OAU/STRC - SAFGRAD

**SEMI-ARID FOOD GRAIN RESEARCH AND DEVELOPMENT**

Scientific, Technical and Research Commission of the Organization of African Unity

*and*

**COUNCIL FOR SCIENTIFIC AND INDUSTRIAL RESEARCH**

CSIR, Ghana

# National Workshop Proceedings on Production Support and Financial Services Program

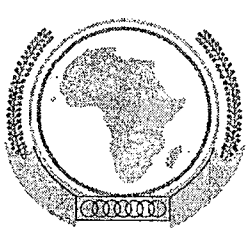
## Country Framework, Lessons learned and Best practices

**Held in Accra, Ghana**

**22nd March 2001**



Production Support and Financial Services Program
Funded by USAID/AFR/SD/ANRE



**Program Report n° 2 prepared by CSIR, Ghana**

**April 2001**

## INTRODUCTION

Agriculture is the prime mover of the economies of West African countries. Its productivity is influenced significantly by the provision of support services such as research, extension, marketing, credit, input delivery and physical infrastructure. Over the period 1950 – 1970, these services were provided mainly by the public sector. But by the 1980s, the capacities of West African states to provide such services have been reduced due to increasing public-sector fiscal deficits and pervasive organizational deficiencies.

As a result of this development, calls were made for market-driven solutions with the private sector playing a leading role based on lessons learnt from the more-market driven economies of East Asia.

Therefore, since 1983 when the then government of the PNDC embarked on an economic recovery programme, public involvement in the provision of these services have been greatly reduced or even eliminated in a number of areas. For example, currently in Ghana, the marketing of fertilizers and other agro-chemicals as well as seed and land preparation have been privatised while research and extension services are still provided by the public sector. Fears are however being raised in some quarters that the private sector is not moving as fast enough to fill the transition vacuum created by the exit of government.
It is concern about the slow pace of this transition that prompted USAID Africa Bureau and SAFGRAD to embark on an initiative aimed at strengthening the delivery of production support and financial services (PSAFS) in some selected countries of West Africa.

The overall objectives of the initiative are to:

(i) Establish a sound basis for developing an effective system to guide national and regional efforts aimed at strengthening the provision of production support and financial services in West Africa.

(ii) Find ways and mechanisms for developing, testing and promoting innovative options for improving production support and financial services through strengthened partnerships, networks and capacity building

(iii) Develop mechanisms for identifying and sharing experiences gained from best practices and innovative strategies for providing production support and financial services.

The strategic thrust of the initiative is to come up with a workable framework, including principles, operating structure and organizational arrangements for guiding national and regional efforts to monitor and strengthen the performance

of production support and financial services. The strategy is being implemented through activities that assess the performance of existing production and financial services and by developing, testing and promoting innovative options through strengthened partnerships and networks. The implementation of these activities is being guided by a National Working Committee (NWC) comprising of experts from different sectors and institutions involved in PSAFS.

Between July, 2000 and March, 2001 existing production and financial services were assessed. Two non-exclusive approaches were adopted for this assessment namely the service provider (supply-side) approach and the service user (demand-side) approach. Generally, the results showed that research and extension services were dominated by the public sector while the supply of inputs was undertaken mainly by the private sector. Details of these results of these studies were shared with other stakeholders in PSAFS during a workshop held at the CSIR-Institute for Scientific and Technological Information, Accra on the 22$^{nd}$ of March, 2001. The results generated much discussion among participants after their presentation and during working group sessions. This publication presents these results and also the outcomes of discussions they generated during the working group sessions.

## WELCOME ADDRESS BY PROF. W.S. ALHASSAN
## DIRECTOR-GENERAL OF CSIR

The International Co-ordinator of SAFGRAD
USAID Representatives,
Ladies and gentlemen

On behalf of the management teams of the Council for Scientific and Industrial Research (CSIR) and the Semi-Arid Food Grain Research and Development (SAFGRAD) of the OAU, I wish to extend a warm and hearty welcome to this one- day workshop being held under the theme 'Strengthening Agricultural Production Support and Financial Services'.

This workshop is one of the activities under an initiative embarked upon in February last year by the USAID Africa Bureau and SAFGRAD to strengthen the delivery of production support and financial services in some selected countries in West Africa. The initiative known as the 'Production Support and Financial Services Programme' is currently operating in Ghana, Mali and Senegal.

Ladies and gentlemen, as most of you are aware in 1983 the then government of the Provisional National Defences Council (PNDC) embarked on an economic recovery programme (ERP) involving market liberalization and privatisation. In the agricultural sector, this reform resulted in the transfer of the marketing of agro-chemicals, seed and land preparation to the private sector. Government has also withdrawn its support from the provision of guaranteed markets for farmers' produce through the abolition of marketing boards and other parastatals (e.g Ghana Food Distribution Co-operation).

The reform also saw drastic reduction in lending to the agricultural sector as financial institutions were required to operate profitably and sustainably.

The reform programme has, however, not changed the dominant role that public institutions play in the generation and transfer of technologies. This is not surprising as private sector organizations are currently not able to appropriate knowledge and financial returns from the research and extension processes – the two processes responsible for the generation and transfer of technologies. In any case, it will take many years for our numerous small-scale farmers who produce most of our food requirements to develop a payments culture for research and extension services. Thus for a long time to come these services must be provided free to them and this can only be done by the public sector.

Distinguished guests, the effects of research and extension services on agricultural development are however influenced by availability of inputs, marketing channels and other support services most of which have been privatised. This calls for the creation of effective partnerships between organizations in the public and private sector if increases in agricultural productivity are to be sustained.

Prof Niels Roling, a renowned Professor of Extension at the University of Wageningen in the Netherlands has noted that if agricultural development is to be enhanced there is the need to nudge widely differing institutions, often under different administrative arrangements, both public and private into compatible roles. Indeed in this era of globalisation and age of information, problems increasingly demand rapid solutions based on the knowledge and resources of a multiplicity of sectors and institutions.

Ladies and gentlemen, I see this initiative embarked upon by USAID Africa Bureau and SAFGRAD as another attempt in their on-going efforts to satisfy this need identified by Prof Roling. In 1998, SAFGRAD in collaboration with the CSIR established the Technology Transfer and Commercialization Programme with support from USAID Africa Bureau. Under that programme linkages were established between two public research institutes, notably, the Food Research Institute and the Savanna Agricultural Research Institute with technology transfer agencies and some private entrepreneurs.

I also see the initiative as an attempt to improve upon the slow pace at which the transition of the delivery of production support and financial services from the public to the private sector has been proceeding ever since the reform programme started in 1983. Thus in addition to the creation of effective partnerships between public, private and civil society organizations, we also face the challenge of how to develop new private sector capacities to assume these new roles. Fortunately, for us in Ghana the development of such new private sector capacities is being encouraged by the donor community with the USAID once again playing a key role through organizations such as Technoserve and Amex International.

We must however assist the USAID and other donors who are engaged in this exercise to ensure the success of their efforts. To help you provide this assistance today and in the future, results of inventory and desk review made of existing production support and financial services in the country and a baseline survey of such services in rural communities in three districts will be made available to you this morning in four presentations.

It is my hope that the results will set the stage for lively discussions after they have been presented and during the working group sessions in the afternoon.

I believe that each one of us here has valuable experience in one or more areas of production support services and that you will share it with other participants so that this initiative embarked upon by USAID Africa Bureau and SAFGRAD can come up with a workable framework for the monitoring and strengthening of the performance of production support and financial services.

