extension staff, researchers, and other stakeholders on learning plots. The learning plots provide opportunities for the stakeholders to learn, understand, evaluate validate and disseminate alternative ISFM technologies while strengthening their innovative capacities (Gross et al 2005). Participants also enhance their capacities to develop and lobby for alternative organizational and institutional arrangements that may spur agricultural intensification through improved access to input and output markets (Maatman, 2006).

While the action research around the 'learning plots' started to function well and was bearing fruit, experiences revealed that inadequate access to credit and thin output markets, as well as lack of negotiation power by lower (grassroot) actors hampered agricultural intensification. These issues, among others, highlighted the need for increased attention for institutional development and extension of both ISFM options as well as institutional arrangements to improve access to factor- and product-markets (Clottey, 2007). This implies much more important roles for other types of organizations, i.e., NGOs and extension services, but gradually also the Farmer Based Organizations (FBOs), credit structures and other business development services (Maatman, 2006). In the light of this, IFDC and its partner institutions adopted the CASE approach, which is seen to be a more dynamic and holistic approach to promote sustainable agricultural intensification at the grassroot level.

The CASE approach fosters both technical and institutional change through experiential learning, capacity building and networking activities at the grassroot level, and advocates pro-active measures for linking farmers and villages with urban retailers, traders and consumers through agribusiness cluster development (Maatman and Wopereis, 2004). It emphasizes competitiveness, both relating to agricultural production systems within a target region and to rural and urban enterprises that are directly linked to the agricultural production systems. The key principles of the CASE approach are: *coordination* (to stimulate simultaneous investments, and decrease transaction costs and risks), and *competition* (to stimulate efficiency and innovation). *Competitiveness* requires a careful balancing of coordination and competition – and hinges on both individual (technical, managerial) and collective competencies.

The ISFM projects were originally based on a "technology push" strategy. Although farmers were interested in ISFM options, and participated actively in the learning plots and related activities, it was soon realized that ISFM by itself was not enough to improve incomes of farmers beyond a very short time horizon. Therefore, in subsequent steps, the project focused on input accessibility, organizational strengthening of farmers to pool demand for 'external' inputs, and linkages between farmers and input suppliers. With additional experience, the integration of farmers in the buyers' value chain was given more weight, recognizing the need for a pragmatic demand pool strategy. Targeting of commodities and locations became a guiding principle, as competitive advantages at a regional level are observed to be much easier to obtain around a group of more or less similar commodities.

Thus, the CASE approach employs a *business facilitation approach* – essentially strengthening organizations of producers, local entrepreneurs and business development services at local and sub-national levels to promote agribusiness cluster formation.

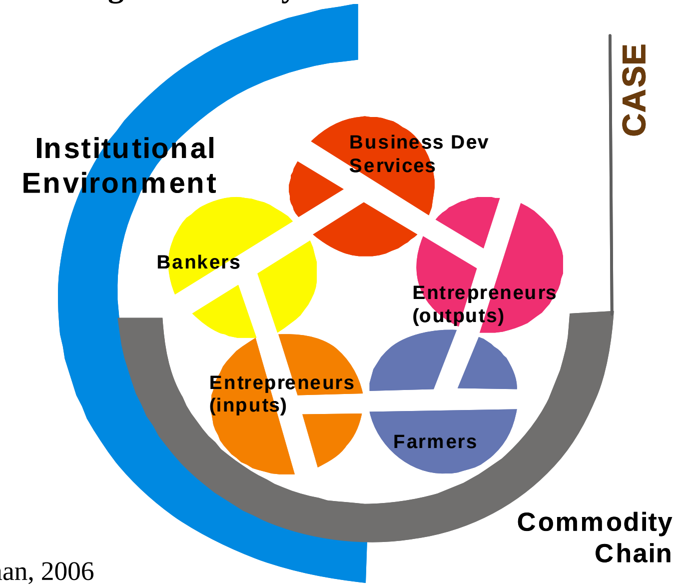
2.2.2 The Agribusiness Cluster

The agribusiness system is visualized in Figure 1. It comprises:

- The **commodity value chain,** visualized as the grey arc at the bottom of Figure 1. In practice, market integration may concern more commodities, but a certain degree of specialization in commercial orientation fits in the agribusiness cluster philosophy.
- The **agribusiness cluster,** illustrated by the 5 inter-connected circles. The agribusiness cluster connects farmers, local entrepreneurs (involved in supplier and channel value chains), bankers (financial services) and business development services in the target region. Efficient linkages within the agribusiness cluster and integration of the agribusiness cluster in commodity value chains increases incomes of farmers and local entrepreneurs, allows for multiplier effects and economic growth, and fuels re-investment in new production technologies.
- Policy makers, in particular, **decentralized government structures,** visualized as the blue arc at the left of Figure 1, are key stakeholders in the process. An enabling agribusiness environment depends on an effective dialogue between private sector agents, civil society organizations, and the government.

Thus, the major stakeholders in the agribusiness cluster are: farmers, local entrepreneurs, financial institutions, and business development services. Farmers and local entrepreneurs are however regarded as the key actors.

Figure 1 The agribusiness system



Source: Maatman, 2006

CASE is not intended to be a ‘blue print approach’, a series of predetermined activities. Activities will depend on the context, the location, the commodity or on the communities that have been selected, the strengths and weaknesses of the actors and stakeholders involved, and of the business environment. In most circumstances however, CASE involves activities at two main levels:

Agribusiness clusters for specific commodities and locations

At village level

- Learning plots activities with target groups to explore technological options and to act as entry points for communities
- Establishment of “learning and innovation centres” to capture and explain the experiences of learning groups
- Promotion of farmer-to-farmer training and training of trainers

Strengthening of input supply chains

- Improvement in transportation, storage, and distribution
- Business training for suppliers; involvement of dealers in learning and information centres
- Formation of input associations, etc.

Strengthening of value chains

- Processing, storage, transportation and marketing of targeted product
- Encouraging buyer-seller contracts, codes of conduct and industry standard business practices;
- Hygiene, packaging and labelling practices; strengthening commercial producer associations; etc.

Facilitation of access to credit for farmers and other entrepreneurs involved in the agribusiness cluster through stimulation of savings, guarantee or inventory credit schemes; interlinked contracts with buyers, etc.

Strengthening of business development services:

- Capacity building in technical issues (e.g. analysis of commodity value chains, inventory credit systems, market analysis, business planning, etc);
- Managerial issues (facilitation and leadership skills, networking, lobbying, etc.)

***Regional or national-level platforms to discuss and support agribusiness cluster formation and agro-enterprise*s**

(i) Establishment of multi-stakeholder national task forces

(ii) Consultations, stakeholder meetings and workshops to identify and assess potential commodities, and locations, based on:

- Commodity and the commodity value chain characteristics (input requirements, potential for value addition, transport requirements, seasonality, etc).
- Location (factor endowments, presence of entrepreneurs and supporting industries, local networks, etc.)
- Policy (presence of priority social groups, etc).
- Synergy with other development programs and projects, etc)

(iii) Facilitation of lobbying/ advocacy for specific (public, public-private) investments needed to create enabling environments for selected agribusiness clusters.

- Capacity building in lobbying/ negotiation skills of farmer and/or trader organizations to eliminate barriers to entry in ‘monopolistic’ commodity chains (cartels), without giving up on coordination
- Dialogue with policy-makers and donors, to discuss how ‘competitiveness’ and other social and political goals can be matched efficiently.

(iv) Structured training of staff of national and international business development services.

(v) Support to national and international educational systems to strengthen curricula and teaching on competitive strategy and agribusiness cluster formation.

CASE facilitates agribusiness cluster formation through capacity building of the principal stakeholders involved, based on experiential learning of both individual and collective theories, that argue that adults learn best if they feel the need to change a situation and when the learning topic is closely linked to their experiences.

The experiential leaning process is divided into four interlinked steps in a learning cycle: **D**iagnosis **–** **A**ction planning **–** **T**rying things out **–** **E**valuation (DATE). The learning cycles are used to strengthen the capacities of farmers and other stakeholders in observing, analyzing and dealing with constraints and opportunities to improve the competitiveness of agricultural production systems and rural enterprises.

In these processes, outside ‘experts’ are ‘facilitators’, with a role in providing ideas, alternatives and in training (on specific topics) but only at well chosen moments, when experiences have been shared, discussed and the need for new ideas or expertise is commonly felt. Key issues for the facilitators are to promote efficient ways to capitalize learning through drawings, reports, photographs and videos, to maintain flexibility in training modules and to keep the focus on the processes instead of static technical prescriptions.

The CASE approach, based on the concept of the ‘agribusiness system’ and grounded in experiential learning, provides a fresh and promising set of ideas and tools to facilitate agricultural intensification.

2.3 Chain Empowerment

2.3.1 Chain Empowerment Strategy

The empowerment of poor farmers in the value chain can be assessed by changes in their position in the value chain. Two dimensions are important in assessing the position of farmers:

- A change in the level of vertical integration of **chain activities**
- A change in the control over **chain management**

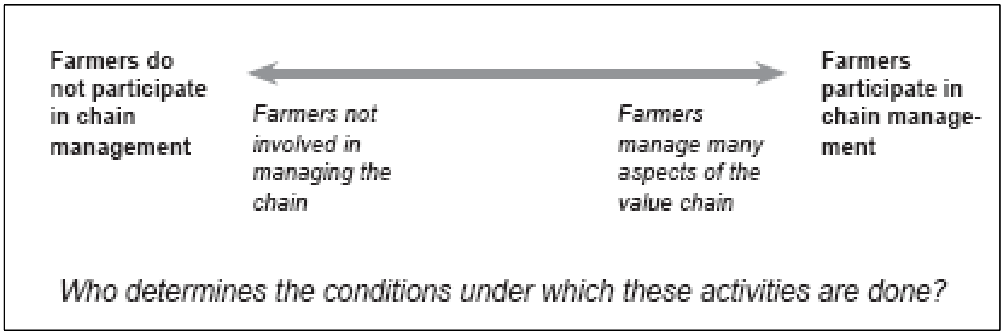
Farmers may concern themselves only with production: they prepare the land, grow the crop, and harvest the crop when it is mature. But they may also be involved in other chain activities, for example, procuring inputs, drying their crop, sorting and grading, processing, transporting and trading. Being involved in various activities in the chain is known as vertical integration and requires improved use of resources, better organisational and human resources capacities, and access to financial services. We can plot farmers' involvement in chain activities on a continuum (Figure 2).

Figure 2 Farmers' involvement in value chain activities

Source: KIT/Faida/IIRR, 2006

Farmers may be excluded from any management decisions that affect them – even over what crops they grow. Someone else may make these decisions and then informs the farmers. Farmers may also have a high degree of control over management: they may be able to decide how much they sell, to whom, and at what price. They may control the definition of grades and standards, the targeting of consumers, the management of innovation, and so on. We can think of these aspects as chain management. We can plot farmers' degree of involvement in the management of the chain on a continuum (Figure 3).

Figure 3 Farmers' involvement in value chain management

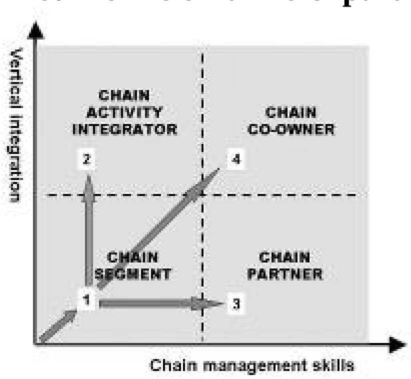


Source: KIT/Faida/IIRR, 2006

If we combine these two diagrams we get a matrix that is depicted in Figure 4. To monitor changes in the position of the farmer in the value chain, we can think of the matrix as a continuum. A farmer may start off at the bottom left corner of the rectangle. He begins to grade his product. Doing so moves him a little upwards in the rectangle, so increasing his vertical integration (because he adds an activity). He also moves a little to the right, reflecting greater chain management (because he improves quality management). But he remains within the chain actor quadrant 1.

If the same farmer later starts processing his product, he may move into the activity integrator quadrant 2. Or he and his neighbours may organize as a group and negotiate deals with traders, and may start working with the local research institute to test new technologies. This would move them into the chain partner quadrant 3. A combination of these vertical (more activities) and horizontal (more management) movements would push the farmers into the chain co-ownership quadrant 4.

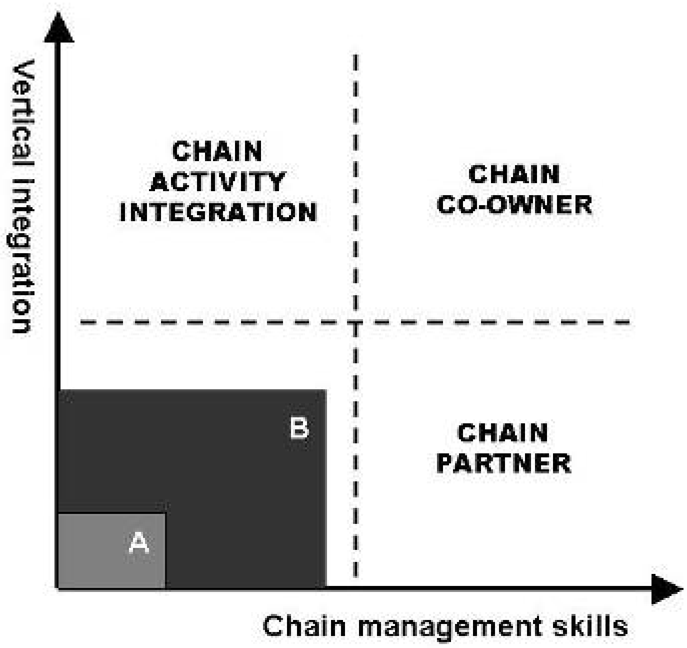
Figure 4 Four forms of farmers' participation in value chains



Source: KIT/Faida/IIRR, 2006

As farmers take on chain activities and enhance their chain management skills, they gain more control over the value chain, increase their economic rent, and appropriate a greater share of the returns accruing from the value chain. In other words, pro-poor value chain development can be visualized as a movement to the right and/or upwards in the matrix. For example, in Figure 5 the area B minus A conceptually represents the pro-poor impacts of an intervention in the value chain. In the next section we will provide an example of this approach.

Figure 5 Monitoring pro-poor impacts of value chain development



A = Farmers' economic rent *before* the intervention

B = Farmers' economic rent *after* the intervention

Source: KIT/Faida/IIRR, 2006

2.3.2 Chain Empowerment Approach

This approach as depicted in Figure 6 involves five basic activities; Chain assessment, Building engagement, Chain development (up-grading); Chain monitoring and evaluation; and Chain learning and innovation

The process starts with **Chain Assessment** (i.e. analyzing the situation and the goals)

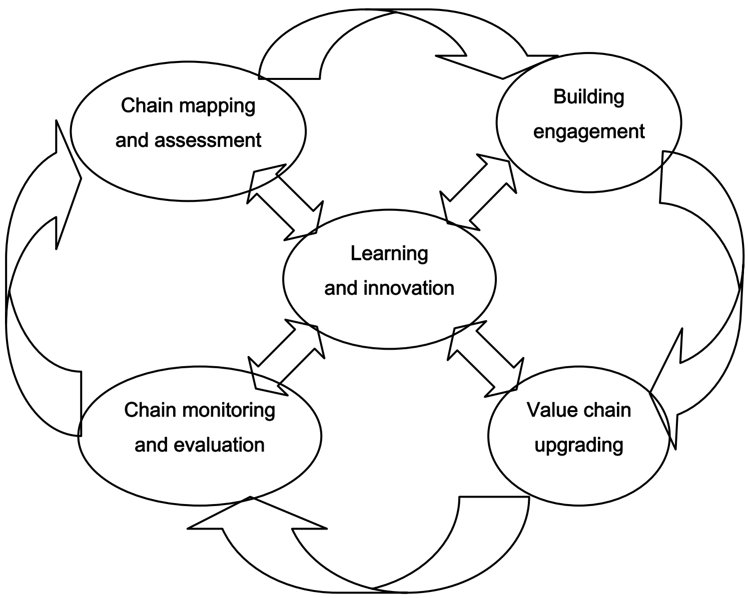
This includes:

- Assessing the farmers, their organization, livelihoods, skills, assets and ambitions.
- Mapping the different actors in the chain, and profiling each of them.
- Analysing the market, trends, prices, comparative advantages, competitors, etc.
- Reviewing the business environment, analysing stakeholders and the policy environment.

Building Engagement follows. It must be noted that any intervention requires engagement from and between farmers, other actors in the chain and the wider (policy) environment.
Some elements here are:

- Identifying common and conflicting issues.
- Identifying chain leaders and facilitators.
- Strengthening linkages and building trust among chain actors.
- Developing a joint chain strategy.
- Learning by doing joint projects and through platform meetings.

Figure 6 Chain empowerment approach



Source: KIT/Faida/IIRR, 2006

The third step is Chain Development (up-grading)

Farmers and their organizations may improve their position in the chain in several different ways:

- *Process upgrading*

This means producing the same product more efficiently – perhaps by using new technologies or management methods. For example, farmers may grow more by switching varieties or applying fertilizer; they may reduce pest attacks and save costs through integrated pest management rather than spraying. Farmers can also improve their links with other actors in the chain – for example, they can sign contracts with input suppliers or processors.

- *Product upgrading*

Farmers can improve their product in various ways. For example, they may plant a new variety that has more desirable characteristics, or they may stop using agrochemicals and apply for certification so they can sell their produce as “organic”.

- *Functional or intra-chain upgrading*

Farmers can take on new activities in the chain, either upstream or downstream, or change the mix of activities they undertake. For example, they may start grading and sorting their produce; they may bulk it to make pick-up more convenient for buyers, or they may process it (drying, milling, etc.) to improve its value or increase its storage life.

- *Chain or inter-chain upgrading*

Farmers can also set out on a new value chain: they can start growing a new crop, or start a new enterprise. They may be completely new to these activities, or they may transfer their skills and experience from their existing enterprises.

The first of these, process upgrading, is vital if farmers are to increase their income and participate in wider markets than is the case at present. The farmers must be able to produce enough output, at the right time to interest a buyer, they must have the links with the buyer so they can sell it at all.

But while process upgrading is necessary to boost farmer’s incomes, it is unlikely by itself to give them a bigger share of the income from the value chain. They can do this only by introducing new products or improving existing products (product upgrading), by changing the mix of activities in the chain (functional upgrading), or by getting involved in a new value chain (chain upgrading).

This is not easy, however. Small-scale producers are likely to run into powerful interests that hamper their progress. Other players – traders, processors, larger-scale producers – may be reluctant to help small-scale farmers take a slice of their own profitable businesses. This means that farmers’ organizations and intermediary organizations must analyse the value chain carefully before deciding what action to take. In many instances, indeed, other players in the chain may actually welcome the small-scale farmers’ involvement, for example if they increase the volume of produce that can be processed, so making factories more efficient.

Chain monitoring and evaluation is the fourth step

Monitoring and evaluation are vital for the farmers and their organizations, and for intermediary organizations that assist them. Here are some indicators to watch:

Within the supply chain

- Production cost: How much does it cost to produce the output?

- Yield: How much does the crop (or livestock) produce per unit area (or per unit of a key input such as labour)?
- Gross margin or profitability How much money do the farmers make after deducting their costs?
- Distribution of benefits: How are the benefits distributed between the farmers and the organization, and among the farmers?
- Improvements in products and efficiencies: In what way are these achieved: through process, product, functional or chain upgrading.

In the market

- Market penetration: What percentage of the market do the farmers serve?
- Sales volume: How much produce do they sell?
- Sales value: How much money does it bring in?
- Product differentiation: What range of products do they supply?

Livelihoods

To judge the effects of the chain on livelihoods, check the effects on different groups in the community: men and women, different ethnic groups, and poor vs better-off people:

- Role of income from chain: How big a role does income from the chain play in the farmers' overall livelihoods? What do they use the extra money for?
- Diversification of income sources: Does the chain add to the farmers' income sources, or are they over-reliant on a single source?
- Income stability: Does the chain give the farmers income throughout the year?
- Employment: What has been the impact on employment?
- Economic participation: Do the farmers participate in the local economy more? E.g., do they buy and sell more in the local market?

Chain learning and innovation is the final step

Learning and innovation are at the heart of interventions in chains. Both farmers' organizations and intermediary organizations must be able to learn from the situation and adjust their approach accordingly.