Before I conclude let me stress once again that in this era of globalization and age of information partnership is high on the agenda of all social actors engaged in the development industry. It is therefore important that in our attempts to develop our agriculture, we should become partnership-oriented and outward looking. It is my hope that this workshop which has brought together participants from different sectors and institutions will help to give practical meaning to this new trend so that partnership does not become just another development buzz word.

Finally, I wish to express my sincere gratitude to USAID Africa Bureau and SAFGRAD for selecting Ghana as one of the countries for the implementation of the programme.

On that note let me once again welcome you to this workshop and also wish you success in your deliberations. Thank you.

# CHAPTER 1

## OVERVIEW OF PRODUCTION SUPPORT AND FINANCIAL SERVICES PROGRAMME

### 1.1 INTRODUCTION

Agriculture is the prime mover of the economies of West African countries. Its productivity is influenced significantly by the provision of support services such as research, extension, marketing, credit, input delivery and physical infrastructure. Over the period 1950 – 1970, these services were provided mainly by the public sector. But by the 1980s, the capacities of West African states to provide such services have been reduced due to increasing public-sector fiscal deficits and pervasive organizational deficiencies.

As a result of this development, calls were made for market-driven solutions with the private sector playing a leading role based on lessons learnt from the more-market driven economies of East Asia.

Therefore, since 1983 when the then government of the PNDC embarked on an economic recovery programme, public involvement in the provision of these services have been greatly reduced or even eliminated in a number of areas. For example, currently in Ghana, the marketing of fertilizers and other agro-chemicals as well as seed and land preparation have been privatised while research and extension services are still provided by the public sector. Fears are however being raised in some quarters that the private sector is not moving as fast enough to fill the transition vacuum created by the exit of government.

It is concern about the slow pace of this transition that prompted USAID Africa Bureau and SAFGRAD to embark on an initiative aimed at strengthening the delivery of production support and financial services in some selected countries of West Africa.

The overall objectives of the initiative are to:

(iv) Establish a sound basis for developing an effective system to guide national and regional efforts aimed at strengthening the provision of production support and financial services in West Africa.

(v) Find ways and mechanisms for developing, testing and promoting innovative options for improving production support and financial services through strengthened partnerships, networks and capacity building

(vi) Develop mechanisms for identifying and sharing experiences gained from best practices and innovative strategies for providing production support and financial services.

The strategic thrust of the initiative is to come up with a workable framework, including principles, operating structure and organizational arrangements for guiding national and regional efforts to monitor and strengthen the performance of production support and financial services. The strategy is being implemented through activities that assess the performance of existing production and financial services and by developing, testing and promoting innovative options through strengthened partnerships and networks.

## 1.2 PROGRAMME PLANNING

As a starting point towards achieving the above objectives, USAID and SAFGRAD drew a time bound programme planning matrix with a set of objectives as well as planned outputs per activity with indicators for monitoring and evaluating progress. SAFGRAD also engaged the services of Professor George I. Abalu, Principal Adviser for Food Security and Sustainable Development at the United Nation Economic Commission for Africa to help develop a road map to guide the work of national groups of stakeholders.

## 1.3 PROGRAMME IMPLEMENTATION

In Ghana the programme was launched on the 7$^{th}$ and 8$^{th}$ of February, 2000 (i.e about a year ago) at a meeting held with various stakeholders i.e public, private and civil society organizations involved in the provision/delivery of production and financial services.

A major output of the of the meeting was the formation of a National Working Committee (NWC) to guide the implementation of the programme. Partnership is now high on the agenda of most social actors engaged in the development enterprise. Therefore members of the NWC were selected from the public, private and NGOs sectors and institutions as follows

**Public sector**

- Ministry of Food and Agriculture
  (1) Agricultural Extension Services Directorate
  (2) Policy Planning, Monitoring and Evaluation
- Research institutions
  (3) Council for Scientific and Industrial Research

- Universities
  (4) Institute of Statistical, Social and Economic Research, University of Ghana

**Private Sector**

(5) EMPRETEC
(6) Glass Jar Users Association

**Financial institutions**

(7) Agricultural Development Bank
(8) Association of Rural Banks

**Civil Society Organizations (i.e. NGOs)**

(9) Hunger Project
(10) Adventist Development and Relief Agency

**Women's Organization**

(11) National Council on Women and Development

**The terms of reference (TOR) of the NWC are**

1. To revise and adapt the work plan presented at the meeting to reflect Ghanaian conditions

2. To devise ways for implementation of activities

3. To monitor and review the progress of the implementation of the work plan
4. To serve as a forum to harmonise issues of production support and financial services to stakeholders
5. To harmonise activities of various stakeholders, minimise duplication and stimulate synergies and complementarities

6. To ensure that up to date minutes are sent to the DDG of the AFFS/CSIR

7. To agree on modalities for conducting its meetings and for replacement of non-functioning members

8. To deliberate on any other relevant issues related to the progarmme referred to the committee.

To fulfil the first TOR, the NWC met on the 22nd and 23rd of March and reviewed the work plan to reflect Ghanaian conditions in terms of time, indicators and responsibilities for carrying out various assignments. The NWC with the assistance of SAFGRAD has also been monitoring the and reviewing the implementation the work plan in line with TOR 3. The programme was also reviewed in August, 2000 by a team of external consultants. The outcomes of these activities would be presented in the next paper 'Review of Activities to Address Programme Objectives' by Dr Bocar Diagana, the SAFGRAD Regional Economist.

Other activities carried out by the NWC are the appointment of a consultant Dr (Mrs) Ramatu Al-Hassan Head of the Department of Agriculture, University of Ghana to conduct an inventory/desk review of available information on production support and financial services and a team of socio-econmists led Dr. K. A. Marfo from the Crops Research Institute, Kumasi to conduct base line studies on production support and financial services involving farmers/rural communities and NGOs in three rural communities.

## 1.4 PROGRAMME OUTPUTS

- A 14 member National Working Committee comprising public, private and civil society organizations has been formed to guide the implementation of the programme
- Foundation laid for the development of sound basis to put in place an effective system to guide national efforts for strengthening provision of production support and financial services. i.e Report on Inventory/desk review of existing production support and financial services completed and Baseline studies on production support and financial in rural communities in three districts completed.
- Workshops have been identified as one of the ways to share experiences gained from best practices

## 1.5 CONCLUSION

- Partnership is now high on the agenda of all social actors in the development enterprise. Public, private and civil society organizations must strive to improve their understanding of how to structure and sustain productive partnerships.
- It is hoped that this workshop will help to improve this understanding.

# CHAPTER 2

# AGRICULTURAL INPUTS AND EQUIPMENT[1]

**By Wayo Seini**

## 2.1 INTRODUCTION

Ghana has been undergoing structural and economy policy reforms since the early 1980s. Agriculture contributes about 36 percent of Gross Domestic Product (GDP) and employs nearly 60 percent of the economically active population. Yet the growth of the sector has generally been slow. The sector grew at about one percent from in the first half of the 1990s, and improved to slightly above four percent in the second half of the decade. Yet the required growth rate for agriculture given the goals of Vision 2020 is six percent. The slow growth of the sector has been attributed to low productivity, which in turn is a result of weak delivery systems of production support and financial services.