2.4 Concluding Remarks

- Both CASE and the chain empowerment approaches represent more of a flexible approach rather than a rigid recipe or stepwise procedure. CASE is not a 'blueprint' approach – and it contains no series of 'certain' activities. CASE activities depend on the context, the location, the commodity or commodities that have been selected, the strengths and weaknesses of the actors and stakeholders involved, and of the business environment.

- Both approaches have a strong emphasis on marketing (or “value”) chains. CASE, perhaps because of its origins with the International Fertilizer Development Centre unsurprisingly also emphasizes the need for improving supplier/ production input chains.
- Both approaches focus on facilitating the interaction of a range of stakeholders, with CASE focusing on a “cluster” level. CASE places more emphasis on the need to include interaction with stakeholders at the higher strategic levels - national and even international, and the need to “build capacity to build capacity”.
- Both approaches stress the ownership of processes by the actors themselves, through linking stakeholders at different organizational levels, improving information flow, facilitating effective participation and joint control of processes.
- The CASE approach seeks to empower actors through assisting farmers and local traders to lobby for more information, better services, improvement of their rights and transparency at all levels of policy making. The chain empowerment approach seeks to specifically improve the position of farmers, relative to other stakeholders.
- Both approaches depend on a worldview or reference framework that favours economic development based on competitiveness, agribusiness development, added value, forward integration in commodity value chains and multiplier effects. This is in contrast to economic development strategies that in many countries have been based almost exclusively on comparative advantages based on low labour costs and exports of primary products. Influencing such development paradigms and reference frameworks amongst decision makers at all levels forms an integral and vital part of the approaches, especially in CASE.
- The CASE approach points to the need to re-consider relationships between the private sector, including farmers, and the (decentralized) government structures – with a more pro-active role for the latter: through facilitation of (non-market) coordination mechanisms, and complementary investments, e.g. in specialized research & development activities, for specific agribusiness clusters.
- CASE suggests a strategic choice of locations and of target-commodities
- CASE specifically aims to empower local actors, i.e. farmers, entrepreneurs, women, men, and younger generations, to develop new ideas – and put them into practice.
- The CASE approach is grounded in experiential – both individual and collective – learning theories, and ideas, and involves a large variety of stakeholders.

3 FACILITATION APPROACH

3.1 Rationale Behind an Interactive Learning Approach

Promoting effective multi-stakeholder collaboration in commodity value chains as described above thrives on confrontation and interactive learning of a diverse range of stakeholders in the process with different knowledge and value systems and complementary roles.

Following Groot and Maarleveld (2000), it is important to make explicit the rationality behind such an interactive learning process, the range of stakeholders involved, and the style of facilitation.

The CASE approach aims to develop and strengthen stakeholders' capabilities to learn individually and/or collectively. The emphasis is on the process, with attention given to interaction amongst those involved. It also focuses on empowerment (of farmers), self-reliance and dialogue. Stakeholders are regarded as rational human beings capable of shaping their environment to realise their own interests through interaction with others. Such an interaction is grounded on communicative rationality.[1]

Promoting agricultural intensification and strengthening integration of farmers and local entrepreneurs in attractive commodity value chains is a complex challenge. A number of authors advocate the use of systems thinking and practice to assist facilitators in designing learning processes to deal with complex challenges[2]. One way of dealing with complexity is to identify the different types of stakeholder groups according to their influence and involvement in a situation.

CASE distinguishes four strategic layers of stakeholders involved in agribusiness cluster formation and targeted by the CASE up-scaling project 'From thousands to millions'. Each of these layers can be identified as a hierarchical sub-systems, each distinct from the others in terms of different units of actors with different learning needs due to different positions, roles, experiences or rights (Groot and Maarleveld, 2000).

How does learning occur within these sub-systems? Often at the start of a process, these sub-systems are characterised by poor interaction and communication. The individuals do not understand each other very well and interact with each other on the basis of stereotypes and prejudices. The expected individual benefit is the main driving force for people to participate. When a facilitator encounters such poor interaction and communication, learning methods and activities can be chosen to encourage stakeholders to share perceptions and experiences as well as to discover the value of collaboration (Groot and Maarleveld, 2000).

Making interactive learning and facilitation processes transparent also implies acknowledging different styles of facilitation (Groot and Maarleveld, 2000):

[1] See Groot and Maarleveld (2007) for different rationalities and implications for facilitation
[2] See Röling and Jiggins (1998), Daniels and Walker(1999), Wilson and Morren (1990), Checkland (1989)

- Inside or outside the process: Insiders embrace flexibility and diversity in the use of qualitative methods and open learning processes and acknowledge multiple perspectives and broad participation; outsiders value quantitative analysis for the purpose of achieving truth and objectivity
- Reflective versus problem solving: A reflective facilitator encourages participants to learn about systemic processes to analyse actor-actor linkages as well as actor-physical environment relationships. The learning processes are action-oriented and form iterative cycles of reflection, planning, action, observing and reflection[3]. The facilitator chooses methods and techniques that enhance communicative interaction amongst actors. In particular, they will make much use of visualisation techniques to make visible how people perceive their own reality and the learning that emerges through action research and experimentation. The problem-solving facilitation style focuses more on the problems than on the people solving the problem.
- Integrative and distributive mediation style: Facilitators often act as mediators to assist negotiations between people for joint decision-making. There are two negotiation styles: integrative and distributive. Integrative negotiation seeks a win-win situation focusing on participants' interests, the reasons behind these interests, norms, values and perceptions. The mediator needs to be competent in methods which highlight different perceptions and needs and support joint decision making (e.g., dialogue, stakeholder analysis, network analysis). Distributive negotiation represents a win-lose situation in which one party wins at the expense of the other.

The rationale for an interactive learning process is communicative, thus the NCST is using a reflective style, purposefully operating in various subsystems, intervening at the interface of subsystems, facilitating integrated learning processes between stakeholders of different subsystems. An integrative mediation style is encouraging stakeholders to understand differences in interests and perceptions in others. Finally, the team is helping stakeholders accommodate different perceptions and objectives in order to move forward. Stakeholders' ownership of the learning process and the opportunities for improvement are essential. The NCST is purposefully managing the process in such a way that what is learned, why, when and how, are increasingly decided by the stakeholders themselves. The team is an actor in the process with a particular task and expertise like any other stakeholder.

3.2 Key Concepts and Tools of Facilitation[4]

Competencies & Characteristics

If you are involved in facilitation (even if you've never called it that), or may be involved, you might want to consider the competencies and characteristics of an effective facilitator as outlined by the Institute of Cultural Affairs (Canada).

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[3] See Kolb's experiential learning cycle (Kolb, 1984).
[4] See Robert Bacal, 2003

Competencies

The facilitator:

- distinguishes process from content
- manages the client relationship and prepares thoroughly
- uses time and space intentionally
- is skilled in evoking participation and creativity
- practiced in honouring the group and affirming its wisdom
- capable of maintaining objectivity
- skilled in reading the underlying dynamics of the group
- releases blocks to the process
- adapts to the changing situation
- assumes (or shares) responsibility for the group journey
- demonstrates professionalism, self-confidence and authenticity
- maintains personal integrity

Characteristics

The facilitator commits to a style of:

- asking rather than telling
- paying personal compliments
- willing to spend time in building relationships rather than always being
- task-oriented
- initiating conversation rather than waiting for someone else to
- asking for other's opinions rather than always having to offer their own
- negotiating rather than dictating decision-making
- listening without interrupting
- emoting but able to be restrained when the situation requires it
- drawing energy from outside themselves rather than from within
- basing decisions upon intuitions rather than having to have facts
- has sufficient self-confidence that they can look someone in the eye when
- talking to them
- more persuasive than sequential
- more enthusiastic than systematic
- more outgoing than serious
- morel like a counsellor than a sergeant
- more like a coach than a scientist
- is naturally curious about people, things and life in general
- can keep the big picture in mind while working on the nitty-gritty

Skills needed to facilitate:

Communication skills: The ability to actively listen and observe, question, probe, create dialogue, paraphrase, give feedback

Challenging: Ability to confront, to disagree, to stop a process without being rude

4 FINDINGS FROM TWO CASE STUDIES

4.1 Introductory Remarks

4.1.1 The Study Area

The case studies were implemented in two districts in Ghana, in Tolon-Kumbungu District in Northern Region, and in Wenchi District in Brong-Ahafo Region, and centred on two commodities, pepper and maize, respectively.

Tolon-Kumbungu District

The Tolon-Kumbungu District has a land area of 2,631km^2. It shares boundaries with Tamale Metropolis to the east, Savelugu-Nanton to the north, Central and West Gonja Districts to the west and south. The population of the district stands at 135,084. The district lies within the Guinea Savannah ecological zone. The natural vegetation is savannah woodland, generally consisting of short deciduous, widely spaced, fire resistant trees, and shrubs and short grasses. The natural vegetation has been seriously influenced by human activities and reduced to open parks where only tree species of economic value, such as *Parkia filicoides* (dawadawa) and *Butyrospermum parkii* (shea tree) are found. The area is characterized by a wet and a dry season. Rainfall is mono-modal often starting in May and ending in October with frequent dry spells during June and July. A mean annual rainfall of about 1000 mm is received over the study area. The main occupation of the people is farming. The main crops cultivated are yam, maize, cotton, sorghum, cassava, rice, groundnut, soybeans and pepper.

Wenchi

Wenchi District or Wenchi Municipal is among the largest of the 22 districts in the Brong Ahafo Region. Wenchi Town is the administrative capital and is approximately 4,939 km^2. It is located in the forest savannah transition zone of the Brong Ahafo Region. The soils here support the cultivation of maize – a common cereal crop in the region. The bi-modal rainfall distribution pattern in the area enhances two production periods in a year (March – July and August – November). Most farmers in the area are smallholders with an average landholding of one hectare. A small fraction of less than 5% of the maize farmers however has holdings of between 2 and 5 hectares.

4.1.2 The choice of pepper and maize value chains

The pepper and maize value chains were selected for the case study because IFDC is already supporting agribusiness clusters in the Northern Region for pepper and in the Brong Ahafo Region for maize.

Why Pepper?
A study carried out by IFDC and partners revealed that the study area (Tolon Kumbungu District) has poor soils that cannot support the production of maize which is a staple food of the people in the district. Land holdings by farmers are small due to pressure on the land. As a result an intervention known as Integrated Soil Fertility Management (ISFM) was introduced to farmers in the study area. As this concept increased maize yields, the farmers tried the same technology on pepper which is one of the cash crops highly patronized by farmers of the district. This increased pepper yields and brought about new problems such as marketing, processing and storage.

Pepper is more productive than maize in the study area and fetches the farmers more income. This explains the shift in focus from maize to pepper production. Incomes from pepper can be used to purchase maize for households' consumption and addresses some of their social obligations. There was therefore the need to select pepper and to, together with the farmers, come up with solutions to the problem of the pepper sub-sector to ensure food security and increase incomes.

Why maize?
Before the partnership with IFDC, the faculty of Agriculture of the MUCG had support from EDIF to facilitate the production of export crops including maize in the Brong Ahafo Region. The faculty produces quality seed maize for farmers and supports them with extension services in the form of technology dissemination and good agricultural practices. The faculty has also organized 240 maize out-grower farmers. Subsequently, the problem arose of where to sell the farmers' produce. Yedent, an agro-food processor was identified as a possible buyer, but maize produced by the farmers was not meeting the processors' standards/requirements. The idea of helping farmers to produce quality maize that meets the required market standards and increase their production levels led to the selection of maize as a commodity for the value chain development.

4.2 Ghana's economy

4.2.1 Agricultural and rural development

Agriculture is the main stay of the Ghanaian economy, contributing 36% to GDP (ISSER, 2006). As a result, every government puts in place policies and programmes to improve the agricultural sector. Under the current government the Food & Agriculture Sector Development Policy (FASDEP) document was prepared and is being implemented. Attempts now are at reviewing the document. Agriculture is one of the five main areas of interest to the government in its drive to move the country to a middle income status (GoG, 2007).

In recent times, Ghana is experiencing rural-urban migration, either temporal or permanent. To reduce this problem, the government began opening up the rural areas and encouraging rural industries by promoting district industrialization plans. Many tarred roads and feeder roads are being constructed. Irrigation dams are being repaired, new ones constructed and irrigation sites developed to improve agricultural production and reduce migration. Primary schools are also being built and the standard of many existing secondary schools improved. Micro-credits which is considered a very important component of development are being made available and accessible to small-scale businesses by district assemblies, NGOs and other formal and informal financial institutions. Gender issues are of great interest focusing more on the development of women and the girl-child. For this reason projects beneficiaries are skewed towards women. There are also incentives for increasing enrolment of girls into school. Rural electrification is also being expanded to provide energy for the development of rural enterprises.

Attempts are also at meeting most of the Millennium Development Goal (MDGs). These have been taken into consideration in developing the Growth and Poverty Reduction Strategy II (GPRS II). As a result, for example, women are being empowered to fully participate in all levels of decision-making. Infant mortality rates are decreasing. The introduction of the National Health Insurance Scheme has added impetus to governments' effect at reducing rural poverty and increasing health status. There are many NGOs promoting agriculture and rural development in particular, and in some cases urban poor communities.

4.2.2 Recent Agricultural Sub-Sector Policy

In line with government's agenda for improving agriculture, the Food and Agriculture Sector Development Programme (FASDEP) document emphasizes the development of the total agricultural commodity chain as against previous technology push strategies that emphasized increased production. The policy seeks to bring about enhanced human resource development and institutional capacity building, access to financial services, appropriate technology development, dissemination and adopting, improved infra-structure and promotion of selected commodities and improved access to markets (FASDEP, 2002). To this end, value addition and a vigorous drive at marketing and market development are stressed as strong factors to development and poverty reduction. Agribusiness, micro-, small- and medium- scale rural businesses are encouraged. Processing of many of the raw materials produced is being supported through some of the newly established institutions and Projects. Large-scale and modernisation of agriculture and the expansion of irrigated agriculture are also given priority. For example, many of the irrigation dams (both large- and small-scale) have been de-silted and many more have been constructed in the three northern regions. The policy also covers commercial storage of produce (e.g. grain banking) and raw materials for sale during the off season and hence increase revenue as well as make material available all year round. Selected commodities are to be promoted and markets developed to generate increased income for farmers and the nation. Among these are vegetables and pepper in particular. This stems from the fact that Ghana has been exporting pepper for many years and that the quantities and values are reducing e.g. from 2,088.360 Metric Tons in 1998 to 1,942.530 MT in 2001 (GEPC, 2001).

4.2.3 Existing Market Orientation Agricultural Development Programme

The market-oriented agribusiness programme (MOAP) is a joint MoFA, German Technical Cooperation (GTZ) and German Development Service (DED) programme that aims at increasing agricultural productivity and at reducing post harvest losses to strengthen the sector's competitiveness on domestic and foreign markets and capitalise on agricultural potential to generate significant income for many people in Ghana. MOAP has been in existence since 2004. One of the commodities they are working on in Northern Region is pepper.

Pepper fits into the agricultural development policy of the nation. It has been identified as one of the commodities that Ghana could improve and promote as by the FASDEP – to promote selected commodities and improve access to markets (FASDEP, 2002). The contribution of pepper to household incomes and the national income could be improved.

4.3 Case Pepper Chain

4.3.1 The pepper sub-sector

Pepper is a common agricultural product produced and consumed in Ghana. The crop is used in nearly all Ghanaian dishes. The annual demand for pepper is estimated at GH¢27 billion and accounts for about 9.6% of total food expenditure in Ghana (GSS, 2000), while pepper consumption is expected to rise with increasing population.

Pepper is ranked the fifth most important crop in the Northern Region of Ghana. But, until recently, pepper was only produced in small quantities by farmers in Northern Region, and was mainly for home consumption and a little for the market. Recently, however, it has become a major cash crop for many farmers in the region and production has been increasing. Nowadays, the Northern Region has about 41.3% of its households engaged in pepper production, making the region second to Brong-Ahafo Region as the largest pepper producing region in the northern part of the country (OIC 2004).

In northern Ghana, three types of hot peppers are cultivated and consumed. These are the (i) tiny very spicy pepper which is a local landrace and popularly called bird chilli (*Capsicum frutescens* L), (ii) the finger-like chilli (*Capsicum annuum* L) and, (iii) the heart-shaped (round) variety (*Capsicum chinense* Jacq), referred to as "konfiem" in most of the study area. In the study area peppers are largely produced under rain-fed conditions. However, a small percentage is cultivated under irrigation during the dry season. Owing to its ability to be easily sun-dried for future use, *C. frutescens* is almost absent from the market during the harvesting season whilst there is a glut of *C. chinense* as this variety cannot easily be sun-dried and kept (Gyasi et al, 2007).

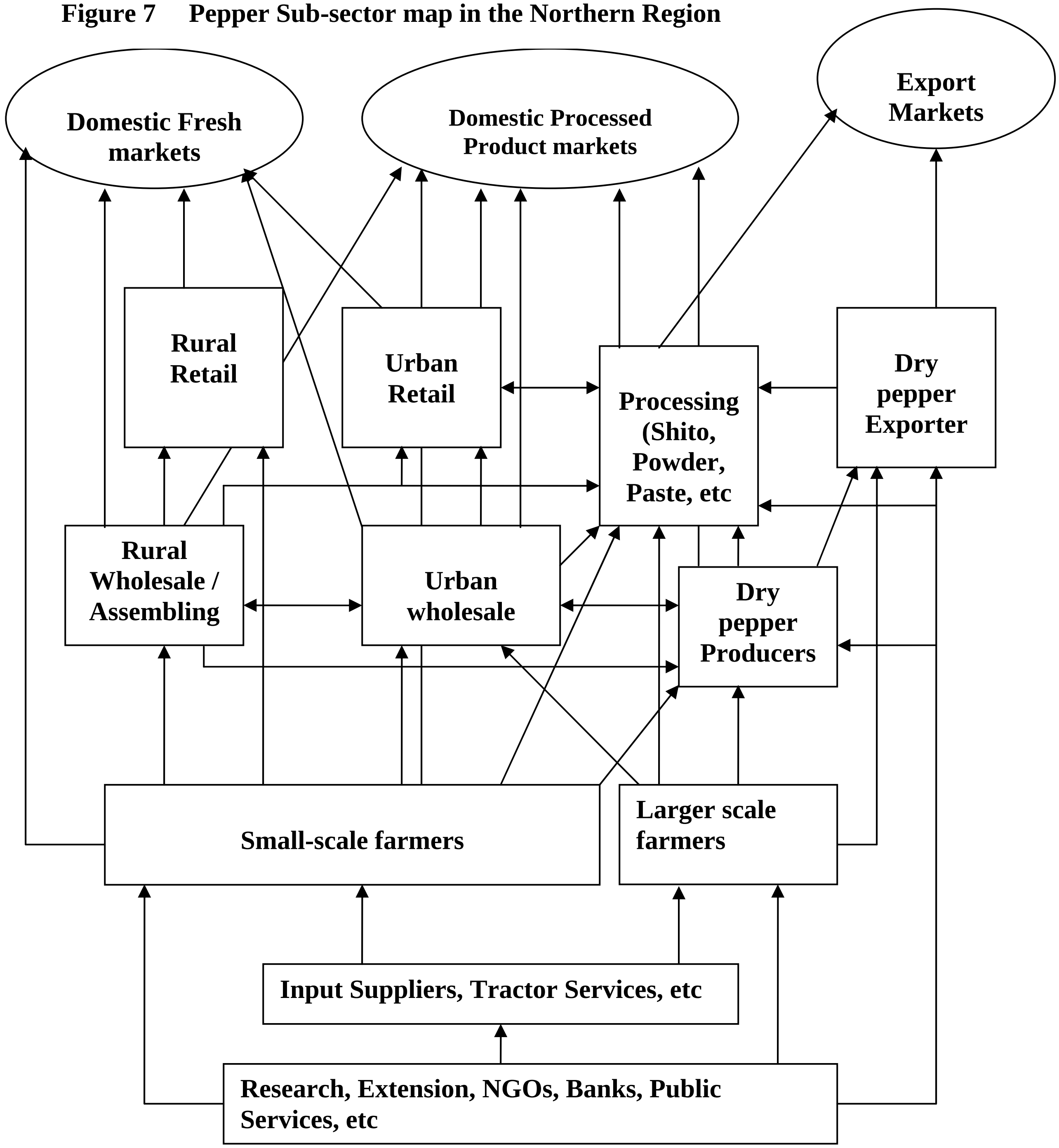
Pepper produced in Ghana is marketed both domestically and in export markets. Major export markets for Ghanaian pepper include United Kingdom, Togo, Germany, Netherlands, Austria, and United States (GEPC, 2006). Domestically, both the fresh and dry pepper is sold within the production regions and beyond. They are also exported to other neighbouring countries like Burkina Faso, Niger and Mali. Pepper is sold both fresh and dry in the region. During the peak season fresh pepper mainly *konfiem* is found in abundance on the market but during the off-season mainly the finger-like and the very short type (*tiger*) are found on the market in the dried form.