The underlying problem for improving agricultural production support and financial services (APSAFS) is that, following macroeconomic policy reforms and market liberalisation, there has been a dramatic reduction in public involvement in the delivery of production support and financial services. Yet the transition of agricultural production support and financial service delivery from the public to the private sector has been proceeding at a very slow pace. While alternatives to public involvement in the delivery of these services are not obvious, the National Working Committee recognises that broad experience of and information from various organisations on agricultural production support and financial services exist and could be tapped. The present study was therefore initiated, as a first task of the overall programme, to inventory review, and critically analyse PSAFS activities supported by various bilateral and multilateral donors and implemented by several partners including multinational and local NGOs, the public and private sectors.

## 2.2 POLICY CONTEXT OF APSAFS

The Medium Term Agricultural Development Programme (MTADP) provided the framework for the structural and policy reforms in the agricultural sector. The MTADP was the first comprehensive agricultural sector strategy since the beginning of structural adjustment. The MTADP guided government policies and programmes for the agricultural sector during the 1990s. The main objective of the MTADP was to trigger a demand led growth of the agricultural sector by

1 This paper is based on a consultancy report prepared by Dr. Ramatu Mahama Alhassan, Head of Agricultural Economics Department, University of Ghana, Legon.

promoting exports, import substitution, and an economic environment conducive for increased investment in the sector. In the pursuance of increasing private sector initiative, the strategy recognised the need to improve infrastructure, credit, and efficient provision of public services, such as research. The outcomes of the MTADP were:

- The liberalisation of agricultural pricing, marketing and input supply.
- Privatisation of imports and distribution of fertilisers and agro-chemicals. Imports and distribution of fertilisers and agro-chemicals have been privatised, and all government subsidies on the inputs removed.
- A number of projects were also implemented with donor support to address the problems of research, extension, rural infrastructure, and to build capacity of specific sub-sectors.

## 2.3 AGRICULTURAL PRODUCTION SERVICES PROVIDERS

An overview of institutions and organisations involved in the provision of agricultural production support services reveals that public sector is the lead provider of research and extension services while inputs are supplied by the private sector. Strategies to increase private participation in research, and delivery of extension services have been incorporated in the Agricultural Sub-sector Services Investment Programme, which is yet to take off.

Though the anticipated objective of private input supply is yet to fully materialise, a number of companies have taken over the importation and distribution of agro-chemicals (including fertilisers), livestock and poultry feed and seeds. There is a high level of NGO participation in the provision of production support services. However, activities of NGOs tend to be limited to either specific geographical areas depending on the mandate of the NGO or the area coverage of the project under which services are being provided.

The summaries of findings on each service type, including the main actors, the constraints and the recommendations, are provided in the following sections and in Table 1.

### 2.3.1 Agricultural Mechanisation Services

The public sector actors are the Agricultural Engineering Services Directorate of MoFA and its Post-harvest Management Division, the Village Infrastructure Project (VIP), and the NBSSI. The private sector agencies are the Tamale Implement Factory, GRATIS Foundation and its ITTUs, Cotton companies. There are also a number of equipment manufacturers. Although there is some

manufacture of or fabrication of small processing equipment, major equipment, such as tractors and accessories, power tillers threshers are imported.

With privatisation, individuals, NGOs, cotton companies, and development projects are the suppliers of land preparation services. Apart from the individual service providers, the others tend to provide these services as part of production packages (e.g. the Cotton companies, Lowland Rice Development Project).

The high level of government financed tractor imports in the past and the high cost of spares and repairs following removal of subsidies and instability of the Cedi, have left in their wake, a substantial stock of broken down tractors in the system. The FAO is undertaking an inventory of these broken down but serviceable tractors to assess the requirements for rehabilitating them so as to increase the volume of tractors in the system.

The other component of agricultural mechanisation services is processing equipment. The Sasakawa Africa Association (SAA) is presently the lead promoter of processing equipment for cassava, grains and vegetable oils (e.g. the palm oil press). The Post-harvest Management Division (PHMD) of MoFA is the main facilitator of these services.

The National Board for Small Scale Industries (NBSSI), also provides business management training, and links equipment manufacturers to specialist organisations such as the Ghana Standards Board (GSB), for quality control.

Constraints of this system of support services are low density of equipment and service providers in agricultural production areas, poor quality of raw material, and lack of standards, which translate to poor quality of products for processors. High costs and lack of capital are also constraints facing manufacturers. Lack of good quality raw material hamper the development of the local manufacturing enterprises. Importers of raw materials (mainly scrap metal) are not guided by any laid down quality standards. Local manufacturing businesses lack the capacity to manage their businesses. The rapid depreciation of the Cedi also means that raw material importers may tend to sacrifice quality for price bargains.

**Strategy for Agricultural Mechanisation:** The Directorate of Agricultural Engineering Services is in the process of developing an agricultural mechanisation strategy to address the above constraints. The components of the strategy are:

Promotion of animal traction for land tillage and specifically to discourage use of tractors on fragile soils northern Ghana and the forest-savanna transition agro-ecological zone. As part of this promotion, the Agricultural Engineering Services Directorate has been mandated, with funding from IFAD to train AT operators.

Deployment of low horsepower farm power including, Power tillers (12-16 HP) for tillage, irrigation pumps, processing, and intermediate means of transport (IMT) specifically for rural women.

Importation of 70-80 hp tractors, complete with accessories, increase access of farmers to land preparation equipment. These are supported by JICA and Chinese aid. The AESD is receiving financial support under the Medium Term Expenditure Framework (MTEF) to train tractor operators. Additional funding is expected from AgSSIP. So far, over 400 operators have been trained and retrained.

Other strategies being adopted to move Ghana's agriculture from hoe and cutlass technology to mechanised agriculture are:

- boosting of capacity of farmers under the outgrower scheme to gain access to mechanised services;
- support to the private sector to take over the provision of mechanised services to farmers;
- providing financial support to commercial farmers in general to enable them access mechanised services.

### 2.3.2 Seed/Planting Materials

The Seed Certification Division of PPRSD presently supervises the multiplication and distribution of seeds in the country. Farmers are being trained in the production of certified seed. The Seed Certification Division is expected to check farms to verify farm size and level of sanitation, and to monitor harvesting, cob selection, shelling, drying, cleaning, and laboratory testing for purity and germination, grading and bagging. It also issues certification tags.

The main problem of Ghana's seed industry is low demand. The industry is dominated by the informal sector, which is characterised by on-farm seed multiplication, farmer-to-farmer exchanges, and purchases of grain from the market for use as seed. It is estimated that formal seed sector deals in only a few crops (mainly cereals), and supplies about 10 percent of the total seed demand.

ICOUR and Kpong Irrigation Project are promoting quality seed production by their farmers. ADRA has plans to support vegetable seed production, while the West Africa Seed Development Unit trains farmers in seed production.

The main institutional constraint is the limited field staff and logistics of the Seed Certification Division of the PPRSD. Following the privatisation of the seed

industry, SG2000 provided the logistics support to the seed Certification Division. This support terminated since 1998.

### 2.3.3 Agrochemicals

The industry is privatised therefore the products are currently imported by private companies and individuals and marketed through a network of wholesalers and retailers. Some import firms do the wholesaling/retailing themselves through outlets located in the regions. A number of smaller individual private businesses are also engaged in the importation of agrochemicals. However, the exact numbers and market shares could not be determined for lack of information and this makes it difficult to assess the level of competition in the industry.