4.3.2 Analysis of the pepper chain in the Northern Region of Ghana

4.3.2.1 Pepper chain functions and actors

In this section, the pepper chain in the peri-urban communities around Tamale is described to cover all the production processes as well as interactions between the processes of input supply, production, processing (transformation), trading, financial and business support services and consumption of the pepper.

Figure 7 Pepper Sub-sector map in the Northern Region



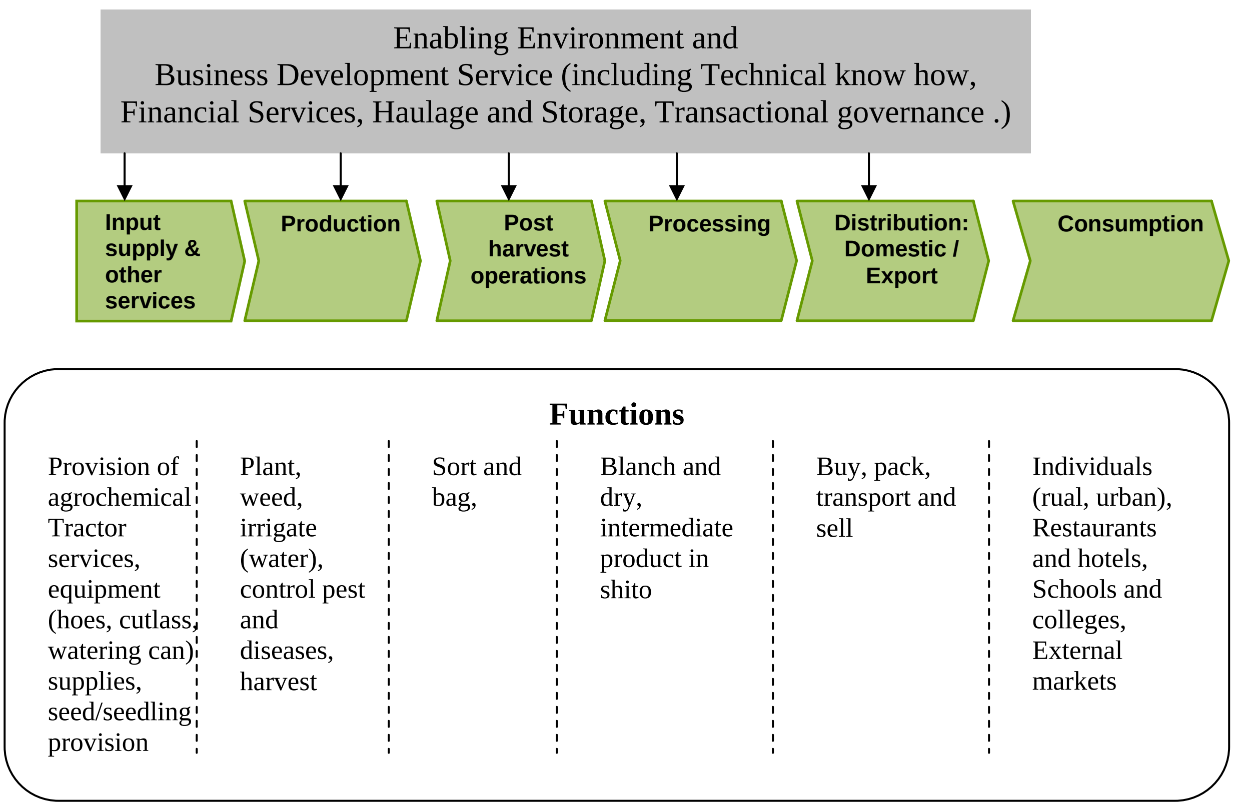
Source: Adapted from Gyasi et al 2007

Figure 7 presents a generic pepper sub-sector map that describes the flows of pepper products from production through to various markets. It shows the different functions and the overall relationships in the pepper chain.

The section is very much based on a study by Gyasi et al (2007) in the study communities as well as the outcomes of focus group discussions and pepper stakeholder workshops organized by the NCST. The participatory chain mapping exercises enabled all actors in the chain to develop a joint understanding of their respective functions. The exercises revealed strengths and weaknesses, which served as starting point for mutual trust building.

The principal functions in the pepper chain, including input distribution and related pre-production services upstream, production of pepper, harvesting, post-harvest handling, processing, transporting/haulage, trading (assembling, wholesaling and retailing: both domestic and export) and consumption, downstream, in addition to business development and financial services rendered to the sector are described below.

Figure 8 Principal functions in the pepper chain



Input Supply

The function of input supply in the pepper chain covers all services required in pre-production activities, among others, the supply of seeds, agrochemicals, farm equipment, and tractor services for field preparations. Agro-inputs used across the study area are primarily fertilizers, various types of pesticides and herbicides, and seeds/seedlings. Key sources of supply of smaller quantities of these inputs (e.g. less than 1 bag -50kg of fertilizer) are the village markets, which are organized periodically in a six-day cycle. The bulk of input supply however comes from urban centres, particularly Tamale. Key actors in the business of input supply include input peddlers who move from village to village to sell in smaller quantities, retailers with shops in the villages and urban centres, as well as wholesalers/distributors in the urban centres. Few farmers buy pepper seed. Although they have limited knowledge in seed production and management, farmers largely select and use seed from their previous harvests. These actions often result in the use of seeds of very poor quality, a mixture of varieties with low germination percentages and poor yields. Some traders in the local markets also sell seed, the sources and quality of which are often questionable.

Production

Pepper production in the area starts with nursery preparation to raise the required amount of pepper seedlings to plant the intended land area. This is followed by land preparation and sowing of seedlings, crop management (watering – in case of dry spells, weeding, fertilization, pest control and disease management, etc.) and harvesting. Farm sizes are generally small, ranging from 0.1 to 1.2ha. Production techniques are largely traditional, involving the use of traditional implements such as hoes for tilling the land and perforated gourds and buckets for watering. Key actors in pepper production are small farmers, both male and female, though males dominate in the function of production. Field preparation, planting, weeding and fertilization and pest and disease control are activities generally undertaken by male members of the farm household, while harvesting is largely carried out by women.

Post-harvest operations

Post harvest operations on fresh pepper include sorting, bagging and drying. Drying is commonly done by open air sun-drying. The long red variety is easiest to dry. The stalks of the harvested pepper are removed and the peppers are either dried directly or blanched before drying in the open air. Few of the study communities have been assisted to construct greenhouse devices for drying pepper while the Market Oriented Agribusiness Programme (MOAP), a joint MoFA, German Technical Cooperation (GTZ) and German Development Service (DED) has assisted a local entrepreneur to install a solar drier that can also be used for drying peppers. Few farmers do sorting of the produce as there is no incentive for quality in the local pepper market. Pepper that is not sold fresh is dried or allowed to rot. Drying thus becomes a key postharvest handling activity within the pepper growing communities. Pepper drying is largely an undertaking by farmers. However, it is common to find some market women (traders) who buy the fresh pepper, dry and store to benefit from higher prices in the lean season.

Processing

The demand for processed and semi-processed products in Ghana has been rising as a result of growing urbanization and increasing demand for convenience foods as many more working people seek quicker and convenient ways of preparing dishes. The demand for processed pepper is no exception to this growing phenomenon, especially in urban centres. Largely, dried pepper is sold in the traditional markets unprocessed, but some traders and processors mill the dried pepper and sell as powdered. Thus, dry pepper becomes intermediary product for further value addition downstream. The powdered pepper is also a key ingredient for the production of 'Shito', a popular local pepper sauce. This implies that the number of key actors involved in pepper processing can vary, depending on the product type and complexity as well as production technology. Actors identified in the processing of pepper in the study area are farmers (who dry pepper), market women (who also produce powdered pepper), and shito producers. Commercial processing of fresh pepper into paste is rare in the study area.

Marketing

Pepper produced in Ghana is traded in both domestic and external markets. Fresh peppers from the study communities are marketed both within and outside the project region. They are traded at farm gate or in the neighbouring village/town markets and at Tamale, the largest and most patronized urban market in northern Ghana. Figure 9 depicts the pepper market chain as described by the actors in focus group discussions. Traders within the farming communities purchase from farmers and sell to wholesalers and retailers in the urban markets. There are other farmers/traders, usually young men from the communities, who transport their pepper to Accra and Kumasi to sell ostensibly to make higher profits. Itinerary traders, mostly women from southern Ghana (Techiman, Kumasi, and Accra) also buy from the communities. Dry pepper from the communities is traded in major Ghanaian markets in Tamale, Techiman, Kumasi, Accra, Bolgatanga, Bawku and Navrongo, as well as in the West African sub-region.

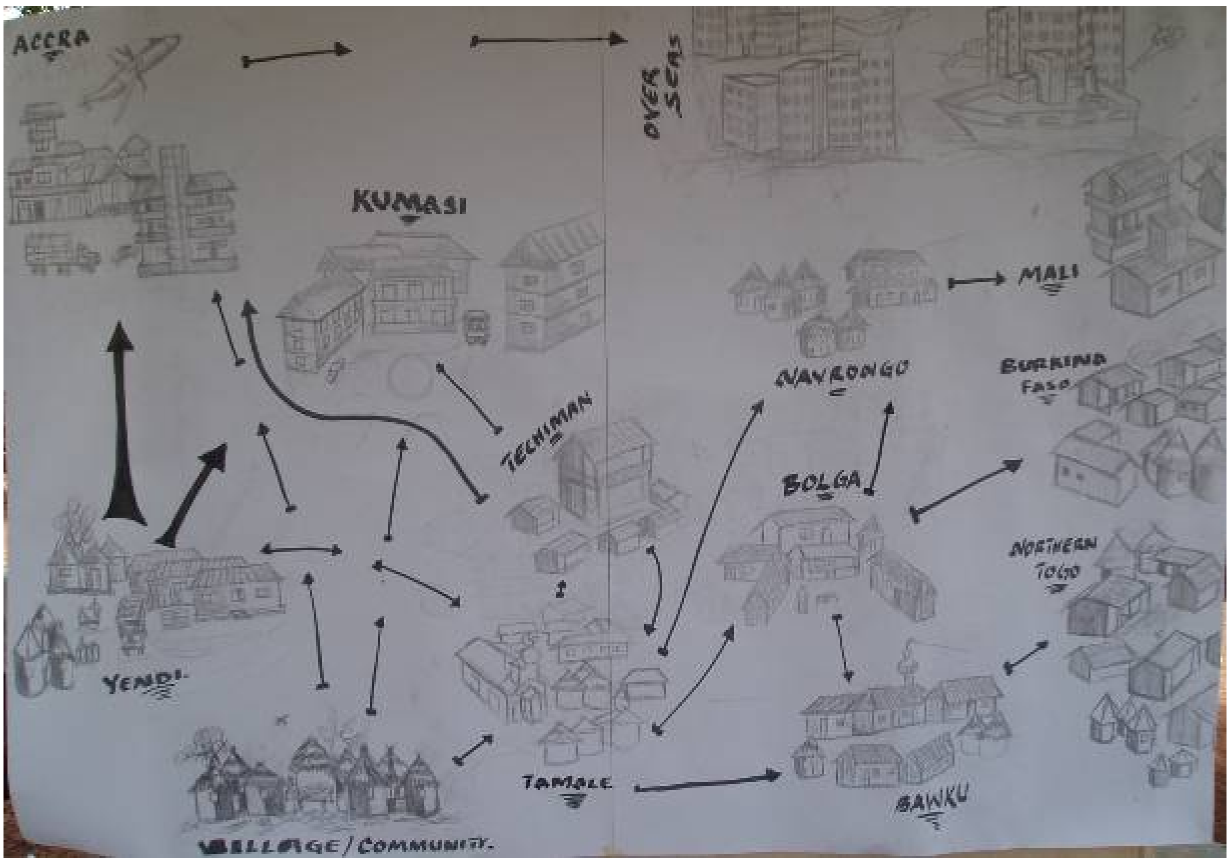
Business Development Services

The Business Development Services (Business Support Services) consists of public and private service providers, e.g., public agricultural research and development institutions, rural banks, apex bodies of farmer based organizations, and local civil society organizations. They provide services such as research, extension, training, credit market information, etc, which may be tailored to the needs of the actors in the chain. BDS providers actively involved in the study area include: Savannah Agricultural Research Institute (SARI) in technology generation and deployment. SARI's engagements in the study communities include introduction of improved pepper varieties and purification of existing ones, promotion of integrated soil fertility management (ISFM) techniques, promotion of green house drying and solar blanching techniques, among others. SARI is working with the University for Development Studies (UDS) to facilitate chain engagement: forging relationships among actors and helping to strengthen existing and new linkages. Other organizations supporting the pepper chain are Opportunities Industrialization Centres-Tamale (OIC-T) and the Ministry of Food and Agriculture (MoFA). Whereas OIC is engaged in community mobilization, facilitating the formation of Producer Organisations (POs), and providing micro-credit facilities, especially to women groups, the Extension Service of MoFA promotes the use of improved technologies by pepper farmers.

Financing

Financing the major functions within the chain appeared to be a major constraint for all the key actors. Access to formal credit facilities was limited. Largely, pepper farmers and traders financed the operations through personal savings (sale of crops and livestock). Some women farmers however obtain financial support form microcredit systems facilitated through NGOs such as OIC-Tamale, Adventists Development and Relief Agency (ADRA), and Simli-Kpong - a subsidiary of the Ghanaian – Danish Community Development Program (GDCP). Farmers, it was revealed, do not regularly pay back loans granted to them. This behaviour makes it difficult for financial institutions to give credits to farmers. Reciprocity in credit delivery, where traders pre-finance production activities of farmers (through cash credit or input credit) and traders also buying on credit from farmers, appeared to be the most reliable source of finance for farmers and traders alike, as long as the beneficiaries remain credible.

Figure 9 Pepper marketing chain



Source: Marketing Channel described by producers and traders during focus group discussions (May 8, 2007)

4.3.2.2 Governance of the Pepper Chain

Institutional arrangements or governance issues along the pepper chain were analysed by examining the authority and power relations that pertains to determine how financial, material and human resources flow along the chain (see Gereffi et al, 1994). The bargaining power and competitive positions of actors of the chain, it is believed, are largely influenced by the level of trust, degree of organization and information flow along the chain.

Analysis of the pepper chain revealed that traders extract the largest share of the profit (71%: wholesalers – 28%; retailers – 43%) per 1 maxi-bag (56 kg weight) of fresh pepper produced and sold by the chain actors. Farmers realise less than one-third (27%) of the profit. Input suppliers bank only about 2 percent. This suggests that the transaction between farmers and traders seem to be more exploitative due to the stronger bargaining position the traders have. The perishable nature of the fresh pepper, leave farmers in desperate situation of wanting to sell at all cost. This condition however plays well for traders, especially during the peak harvesting period. Clearly, the high degree of organization (including the ability to generate and share marketing information) that was found among the traders, in comparison with producers, appears to confer the traders some influence and importance that they wield in setting prices. Because the pepper traders are a much smaller group it is easier for them the build up organizational power and dominate the chain.
Traders take advantage of the weak positions of the often non-organized farmers by threatening not to purchase their produce. The flow of information along the chain is limited which has resulted in a great deal of mistrust between the traders and producers. Indeed, farmers accused traders of controlling the flow of information and credit.

Existing relationships that result in traders pre-financing production tend to turn the chain into a captive one. The more powerful traders often take advantage of the producers' desperate need for credit to exert greater control of the chain. Producers who benefit from the input/cash credit supplied by the traders are bound to sell their produce to the same trader, often on terms proposed by the latter. This relationship leads to transactional dependence as the traders lock-in the producers such that they cannot sell their produce to any other trader until the indebtedness is settled (Gyasi, et al, 2007).

4.3.2.3 Existing linkages

No formal linkages between actors were detected in the study. Relationships existing between actors are largely informal. No specific formal contractual relationships prevail. Interactions between actors along the chain are largely random, and do not reflect any form of organization. Few farmers have specific traders with whom they work. More often than not such farmers receive input credit and sometimes pre-financing arrangements from traders that compel the farmers to sell the produce to them. Through these arrangements traders secure credible supply sources.

The relationships between input dealers and farmers are similarly weak. Some input dealers have specific farmers to whom they sell on credit, but decry the increasing tendency for farmers to default in payment. Very little industrial processing of pepper occurs. Processors transforming dried pepper into sauces operate at smaller scales and for that matter largely source their inputs from the open market, while the only solar drier in Tamale is hardly known to farmers and traders.

In spite of the existing weak linkages, all actors recognize the need for stronger relationships among them. Input dealers have the feeling that without farmers they have no business, why farmers know that they cannot do without those who bring the agro-inputs to their door steps.

The fact that production translates into income only when the consumer demands and buys the product in the desired form, time and place, make clear the important role each actor plays in the chain. It was recognized that the competitiveness of the chain depends on the strong linkages that exist between actors.

The stakeholder workshops helped to promote engagement of the key actors leading to the forging of linkages for mutual benefit. Two farmers groups were formed after the first stakeholders' workshop: one at Kpilo and an other at Mbanayili. Traders who hitherto operated as individuals formed associations with elected executive members, and discussed the issue of having strong linkages with farmers to secure their supply sources. Pepper driers joined forces with processors in the Tamale metropolis to begin the joint production of processed pepper products. They are seeking to establish relationships with farmers and traders.

4.3.2.4 Key Challenges of the pepper sub-sector

Focussed group discussions by actors (producers, traders, and traders) brought out some of the challenges in the chain and helped to shape the roles public and private business development institutions have to play to improve efficiency and competitiveness of the pepper chain.

Weaknesses

Discussions by actors in the engagement workshops revealed:

- Apart from the inputs dealers, farmers and traders groups are weakly organized, and lack the capacity to undertake collective action.
- Lack of credible sources of pepper seed: Farmers obtain seed either from own sources (previous harvests, though with limit knowledge of seed production and management) or from questionable sources. The result is that the seed is fraught with problems such as poor viability, varietal mixtures, viruses and other diseases.
- Producers are disadvantaged by lack of standardized packaging, as traders develop the tendency to enlarge the bags for same or lower prices.
- Adulteration of agrochemicals affecting input quality. The revelation was that there are a lot of fake chemicals on the markets, and that farmers should endeavour to obtain their supplies from the right sources.
- Limited knowledge on the safe use of agro-chemicals. Farmers, traders and transporters were also accused of sometimes storing and transporting food items and agrochemicals together in one space.
- High defaults rates on repayment of input and financial credit resulting in limited access to credit, if any. Farmers blame their inability to repay loans on time on the delay of traders in paying products they take on credit.
- Credit constraints limit ability of actors to carry out their productive functions effectively.
- Declining soil fertility requiring the use of soil amendments.
- High cost of agro-inputs limiting the ability of farmers to acquire and apply inputs in the right quantities to improve yields.

- Pepper is produced largely under rain-fed conditions although the rainfall pattern in the study area is erratic in amount and durations. It is possible to experience both drought and flood conditions within one growing season.

Strengths

- High demand for fresh red pepper and dried red pepper in both local and external markets
- Simple methods of pepper production
- Low capital requirements
- Availability of indigenous knowledge in pepper production
- Availability of manure and compost materials to improve fertilizer use efficiency
- Availability of technical support from public institutions (SARI, UDS, MoFA, etc) and NGOs (OIC, IFDC, ADRA, GDCP, GTZ, etc)
- Farmers operate out of the tax net of the government.

4.3.3 Lessons learnt

- The workshop provided a platform that enabled all stakeholders in the pepper business (input dealers, farmers, traders, processors, as well as some agribusiness support services institutions and organizations) to come together, for the first time, to develop a joint understanding of their respective roles, define a process of integrating their activities, as well as forging and strengthening linkages to enhance efficiency and competitiveness of the pepper chain.
- Participants jointly identified the constraints and potentials in the pepper chain, their current and potential positions within the chain, and support measures relevant for the promotion of their business.
- Jointly analyzing the chain, indeed, has helped to demystify a number of negative perceptions. The perception that traders always cheat farmers was brought to the fore and clarified for mutual satisfaction, when various types of units of measure were demonstrated.
- It was difficult, however, to facilitate a dialogue between business support services providers (including financial institutions) and key actors in the chain, as these organizations often have the tendency to educate farmers and other actors instead of communicating/interacting with them.