The agrochemicals industry is characterised by high prices due to high interest rates and currency depreciation. High fertiliser prices relative to crop prices pose a challenge to profitability of the input. Increased competition in the supply and distribution of fertiliser and agrochemicals is one way of improving efficiency and therefore reducing costs to the users. The limitations to competition in the importation and distribution of these inputs are high capital requirements for entry into the trade, and low margins due to inadequate road infrastructure in crop production areas. These conditions do not favour competition and therefore the rationale for privatisation is defeated.

There are concerns about inappropriate application of pesticides on vegetables, and handling of agrochemicals in general, which not only reduce the efficacy of the inputs, but also pose health risks to both farmers and consumers.

### 2.3.4 Livestock and Poultry Feed

Livestock and poultry feeds are largely manufactured in the country mainly by GAFCO. Feeds manufactured include broiler starter, finisher and concentrate, layer concentrate, chick mash, grower mash, layer mash, pig starter, grower and finisher, sheep and goats feed and horse feed. The company manages a range of depots scattered throughout the country for direct sales to large-scale farmers. It also maintains numerous distributors and sub-distributors throughout the country.

Livestock and poultry feeds are also compounded by both small and large-scale livestock farmers themselves thereby reducing the scope for commercial feed distribution.

Apart from the phenomenal currency depreciation being witnessed presently, the industry also suffers from high costs of imported raw materials, transportation and utilities such as electricity, water and labour. This industry also does not seem to attract any donor interest.

### 2.3.5 Irrigation

The Ghana Irrigation Development Authority (GIDA) is the main provider of irrigation systems in Ghana. There are 22 sites with a potential area of 12518 ha, 64 percent of which has been developed. Originally, the authority built and managed the irrigation facilities. Presently the sites are being operated under varying degrees of commercialisation and farmer management.

The country's irrigation systems were assessed as not being cost effective and MTADP specifically advocated for the development of small-scale and micro-scale irrigation schemes as part of measures for reducing operating costs of existing schemes, through the transfer of the management of the schemes to farmers. However farmers cannot manage such high investment projects without the necessary facilitating environment.

**Dams and Dug/out** The Agricultural Sector Investment Project (ASIP) and some of the IFAD projects have supported the rehabilitation of dams and dug-outs in the three northern regions both for household use and for agriculture, including the watering of livestock. Action Aid also has a programme to build and rehabilitate these smaller water systems.

The development of these systems is important because of the high investment cost of larger irrigation projects. In the Upper East region in particular, where the total annual rainfall is about 800 mm, small-scale irrigation systems based on effective water harvesting and management is crucial for agricultural production.

### 2.3.6 Managerial Services and Market Information

The provision of management related training and market information us led by development projects, particularly with NGO intervention. All the NGOs contacted have group animation as part of their programmes. TechnoServe, ADRA, CRS, Action Aid and many of the other local NGOs or Community Based Organisations target small-scale farmers to improve their management skills. Amex International focuses on export oriented commercial farmers. Ghana Export Promotion Council (GEPC) also runs the export schools on how to manage export businesses, for prospective exporters.

The NBSSI also provides some management training for non-farm agribusiness. Market information is provided by TechnoServe and ADRA for small farmers, and by Amex International and GEPC for exporters. For internal marketing, MoFA provides price information on weakly basis on national radio. EMPRETEC also provides training for the development of management skills as well as the capacity to access capital under a Credit Guarantee Scheme.

The strength of this service is the wide interest among private sector actors and NGOs. The high level of illiteracy among agricultural producers often means

management training has to start with basics of numeracy and literacy, or limited to a handful of executives of farmer groups or associations.

## 2.4 RECOMMENDATIONS

### 2.4.1 Agricultural Mechanisation

High cost of services tends to depress demand leading to limited capacity for expansion. This in turn has led to a low density of services in production areas. The cycle has to be broken ideally, from both the supply and demand ends.

- The input supply centres proposed under the Agricultural Mechanisation Strategy may improve the supply side; demand should also be enhanced with a complementary credit scheme for users.

- Local capacity to manufacture agricultural tools and equipment can be improved by instituting standards for imported raw material, supporting management training of manufacturers, and improving their access to capital.

- The Post-harvest Management Division of MoFA, needs to increase the numbers of its field staff. Furthermore, the logistic support it has enjoyed from the Sasakawa Africa Foundation and the SG2000 is expected to come to an end soon and there will be need to fill that gap in support.

### 2.4.2 Seed/Planting Materials

The industry is still young and more should be done to sustain it.

- Seed Certification Division of PPRSD, which is the regulatory agency for the industry, needs support to continue training of seed growers, and to monitor the industry. The capacity of the division needs enhancement in terms of numbers of field staff and logistics. Again the gap which was created by the termination of SG2000 logistics support to the seed sector has to be filled.

- Finally there is need to extend certified seed production to other crops especially those for non-traditional agricultural exports.

### 2.4.3 Agrochemicals

- The proposed input supply centres may help improve the situation but such an improvement cannot be expected to be sustainable if the present economic trends are not reversed.

- In the mean time farmer associations could be animated to the possibilities of organising input acquisition to improve access and reduce costs.

- Farmers, input distributors, and extension agents need more education on the proper handling and application of agro-chemicals.

### 2.4.4 Livestock and Poultry Feed

- Dissemination and commercialisation of research findings on the use of local raw materials for feed compounding should be pursued vigorously.

- There should be division of labour and specialisation in the industry particularly between production and the feed industries.

### 2.4.5 Irrigation

The main challenge of improving irrigation services is how to ensure effective utilisation of existing large-scale projects.

- Fortunately, the management systems developed at ICOUR Ltd. and Kpong Irrigation Project are good examples of strategies to involve farmers in the management of irrigation projects. Although the ideal set-up should be the Nucleus farmer – outgrower relationship that exists at ICOUR, the first stage in the transformation should be that which exists at Kpong where a Project management team facilitates the operating environment for farmers and oversees the management of the system with farmer participation.

- The drier parts of the country, particularly Upper East region should be provided with dams and dug-outs for off-season farming. The development and transfer of water harvesting and soil water management technologies should also be pursued in northern Ghana.

### 2.4.6 Managerial Services and Market Information

- It is advocated that farm business and agribusiness management should be embedded in the curricula of the school system and at all levels of agricultural training institutions

## 2.5 LESSONS LEARNED AND BEST PRACTICES

- Manufacturers of farm equipment tend to use scrap materials resulting in products that do not last and are inferior to imported equivalents. There is the need for the Ghana Standards Board to be involved in setting up standards for the raw materials that are used in the manufacture of various agricultural implements to ensure that they are of high quality.

- In addition small-scale producers of farm machinery should be linked to GRATIS Foundation and research institutions to improve the quality of their finished products.

- Animal traction seems to be the best practice for small-scale farmers. A more detailed assessment should be made of animal traction as it appears to be a more appropriate form of mechanisation for the numerous small-scale farmers whose land holdings are so small making them unsuitable tractors.

- On seed/planting materials, the experiences of Sasakawa Global 2000 (SG2000) seem to be the best practices. There is therefore the need for the activities of SG2000 to be studied to find out why it was so successful in the provision of seed and planting materials. This would enable us to use such findings to strengthen the provision of these services.

- Since organic farming is being advocated in global agriculture, the best practice is to encourage the use of biopesticides and organic materials to enhance soil fertility.

- On managerial services, the emphasis should be on entrepreneurial training to both farmers and those involved in efforts at increasing their productivity. In this way agriculture can be viewed as a business and managerial issues should be given serious attention in any attempts to develop agriculture.