4.3.4 The way forward

For efficient and competitive pepper value chains to emerge in the study region:

- Key actors in the pepper chain (input dealers, farmers, processors, traders) should be encouraged to form and strengthen groups of actors in their respective activities, and foster relationships that would engender their integration into both national and international pepper value chains for higher economic returns.
- Stakeholders (business development service providers, producers, processors, traders, etc) in the pepper sub-sectors in the study area should aim at forging and strengthening of linkages

among themselves, and promote cooperation as well as coordination of actions to improve the competitiveness of the chain. Increased cooperation could promote trust and reduce coordination risk.

- There should be the need for stakeholders to develop and promote joint strategies for the pepper chain. Through increased interactions, stakeholders could jointly identify bottlenecks as well as opportunities in the pepper industry, develop joint strategies to overcome constraints identified, and explore opportunities (e.g., seeking technical innovations) that could give them greater competitive advantage.
- Research and extension efforts should also focus on training farmers on good practices in seed production and on safe handling of agro-chemicals. These could help reduce mixtures of varieties to improve product quality, and as well minimise misuse of agrochemicals.
- A major challenge however remains: farmers lack effective organizational and managerial capacity to identify and access services in agribusiness and establish formal linkages with actors both upstream and downstream the chain. Bringing farmers together and building their entrepreneurial capacity is therefore essential. Business support services providers could help to improve farmers' capacity to identify market opportunities and to seek relevant market information among other services.

4.4 Case Maize Chain

4.4.1 The maize sub-sector

Maize is the most important staple cereal food crop in Ghana. Its production occupies about 27% of all land under major food crops and about 51.6% of land under all cereals (Seini, 2002). Maize is grown in all agro ecological zones of Ghana. The transitional and Northern Guinea savannah agro-ecological zones, however, accounts for about 70% of maize outputs in the country.

The greater majority (over 90%) of maize production is in hands of smallholder farmers who produce maize on farm plots ranging from less than half a hectare to about three hectares. Large scale capital intensive maize farms are virtually non- existent in Ghana. The only known capital intensive maize farm is Ejura farms in the Northern part of Ashanti Region.

Smallholder maize production is labour intensive with little or no purchased inputs. Maize production is mostly rainfed and traditional (based on traditional techniques using rudimentary inputs such as hoes and cutlasses).

Yields vary from one place to another but are generally low. Yields hardly exceed 1.6 metric tonnes per hectare, even including the high potential areas in the transitional zone. Increases in maize production over the years have been largely due to area expansion rather than to increase in land productivity.

Institutionally, the maize sub-sector has benefited greatly from projects such as the Ghana Grains Development project, jointly funded by the Governments of Ghana and Canada. This project was implemented by the Crops Research Institute (CRI) and the International maize and wheat

Improvement Centre (CIMMYT) in collaboration with MOFA. The International Institute of Tropical Agriculture (IITA) also support the national agricultural research institutes to develop and promote increased agricultural productivity in the country. These projects, next to others, have resulted in the release of several improved maize varieties as well as component technologies that overcome most of the limiting factors affecting maize production in the different agro-ecological zones and cropping seasons.

A food crop development project of MoFA (funded by the African Development Bank) promoted the formation of farmer groups for production, storage, processing and marketing of maize, facilitated easy access to credit by farmer groups for production and post-production activities by linking farmers to financial institutions; and strengthened extension services through provision of training, equipments and mobility. Through project activities improved varieties and component technologies were developed and released to farmers.

The guaranteed minimum price for maize was abolished in 1990 as part of Ghana's economic recovery programme for free market forces to determine maize prices. Maize prices have since been characterized by price fluctuations, often driven by the seasonality of the crop: very low around harvesting periods (August/September) and higher in lean periods (March- July).

4.4.2 The maize supply chain in Wenchi District

This section describes the maize chain in the Wenchi District in the Brong-Ahafo Region of Ghana. The chain analysis presented in this section resulted from a workshop organized by the NCST at Wenchi to facilitate engagement between farmers and other actors in the maize value chain. The principal functions in the maize chain are similar to those of the pepper chain described in section 4.3.2 above. These include: input distribution and related pre-production services upstream, production, post-harvest handling, processing, transportation/haulage, marketing (assembling, wholesaling and retailing) and consumption, downstream, in addition to business development and financial services rendered to the maize sub-sector.

4.4.2.1 Chain functions and actors

The participatory chain marketing exercise conducted by the participants of the maize stakeholders' workshop described the key functions and actors in the maize chain as follows:

Input Supply

Input supply includes the supply of seeds, agrochemicals, farm equipment and tractor services for field preparations. The agro-inputs used are primarily, fertilizers, agro-chemicals (pesticides, herbicides, etc.) and seeds. The input dealers who sell the inputs to farmers are located at Awisa and Wenchi. They are mainly retailers who get their supplies from agents of Chemico Ltd., Dizengoff, Wienco, etc. who are based in Techiman and Kumasi. Input dealers are given training on the safe handling of chemicals by institutions such as MoFA, Environmental Protection Agency (EPA), and the chemical companies. The input dealers in turn educate farmers on the choice and use of inputs. They encourage farmers to use their inputs by offering them credit facilities at times. This facility is often abused by farmers who fail to pay back the credit.

Production

Maize production at Awisa became a dominant economic activity in the last seven years. Before that, tomato production was the main occupation of the farmers (pers. com.). The percentage of the population involved in maize production is between 90 and 95% and more than 70% of household income is from maize production. In the study district, maize can be cropped twice in a year: the main season crop (March to July) and the minor season crop (August to November). Maize production techniques in the district were largely characterized by traditional farm practices from their ancestors, which notably involved the cultivation on local (traditional) varieties and the use of rudimentary farm inputs such hoes and cutlasses. But in recent times they have been acquainted with improved farming techniques through MoFA. They also have interactions with Soil Research Institute, Crops Research Institute, and UDS students on their third trimester field activities who have all introduced new technologies to the farmers. As a result of the introduction of improved technologies farmers are able to realize yields of between 12 and 15 bags of maize per acre as against 10-12 bags they were achieving prior to the interventions. Maize is stored in locally made cribs. However, the Ministry of Food and Agriculture has introduced them to improved cribs which some of them are using. The maize is stored in a dehusked form. Farming activities are generally hampered by lack of finance to purchase inputs, high cost of inputs, lack of access roads to the farms, inadequate tractor services and therefore high cost for what is available, pest and disease problems, especially army worms and stem borer, and the marketing problem. The actors in maize production in the study district are mainly smallholders (both male and female) ,cultivating fields ranging from 0.4 to 3ha. While land preparation is the key activity for men, women play prominent roles in planting, weeding, harvesting and threshing of the crop.

Post-harvest Handling and Processing

The processing of maize through drying to improve quality and storability of the product is the most vital aspect of this value chain development. Interactions with both farmers and traders and a visit to the Wenchi maize market showed that due to the inadequate solar radiation and mechanical driers to dry maize, a lot of the maize goes mouldy and is affected by aflatoxin. The quality of the maize is therefore low and does not attract good price. Commercial buyers who buy maize for industrial processing do not find the quality standards acceptable for their purposes.

There are two processors within the Wenchi municipality. There is a private drier located within the Wenchi maize market. The plant just started operating and has the capacity of drying 30 maxi bags or 3000kg for a 3 hour drying period. The drier however still needs some accessories such as a cleaner and a moisture meter to make its operations efficient. The second drier belongs to the defunct Food Distribution Corporation. The machine is being managed by some of the staff of the corporation. This machine is more efficient than the one in the maize market. It is located just adjacent to the Methodist University College of Ghana (MUCG), in Wenchi. Evidence of this is the huge number of bags of maize waiting at any particular time to be dried. A very important market outlet for maize farmers and a source that could turn their economic fortunes around is found in a company based at Sunyani called YedentAgro industries Ltd.. The company has three main product lines: (1) Maize purchasing, drying and distribution (2) Value addition by producing maize grit for industrial purposes – e.g. Guinness Brewery, Ghana Ltd., and (3) Production of blended foods with maize as the base, and soybean and millet as the other components. From this production line comes the *Corn-Soy-Blend.*

Unfortunately, the maize producers are not able to take advantage of the location of this industry at their doorstep because of the quality problems. The company would only buy maize that meets the following quality standards:

a) Level of aflatoxin – max of 20 ppb
b) Low moisture content – 13% maximum
c) Low levels of moulded grains – be less than 2%
d) Low level of dirt (chaff, stones, husks, cobs, and other foreign bodies)

Trading/marketing

The bulk of the maize produced in the Wenchi District is traded both at farm gate and in the Wenchi market. Key actors in the maize trade in the district are commission agents and assemblers who deal with wholesalers and bulk purchasers from industry and other markets within Ghana and the Sahelian region of West Africa (mainly Burkina Faso, Mali, and Niger). The commission agents mainly act as intermediaries between farmers and the itinerary traders. They take over the farmers produce and facilitate the selling for a commission (of GH¢1.7 per bag of 110-120kg)[5] that is paid by the trader, keeping the produce until a buyer is found, bagging, and loading the maize into trucks. They also assist traders in getting transport to haul the wares to their destinations. Out of the GH¢1.7, GH¢0.30 goes to the District Assembly as levy on agricultural produce from the district and GH¢0.20 as incentive for the farmer who brought the maize. The assemblers, on the other hand, purchase maize from all communities in the district, dry, store and sell to bulk purchasers. Most of these traders also pre-finance farmers to produce the crop to be repaid in-kind. Porters or 'loading boys' also play a big role in the value chain. In the Awisa farming community they are a major source of market information. They feed the farmer with prices prevailing in places such as Techiman and Kumasi.

The traders in the Wenchi market are organized into a group with the sole aim of facilitating the marketing of maize. They support each other with credit and also jointly source funding for their trading activities. Their role in determining the price of maize and the units of measure is acknowledged by the farmers albeit in an exploitative sense. The normal 100kg bag which should be used as a standard unit of measure for selling maize is more often than not substituted with an oversized bag that measures between 130kg and 140kg ('trader's bag')[6]. The price of maize, from the farmer point of view, is fixed by the traders.