- An important lesson learned is the lack of market information with regards to farm inputs. Market information systems (MIS) should therefore be broadened to include input prices and not only on prices of outputs (i.e. farmer's produce). The newly created Directorate of Statistics, Research and Information of MOFA should therefore be made aware of this issue.

## Table 1. Agricultural Production Support Systems

| Service | Main providers | Facilitation[2] or Main funding Agency |
|---|---|---|
| Agricultural Mechanisation (including land and water management systems, agro-processing equipment) | Agricultural Engineering Services Directorate of MoFA, ARD, SG2000, SAA, TechnoServe, Tamale Implement Factory, Church Agricultural Inputs, Lowland Rice Dev. Project, Kpong Irrigation Project, Land and Water Management Project, Village Infrastructure Project, GRATIS, Individual Manufacturers, Church Agricultural Inputs | GoG, Post-harvest Management Division (MoFA), JICA, AFD, DANIDA, GTZ, FAO, EU, GRATIS, Chinese Government. |
| Seed/planting material | Individual seed growers, ADRA, RTIP, AGLOW, Action Aid, WASDU | GoG, IFAD, AFD |
| Fertiliser and other agro-chemicals | AGLOW, Chemico, Dizengoff, Wienco, Reiss and Co, Agrimart, Cocoa Farmers Company | GoG, JICA |
| Livestock feed | GAFCO | |
| Veterinary Services | Veterinary Services Directorate, private dealers in veterinary drugs. | GoG |
| Irrigation | GIDA projects (quasi private) | GoG |
| Infrastructure (roads, transport, storage) | Department of Feeder Roads, SG2000, ADRA, DfID, VIP | DfID, IDA/World Bank |
| Managerial (e.g. group animation, training, facilitation of access to inputs, credit, markets, market information) | ADRA, TechnoServe, Amex International, EMPRETEC, SG2000, NBSSI. | USAID, World Bank, DfID, DANIDA, IFAD |
| Research | National Agricultural Research System, Natural Resources Institute of the UK, | World Bank, DfID, CIDA |
| Extension | MoFA District departments[3], Cotton Companies, Cocoa Services Department | World Bank, DfID, GTZ, FAO |

[2] Facilitation takes the form of regulation or interventions such as accessing credit lines or technical assistance, to support service delivery.
[3] NGOs tend to use MoFA extension agents for the delivery of extension services on their programmes.

**Aminu Sanda:**

The problem with small-scale tool manufacturers in the adoption of standards and production of poor tools is due to poor education and lack of proper education. GRATIS Foundation is helping in this direction. Guide to standard use is available at the Standard Board. I would like to know if the researcher was in touch with the Standard Board.

**Mrs J. M. Kordylas:**

A seed producer invited to a workshop complained that farmers were not patronising the improved seeds. They complained that the seeds need fertilizers and other inputs which make them more expensive. The harvest also need chemicals to store otherwise insects destroy the improved harvest faster than the local varieties with respect to maize.

## CHAPTER 3

# FINANCIAL SERVICES

**BY William Tetteh and E. Osei-Bonsu**

## 3.1 INTRODUCTION

A rapid increase in productivity and hence output in the agricultural sector can be achieved through the adoption of improved technologies. This requires financial resources to make productive inputs such as crop protection chemicals, fertilisers and seeds as well as medium to long-term assets like irrigation equipment, sprayers and other farm machinery available to farmers. Availability of credit will enhance farmers' access to these inputs needed to realise the full potential of new technologies.

Prior to production, the farmer has to allocate his available resources between current consumption, purchase of productive farm inputs and other investments. Farmers with access to credit can separate consumption decisions from farm production ones and can therefore choose production inputs optimally. In the absence of agricultural credit, farmers will have to choose among the investments they make and the farm inputs they buy depending on the little money they have. Consequently, in the absence of agricultural credit, farmers will invest as a function of the capital available rather than their farm needs. Non availability of agricultural credit adversely affects both farmer technology-adoption decisions and farm profitability and removing it through effective agricultural financing will help farmers in a number of ways. First, readily available agricultural credit will increase the profitability of credit-constrained farmers and accelerate their adoption of improved technologies. Secondly, it will allow peasant farmers to forego potentially exploitative land contracting.

Again, a shift towards capital-intensive agriculture through credit availability will attract the youth who have hitherto been put off by the drudgery nature of labour-intensive agriculture, to the agricultural sector and hence provide some solution to the rural-urban drift of the youth to seek non-existing white colour jobs. Furthermore, credit is also needed to finance the purchases of input suppliers and to support the operations of those engaged in the marketing and processing of agricultural produce.

## 3.2 Financial Services Providers in the Agricultural Sector in Ghana

In Ghana three financial services providers in the agricultural sector can be recognised, operators in the agricultural sector themselves, non-institutional and institutional financial services providers.

### 3.2.1 Operators in the Agricultural Sector

Personal savings as a source of agricultural finance in Ghana are done by means of direct savings from agricultural and non-agricultural income for agricultural investment.

### 3.2.2 Informal Financial Service Providers

The non-institutional financial service providers are the oldest sources of agricultural financing in Ghana. These include relatives and friends, traders, distributors of agricultural inputs, produce buyers, landlords, credit unions, rotating savings and credit associations, NGOs and private moneylenders. Among this group, the private moneylenders are the most important. Interest rates of above 100 percent per annum are charged by moneylenders because of the high risk in giving credit to the agricultural sector without collateral. In some cases the security requirements of private moneylenders can be more demanding than those of the banks. Money lenders in agriculture in Ghana are now mostly produce buyers who give money to farmers to maintain their farms with an undertaking by the farmer that he will sell his produce to the lender. This practice is widespread in the *Nzema* area of Ghana where market women give loans to coconut farmers to maintain their farms with an undertaking by the farmer to allow the market women to harvest the produce for a predetermined number of years depending on the amount given.

NGOs are increasingly becoming important in the provision of agricultural financial services in especially rural areas of Ghana. The mode of operation of most NGOs such as Freedom from Hunger and TechnoServe involves training, animating groups and linking them up with formal financial institutions such as the Agricultural Development Bank and rural banks to make agricultural and rural credit available to players in the agricultural sector. A few NGOs (e.g. Sinapi Aba Trust) provide credit directly to rural operators in addition to providing training and linking its members to institutional financial service providers. Some NGOs like Care International are involved in strengthening the capacity of formal rural financial service providers to enable them provide improved financial services in rural areas. Within the informal sector, credit arrangements are based largely on trust, intimate knowledge of borrowers and close proximity between borrowers and lenders. The informal providers are very flexible in the provision of their services in terms of loan making procedures, quick withdrawals and disbursements and in some cases provide facilities for small savings.

In addition to charging high interest rates, informal lenders fall back on other ways to hedge against risk. Most of them require an introduction by a known person who may act as a guarantor and lend only within the communities. The informal financial service providers are normally lenders with the exception of the credit unions and the rotating credit unions and the rotating credit associations which provide both lending and savings services to their

clients. Their services are mostly suited for small operators who cannot have easy access to institutional lenders.

### 3.2. 3 Formal Financial Service Providers

Before the deregulation of the Ghanaian banking sector, agricultural credit was provided by the Ghana Commercial Bank, the National Investment Bank, the Social Security Bank, the defunct National Savings and Credit Bank and the recently liquidated Ghana Co-operative Bank and Bank for Housing and Construction, in addition to the Agricultural Development Bank. This was in line with their obligation to commit at least 20 percent of their lending portfolio to the agricultural sector.

Prior to the deregulation, the government in conjunction with the Bank of Ghana introduced a network of rural banks to supplement these banks in providing financial intermediation to the rural sector. The liberalization of the banking sector coupled with the privatization of some of the national banks meant that these commercial banks were no longer under an obligation to lend to the agricultural sector. As a result the other sectors such as the commercial and manufacturing which are less risky attract most of the loanable funds of these banks. The resultant effect is that the onus of provision of financial services to the agricultural sector in Ghana now falls on the Agricultural Development Bank and to lesser extent rural banks. All formal financial service providers are lenders and savings services providers.

## 3.3 MAJOR CONSTRAINTS IN THE PROVISION OF AGRICULTURAL CREDIT

Although innumerable efforts have been made by both formal and informal institutions to enhance the availability of agricultural credit, the rate of improvement in agricultural credit delivery has been hampered by a number of problems. These problems include high loan default and delinquency rates, high loan administration costs, inadequate and unsuitable collateral, limited medium/long term funds to finance fixed assets requirements for agricultural development, over reliance on external sources of funding because of low savings mobilisation and other macroeconomic bottlenecks. While it is true that some of these problems arise from the basic policies, organisation and operations of the financial services providers, other impediments are inherent in the economic and social conditions within which they operate. Rural borrowers have limited resource base, little if any formal education and possess little understanding of efficient use of credit.

Marketing networks through which farmers sell their produce to generate funds to repay loans are not well developed. Uncertainty about weather, yield and low demand and prices of agricultural produce has all negatively affected effective agricultural credit delivery in Ghana. Efforts by financial service providers to increase their outreach have resulted in dealing with a very large

number of individuals scattered all over Ghana, which increases operational costs, militates against timely loan delivery and reduces the effectiveness of loan monitoring, supervision and recovery. Problems faced by both formal and informal financial service providers are discussed under the following headings.

### 3.3.1 High Loan Default and Delinquency Rates

High loan default and delinquency rates has been the most important problem of financial services providers in the agricultural sector.

Several factors have accounted for the high loan default rates in the agricultural sector and these include adverse weather conditions, low demand for agricultural produce and produce price at the time of harvest, delays in loan approval due to the long time spent on data collection on applicants who are not well known by lenders, loan diversion by borrowers, under financing due to lack of consumption credit and improper screening of customers due to the fact that the financial service providers do not normally operate in the communities of the borrowers and hence have inadequate knowledge on their operations. Other factors are wilful default, failure of courts to take prompt action against defaulters, weak loan monitoring and recovery procedures as well as lack of discipline and responsibility on the part of borrowers. These factors have been aggravated by a lack of supporting services such as irrigation, marketing and extension, which are required to make agricultural production profitable.

Ghana's agriculture is basically rain-fed with limited use of productive inputs meaning bad weather such as long periods of drought, diseases and pests outbreak impact negatively on output and farm income thus jeopardising farmers ability to repay their loans even though they might be willing to repay. Even where crops have not failed because of good weather, unfavourable price at the time of harvest may make it impossible for the loan to be repaid. Under the rain-fed agricultural conditions existing in Ghana farming operations have to be timely in order to take advantage of periods of good weather. Many projects funded by institutions engaged in agricultural financing have failed because of delays in loan processing leading to approvals at times when weather conditions are not conducive for crop production. Several factors account for the delays in agricultural credit approval process and these include the centralisation of loan approval authorities of banks, the long periods required to collect data on applicants who are hardly known by the lenders, delays in repayment of old facilities as well as the inability of borrowers to promptly satisfy the terms and conditions required for loan approval.

Delays in loan approval often results in borrowers diverting loans when they are satisfied that they will not get higher yield. There are however some borrowers who deliberately divert loans to non-essential consumption and therefore find it difficult to meet repayment commitments. In Ghana, it is very

difficult to draw a meaningful line between the household and the agricultural enterprise.

Therefore farm inputs like cutlasses, hoes, seeds and fertilisers and household essentials like clothing, drugs, utensils, as well as funeral expenses are all made from loans granted in the name of agricultural activities.

In addition to being timely, agricultural credit has to be adequate to be able to finance all the required activities. There have been instances where loans approved by agricultural finance institutions have been inadequate for any meaningful farming activity. Such insufficient amount invariably leads to diversion for current consumption, more so when consumption credit is lacking in Ghana.

Both formal and informal lenders face the problem of wilful default from borrowers who generate cash surpluses sufficient to meet repayment requirements but just refuse to repay. This scenario has been aggravated by the long delays in disposing off cases of loan default in courts to enable the financial institution to foreclose properties used to secure such loans. Many financial service providers fail to prosecute loan defaulters on timely basis because of the long delays and difficulties encountered in trying to dispose off customers' collateral through judicial sale. Such difficulties are manifested in the expense and time in completing the legal process and the unwillingness of the Ghanaian public to purchase property of a neighbour they consider to be in difficulty. Loan defaults have been observed to have a spread effect and when lenders cannot easily enforce sanctions against defaulters, defaults tend to increase through a process of imitation. Lack of effective supervision and monitoring of loans due to high cost of these services have also contributed to the high loan default rates associated with agricultural finance institutions in Ghana.

### 3.3.2 High Loan Administration Cost

The dispersed nature of agricultural operators makes credit delivery expensive. Loan administration cost include all administrative overheads associated with lending including staff salaries, cost of loan monitoring, supervision and loan recovery, office space and bookkeeping. The centralised loan approval authorities aggravate the problem of high cost. The long distances, which the financing loan officers have to travel to inspect and monitor projects also increase lending costs.

Again, because most farmers often lack good financial accounts and may have difficulty filling out credit forms correctly, the cost of processing and monitoring their loans are very high. Transaction costs to the farmers are also high resulting from the rather high opportunity costs arising from lost working time. Borrowers very often have to make several trips to the approval authorities to complete loan application procedures and again spend several

days and huge sums of money to obtain documents required very often by the formal agricultural lending institutions.

### 3.3.3 Inadequate and Unsuitable Collateral

Financial institutions have conventionally protected their assets against potential loan defaults through collateral requirements. With the majority of operators in the agricultural sector being peasant farmers with no or very little landed property, collateral problems are inevitable. In the absence of liquid assets, lenders prefer mortgages on landed properties requiring title registrations, which most operators in the agricultural sector do not have. Any insistence on collateral will mean many smaller borrowers would get screened out, since they are least likely to be able to provide acceptable collateral. Although they might own property, difficulties of proving legally enforceable title to land render it unacceptable to lenders as collateral. Absence of agricultural insurance in Ghana means use of growing crops and livestock as collateral involves enormous risk.

### 3.3.4 Low Saving Mobilisation by Formal Financial Services Providers

The inability of lenders to mobilise enough savings (due to their limited presence in rural areas) to meet their lending requirements particularly medium to long term funds required for agricultural development. This means that they have to rely on external sources of funds. Over-reliance on external funding (e.g. ADB's Midas and IFAD programmes) makes financing unsustainable as these sources dry out quickly and loan default does not make it possible to recycle external funds for a long time.

### 3.3.5 Macroeconomic Bottlenecks

Liquidity, interest rate and foreign exchange instability as well as high and erratic inflation rates pose great challenge to the operations of agricultural lenders. Liquidity problems have arisen when lenders have been unable to meet their cash requirements from their liquid assets. This problem is worsened by the fact that some agricultural financing is medium to long term whilst the bulk of the deposits of lenders are short term. Very high rates of inflation very often erode the real values of medium to long-term loans.