However, an examination of the situation shows that supply and demand factors play a more prominent role in the price determination. For example, during the major maize season (August), where there is a near glut coupled with the lack of sunshine for drying to improve the quality of

[5] Gh¢1.00 = €0.83 (i.e., €1.00 = Gh¢1.20) at the time of the field work)
[6] 'Traders' bag' is often larger and weighs more than the usual 100kg bag.

maize, the prices are comparatively low. They range between GH¢80,000 and GH¢100,000 per 'trader bag', and GH¢2,000 for the 'Olonka[7]'. During the lean season (January), when the supply of maize is less than the demand, the reverse is the case and prices are dictated by the farmer and these range between GH¢200,000 and GH¢220,000 per bag and GH¢4,000 for the 'Olonka', giving the farmer a relatively larger margin. However, it is the traders buying and storing the commodity who, more often than not, benefit from the seasonal price fluctuations.

Business Development Services (BDS)

The BDS provide the policy environment, technology outputs and extension services as well as financial intermediation required by the direct actors in the chain. The Business Development Service providers identified in the area include: Ministry of Food and Agriculture, Wenchi, NGOs (Permaculture Network, Techiman, Farmers Supportive Services and Community Utilities, Wenchi (FASCU), the Methodist University College of Ghana {MUCG}, and financial/micro-finance institutions (Nkoramann Rural Bank, Wenchi, Baduman Rural Bank, Wenchi, Confidence Susu Business, Wenchi):

- MoFA implements the government programs on agriculture. The ministry facilitates access to services that farmers need, e.g. credit, inputs, and agricultural technology. The ministry provides market information to actors in the maize chain and the staff of the ministry conduct training for the actors.
- MUCG works in the field of technology development and extension, on improvement of quality seed, facilitation of group formation, and, in collaboration with IFDC, on linking farmers to product markets.
- Banks and micro-finance institutions provide credits for farming activities, especially for organized farmer groups. They support farmers by pre-financing traders and input dealers.
- FASCU facilitates the farmer groups in the rural communities and build capacity of farmer groups to access and use technology and market formation

4.4.2.2 Linkages

The second expected output from the workshop was to establish linkages between actors. The essence of commodity value chain development is to sensitize the various actors to understand that no actor can succeed on his own efforts alone. Actors need each other to make headway in their various businesses. In reality, existing linkages are largely informal and weak. The stakeholder linkage exercise undertaken during the workshop and presented below, however, largely describes functional relationships rather than specific linkages between actors.

[7] 'Olonka' is a 3kg unit of measure

Figure 10 Linkages

Source: Linkages defined during workshop (13th September 2007)

The actors in the exercise were made to identify with other actors in terms of whether there exist were strong or weak linkages between them. The linkages here are defined according to functional relationships – that is, the extent to which one actor's activities directly impinges on the other, apart from processors and business development service providers whose services, at this stage, are not sought do not have any form of relationship between them. However, farmers, traders, input dealers and business development service providers form strong relationships with each other. The processors believe they have a strong relationship with farmers because they process farmers' maize. The farmers, however, think otherwise as, according to them, they deal directly with traders and not with processors. It is traders who agree that they have a strong relationship with processors. Input dealers have some relationship with the Ministry of Food and Agriculture. MoFA has been the source of foundation seed of improved varieties that the input dealers multiply for sale as certified seed. MoFA also organizes training for the members on the safe use of agrochemicals. They do not rely on banks for any form of credit. They get their goods directly from the wholesalers. The linkages identified among actors are largely informal and often not characterized by any repeated transactions. The long-term objective will be to formalize these linkages when the actors themselves recognize the need to work together.

4.4.2.3 Challenges

The facilitated group discussion sessions brought out the following challenges:

- Poor treatment of maize resulting in poor quality of maize: Farmers thresh and dry maize on the floor and under low sunshine. This leads to discoloration and the presence of foreign matter among the gains.
- Difficulty in accessing bank credits
- High rates of interest on bank loans
- Inadequate processing facilities e.g. poultry feed, drying, etc.
- Farmers do not respect contractual marketing/agreements
- Irregular supply of maize and difficulty in obtaining bulk supplies when needed
- Poor marketing arrangements: traders using enlarged sacks and buying at low prices
- Erratic rainfall conditions (both in terms of amount and duration). Weather failure
- High cost farm inputs (agrochemicals); inadequate tractor services and consequently high cost of tractor services
- Weak organisation of farmers, unable to promote their welfare. Umbrella organizations at national level are virtually not represented at local/community level.
- Inadequate storage houses and dryers to help preserve maize
- Poor access to marketing information
- Pests & diseases (army worm, stem borers) occurrence
- Adulteration of chemicals, affecting the quality and effectiveness of the agro-inputs; Some input dealers selling banned chemicals to farmers
- Inadequate knowledge on handling and usage of chemicals
- The financial institutions decried the tendency for some people to present their family members (wives and children) as a group of farmers applying for loans meant for credible farmer associations for specific activities. The phenomenon often results in high default rates as loans in such dubious contract are often misapplied.
- Regular delays in the release of on-lending loans by government functionaries result in some customers withdrawing their accounts from the banks
- Political influences on disbursement of on-lending loans often have consequences for loan repayment. In such circumstance banks are limited in their ability to properly screen the beneficiaries. In many instances beneficiaries see the loans as payback for their support to political parties.
- High default of loan repayment by borrowers making banks hesitant to provide advances to other borrowers.

4.4.3 Lessons learnt

1. Stakeholders (input dealers, traders, farmers, processors, BSS) need a common platform to enable them to develop joint strategies to overcome their constraints.
2. Stakeholders need to share and understand each actor's roles/functions and together define the process of their integration.

3. Functional and relational linkages among stakeholders need to be strengthened to enhance efficiency and competitiveness of the chain.
4. Interdependency is essential to improved competitiveness of businesses. Farmers were quick to learn that the success of ones' business depends on other actors.
5. Facilitation of multi-stakeholder meetings requires special skills to command full participation of actors.
6. Farmers by themselves lack the capacity to engage in formal contract negotiations with other actors.

4.4.4 The Way Forward

Actors such as local NGO's, MoFA and cooperative departments should help facilitate the formation of actor groups or associations. Capacities of these groups should be built in the area of group cohesion or group dynamics and business management.

Stakeholder Workshops
Local innovation teams should have their capacities built by NCST to enable them organize stakeholder workshops in order to identify common opportunities, challenges and collectively take necessary action to enhance efficiency and effectiveness in actors' activities.

Formation of Steering Committees
This committee should involve representatives of all stakeholders to share their experiences, information and jointly draw strategies for effective linkages among actors (direct and indirect actors)

Organization of Training Programs
Specific tailor-made training programmes should be organized for different actor groups based on expressed needs identified.

Financial Support
Financial institutions should make access to credit easier, charge attractive interest rates and also make release loan funds timely, given the fact that agricultural activities are very much time-bound.

Access to Market Information
Access to market information has now become a major resource to entrepreneurs and therefore BSS should assist with information on marketing or trading and link farmers and traders to commercial buyers. Farmers and other actors could also be trained to access market information (e.g. use of mobile phones to access market prices - TRADENET).

From the analysis of the maize chain in Wenchi District, issues for which intervention may be required to facilitate chain development or up-grading through joint strategies may include:

- **Quality:** The quality of maize is affected by both human and natural factors. The human factors include farmers not harvesting maize at the right time and leaving maize on the land ‘to go bad’ through too much moisture absorption when the stalks fall to the ground. Drying of maize is sometimes done on the bare ground and on main roads, resulting in a lot of dirt material mixing with the maize grain. Farmers also use poor quality seed, most of the time, from their own selection. Such seed does not yield quality grain. The main natural factor that adversely affects the quality of maize is incessant rains during the peak season. It makes open-air drying difficult and consequently leads to poor quality grain. The farmers should be educated by the Ministry of Food and Agriculture extension agents on the appropriate time for harvesting maize. Farmers should know that they have to use certified seed produced by qualified seed producers to ensure good quality grain. The farmers must be supported by MoFA and the financial institutions to buy tarpaulins for drying maize instead of using the bare ground. On the issue of incessant rains hampering drying of maize, the government, through MoFA, must sensitise the private sector to invest in mechanical maize drying in the area.

- **Producing to meet bulk demand:** Individual farmers having small lots of maize can not attract commercial buyers, nor sustain their demands. It is therefore imperative for farmers to organize themselves in viable groups so that they can bulk their produce to attract commercial buyers such as Yedent, and get good and stable prices. The formation of functional associations will also help them to share market information and improve their negotiation position.

- **Fluctuating prices and contract buying:** The maize market is characterized by fluctuating prices. During the major season – around August/September – maize prices are very low, but during the minor season in January, the prices are relatively high. Farmers therefore should seek and enter into forward contracts to reduce price risks they face. They should learn to respect contracts to build trust and to be assured of a long-term market for their produce.

- **Storage facilities:** The traditional method of storage of maize at the farmer’s level is the use of cribs. When shelled, the traders buy and take the maize to the markets where it is stored in open spaces and barely covered with worn out tarpaulins. Insufficient and inappropriate storage facilities affect both the quality and quantity of maize that can be stored. This also depresses prices as more often than not the maize has to be disposed of quickly to prevent spoilage and total loss. Good storage facilities will enable the farmer to store value over time and stabilize prices. The construction of storage facilities such as silos is an area is essential. Government could provide incentives for private sector investment in this field.

4.5 Promoting competitive agribusiness clusters in Ghana

To achieve competitiveness of an agribusiness system may require:

1) Innovation to promote productivity:
   This is the establishment of local innovation Platforms (LIP) at various levels to promote the development and dissemination of appropriate technologies to improve productivity. This

activity will help facilitate the scaling up and out of the CASE concept which will eventually lead to competitiveness and efficiency of actors activities.

2) Cost reduction strategies:
Address all constraints farmers face through the development and application of appropriate technologies. Mobilize farmers for joint buying and selling of inputs and produce. Strengthen the industry structure, improving competences and bargaining power relationships of the actors.

3) Promoting domestic demand:
Build entrepreneurs' capacities to develop local trade. Expand domestic markets by increasing business interaction between local entrepreneurs and consumers. Improve linkages along the chain and improve competences of actors to respond adequately to changes in market demand.

4) Improve knowledge and skill of actors:
Improve access to information and enhance their managerial and organizational skills to enable them become active players in the commodity chain.

5) Improve access to credits:
To improve access to credit, financial institutions should come out with innovative products, institute processes that will improve access to these products and provide these products on time

6) Conducive institutional environment:
Favourable institutional environment that will improve access to services, reduce transaction costs, and overall improve competitiveness of the industry.

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