## 3.4 BEST PRACTICES TO IMPROVE AGRICULTURAL CREDIT DELIVERY IN GHANA

Despite the enumerated problems, agricultural credit providers can improve their delivery by adopting good lending practices targeted at reducing the effects of the problems that militate against their effective credit delivery. The recommendations are considered under the following headings.

### 3.4.1 Best Practices to Enhance Savings Mobilisation

Savings mobilisation should be a major priority of agricultural financial service providers especially those in the formal sector like the Agricultural Development Bank and rural banks if they are to improve their self-sustainability and outreach. To this end, these institutions should actively encourage, attract and entice savers to deposit with it. The Agricultural Development Bank and the rural banks are well placed to attract many savers from the informal sector if in addition to making savings convenient to depositors through easy access (as done by the informal sector), they increase their credit coverage to savers based on their savings without the requirement of collateral.

Tying the amount of loan with the amount saved will encourage depositors to increase their savings. By the establishment of a good rapport and working relationship with savers through Susu groups, credit unions and loans and savings associations, the need for lenders to rely on collateral for loans will be reduced. The informal lending sector that has thrived so well in Ghana has substituted borrowers' reputation and credit worthiness for tradable assets as collateral because of their intimate knowledge of their customers.

The Agricultural Development Bank and rural banks can design specific savings products for specific target groups. Strategies that could be used include dividing their clientele into more homogenous segments and devising a savings product for each segment.

Such segmentation could include special products for market women who constitute the largest clientele of informal savings collectors, special savings products for civil servants, special savings products for public servants, special savings products for students and the youth in general and special savings products for private entrepreneurs. To make such products more enticing, they should be tied with additional benefits such as automatic qualification for credit after a stipulated period of time. Again, formal institutions like the Agricultural Development Bank and rural banks could enter into relationships with informal financial institutions and take advantage of the latter's superior information about small clients and their relatively low cost of frequent, small transactions. This relationship can be in the form in which the informal financial institution such as credit unions or "Susu" clubs would deposit their daily savings collected with the Bank while they in turn occasionally receive loans at concessionary rates for on-lending to their clients.

While the obvious advantage of increased savings mobilisation would be to increase the resource base of the formal lenders, it will also provide the Bank with information with respect to the solvency and reliability of potential borrowers, which will be useful in facilitating and reducing costs of creditworthiness appraisal. It has also been established that debtors are more likely to honour their loan obligations when they keep their deposits at the lending institution.

### 3.4.2 Best Practices to Reduce Loan Default and Delinquency Rates

High loan default rate, unarguably the most important problem hampering agricultural credit delivery in Ghana is multifaceted and can therefore only be solved by a multiplicity of good credit delivery systems. These systems include avoiding under financing, ensuring closer supervision and monitoring of financed projects, and strengthening group schemes and developing them into co-operatives. Others are grading borrowers based on the repayment record and provision of incentives for timely repayments and penalties for delinquencies and defaults. In order to solve the problem of under financing it is important for lenders to adopt include consumption credit an in their agricultural credit delivery.

It is important to give adequate amounts of loans that can completely finance projects considered feasible and meet consumption requirements.

Offering incentives for prompt loan repayment and penalising loan delinquency and default will also contribute to reducing the high loan default rates. Incentives could include access to larger volumes of loans and concessionary lending rates whilst interest penalties and disqualification from subsequent loans could be a useful deterrent for delinquency and default. While still using these penalties, the need for flexibility to take into account unexpected circumstances associated with agricultural activities remains paramount.

More emphasis should be placed on disbursement in kind (seeds, fertilisers, animal feeds, etc) to prevent the diversion of funds. To accurately assess the credit performance of first time borrowers, lenders in the agricultural sector should team up with other Banks to establish credit information systems to help reduce the common practice in Ghana where some borrowers move from one financing institution to the other leaving behind huge unpaid debts. Through collaboration with organisations, which have access to the credit rating information of potential borrowers, lenders could design robust credit appraisal procedures to screen out potential defaulters. In addition, lenders should adopt the culture of prosecuting defaulters on a timely basis and foreclosing their collateral through a judicial sale. This will help reduce the spread effect of loan default through imitation.

### 3.4.3 Best Practices to Reduce Loan Administration Cost and Quicken Loan Approval Time

With high loan administration cost being an important bottleneck to agricultural credit delivery in Ghana, the design of a low-cost credit delivery system will help improve the performance of agricultural finance institutions. While admitting that cost reduction will be difficult to achieve for a bank like the Agricultural Development Bank because of the highly dispersed nature of peasant farmers who form the majority of its clientele, decentralisation of

loan approval authorities, use of simple and flexible approval procedures and use of group lending schemes will help reduce lending cost.

### 3.4.4 Charging Positive Interest Rates

Lending rates have to be positive so as to be able to protect the finances of lenders against the erratic rate of inflation and also sustain attractive interest on customers' savings. Interest on loans should also be able to cover administrative cost, reduce loss in the event of default and leave a reasonable surplus to build reserves and keep the lending functions of the institutions running. While charging lower interests on agricultural loans may help to increase agricultural productivity in Ghana, the rates need to be set with due regard to the risk associated with the sector and care being taken not to jeopardise the liquidity of lending institutions.

Charging positive interest rates will also be in the long-term interest of Ghanaian agriculture, which would be most affected if operations of lending institutions become unsustainable as a result of inability to meet cost. However with the current low agricultural productivity and profitability levels in Ghana, charging real positive interest on agricultural loans might make investment in the sector unattractive. It is in this light that the Agricultural Development Bank for instance continues to charge lower interest on loans to the agricultural sector, which has the highest risks. To reduce lending risks to banks like the ADB that continue to lend to the agricultural sector at reduced rates, there is the need to strengthen existing credit guarantee schemes at the national level particularly for the agricultural sector. Internal cost reduction by lending institutions, as well as effective loan supervision, monitoring and recovery could also reduce the negative effect of reduced interest rates on profitability.

### 3.4.5 Best Practices to Enhance Efficiency of Loan Officers Through Training and Incentives

Loan processing can be made more efficient by the training of loan officers as well as borrowers. Such training should aim at acquainting loan officers with the rudiments of agricultural financing which is quite different from financing of other sectors. Setting achievable and realistic standards and rewarding loan officers for efficient loan delivery will help improve loan monitoring and recovery.

Although use of performance incentives to loan officers who maintain healthy loan portfolios may increase the loan administration cost of agricultural finance institutions, the benefit from increased loan recovery will outweigh the cost.

### 3.4.6 Best Practices to Improve Joint Liability Lending

Group lending has played an important role in increasing the outreach of many agricultural finance institutions and small farmers' access to credit mainly through transaction cost reduction and substitution of joint liabilities and peer pressure for tangible assets as loan collateral. It also remains the only remedy at least as of now to the agricultural sector's perennial problem of lack of acceptable collateral. The ADB for instance has through its two main joint liability schemes, the group farming and nucleus outgrower schemes improved its ability to extend credit to small scale farmers as a result of reduction in transaction cost to the borrower and the Bank and reduction in loan default and delinquency through the exertion of group pressure and stringent screening of members. The group farming scheme has also brought the added advantage of enabling group savings of members to be used to secure loans and helping small farmers to develop over time into medium scale farmers who can access credit on their own merit. In addition, the two schemes have the advantages of enabling some of the outgrowers to develop into nucleus commercial farmers over time, thus creating a multiplier effect. Existing group lending schemes should therefore be strengthened. Possible areas for improvement include encouraging the groups to register as co-operatives so that they can use part of the loan to acquire needed capital assets which can also be used as collateral for future loans.

Individuals who have performed well under the Nucleus/Outgrower and the Group Farming Schemes should be granted loans on their own merits to make room for others to join the groups as well as prevent very reliable members from opting out of the scheme because of the fear of being penalized for the default of other members. To further solve the problem of lack of appropriate collateral, there is the need to shift emphasis from conventional collateral as a major eligibility criterion. This can be done by the development and further strengthening of credit appraisal systems to put more emphasis on borrowers' repayment capacity.

However, for long-term large projects involving greater elements of risk, the need for insistence on landed property as collateral cannot be discounted if the sustainability of agricultural finance institutions is to be safeguarded.

## 3.5 OPERATIONS OF ADB'S GROUP LENDING SCHEMES

The most important contributor to the increasing outreach of many agricultural finance institutions including the ADB in the recent past has been the development of group lending schemes which use peer pressure as a collateral substitute and thus make credit accessible to small-scale farmers who have no access to conventional collateral. Lender can benefit from peer monitoring among borrowers. If a group is able to impose social penalties on a borrower who defaults on his/her portion of the loan, the probability of loan repayment increases.

Group lending is also beneficial to borrowers because if risk-averse group members are able to insure each other, they are more likely to enter into contractual agreements with lenders. ADB's lending to small-scale borrowers with little or no collateral are designed to provide alternative collateral that will encourage small-scale borrowers to repay loans promptly as well as reduce the lending risk to the bank. Small-scale lending is thus largely made through group schemes. Two types of group schemes mainly operated by the Bank are the Group Farming Scheme and the Nucleus/Outgrower Scheme.

### 3.5.1 The Group Farming Scheme.

This is made up of unregistered groups of between 10-20 small-scale farmers each engaged in the same agricultural enterprise. The group has the following characteristics:

- Each group has an executive committee consisting of:
  Chairman
  Secretary
  Treasurer

- The executive committee arranges credit on behalf of the members and also assists the Bank in loan recovery.

- The executive committee provides personal guarantee for the group.

- If one member defaults the entire group is held responsible and is denied subsequent credit. Individual members therefore exert group pressure to ensure a high loan recovery.

- To encourage savings, groups are required to contribute 25 percent of the loan granted which also serve as security for the facility.

- Disbursements are made in both cash and kind (inputs) to the individual members of the group. In the case of cash, disbursements are made into the individual member's savings account.

- The groups are formed either by the Bank or NGOs after screening of all the members within the group.
- Individual farmers arrange for the sale of their produce.

- Repayment is made by debiting the member's savings account and crediting the loan account.

### 3.5.2 The Nucleus/Outgrower Scheme

The overall objective of the Nucleus/Outgrower scheme is to achieve increased and sustained agricultural growth through the introduction of innovative technologies and effective and efficient processing and marketing

systems. Under this scheme, a successful large-scale farmer, who is the nucleus farmer selects a number of small-scale farmers (outgrowers) in his catchment area and undertakes to do the following:

- Arrange credit for himself and his outgrowers.
- Transfer technology through the supply of improved inputs and adoption of modern agronomic practices.
- Organise markets for the produce of his outgrowers.
- The nucleus farmer recovers the loans extended to the outgrowers by buying back the produce of the outgrowers or arranging for the sale on the open market.
- Credit risk is borne by the nucleus farmer.
- The nucleus farmer provides collateral security for the credit extended by the Bank.

The two group schemes have improved the ability of the ADB to extend credit to small scale farmers through reduction in transaction cost to the borrower and the Bank and reduction in loan default and delinquency through the exertion of group pressure and stringent screening of members. The schemes also have the advantages of enabling the group savings to be used to secure loans and helping small farmers to develop over time into medium scale farmers who can access credit on their own merit. In addition, the two schemes have the advantages of enabling some of the outgrowers to develop into nucleus farmers over time, thus creating a multiplier effect.

There are however some limitations to the two group-schemes. First, the schemes do not make it possible for groups to acquire capital items since they are not registered and acquiring such assets would lead to problems of ownership and management of assets. Secondly, individual members who are credit-worthy are denied loans if the group as a whole defaults.

In addition to the two general limitations, the following bottlenecks are inherent in the Nucleus/outgrower Scheme:

- Marketing of produce by the Nucleus farmer on behalf of the outgrower
- Inadequate storage facilities forcing farmers to sell produce even when prices are low.
- Inadequate financial capacity of the Nucleus farmer to purchase excess produce of the outgrower.
- Difficulty on the part of the Nucleus farmer in managing large number of outgrowers.

- Rising cost of input.

## 3.6 INTRODUCTION OF INNOVATIONS INTO CREDIT DELIVERY

Introduction of innovations in the lending process of agricultural finance institutions is likely to improve their performance. These innovations could embody changes in the operations of the financial institutions, innovations in loan processing as well as the introduction of novel financial products and services.

For the ADB, changes in the operations of the Bank must be targeted at strengthening the branch and area office approval authorities. Innovations in loan approval should be geared towards early loan processing by simplification of loan procedures and the use of computers that increase the efficiency of loan processing. Computers are needed for accurate and timely information systems that are essential for effective credit delivery. Introduction of consumption credit in addition to production ones will prevent the problem of diversion of production loans for consumption purposes.

### 3.6.1 Best Practices to Diversify Risk

To spread risk, lending institutions should diversify their loan portfolio. Diversification should involve financing different groups of clientele such as urban and rural clients and commercial and subsistent farmers; financing projects of different gestation periods; and giving loans of different terms and conditions.

### 3.6.2 Best Practices to Reduce Liquidity, Interest Rate and General Risks

Finding solutions to the problem of liquidity and interest rate risks calls for a strategy to entice long-term depositors (time deposits) to match long term loans. These strategies should include providing incentives like higher interest for long-term deposit as well as making long-term depositors automatic beneficiaries of loans after keeping their savings with the Bank for a specified period of time. Lenders can further reduce interest rate risk by indexing their lending rates to indices like the rate of inflation and the Bank of Ghana rediscount rate, which are likely to affect the rates paid on savings in the long run. Lending institutions should also do a regular assessment of the agricultural commodity markets and seasonal agricultural price fluctuations to help prevent granting new loans to enterprises where over production, crop failure and future price fluctuations are eminent.

Incorporating insurance schemes into the Bank's credit delivery will also help the Bank transfer part of its lending risk. At the national level, there is the need to strengthen the Eximguaranty Company to enable it gain the confidence of lenders. Lending institutions can also reduce their exposure to risk by ensuring that borrowers put adequate equity into projects before loans

are granted for such projects. This will increase borrowers' stake in financed projects and thus increase their responsibility for ensuring the success of the projects.

### 3.6.3 Adopting a Multifunctional Structure

Incorporation of input supply and output marketing into credit delivery will help improve the credit delivery performance of agricultural credit institutions like the ADB and rural banks. While credit in the form of input will help reduce loan diversion, banks' involvement in the marketing of borrowers produce will help reduce wilful default when farmers sell their produce but fail to service their loans and accumulated interest. For the ADB for instance, the involvement of the Block Farming Company, engaged in the provision of services like ploughing, supply of fertilisers and other inputs in the form of loans in kind, in the marketing of agricultural produce is part of the Bank's effort aimed at achieving a multifunctional status. With increased supervision and monitoring, the Block Farming Company can successfully collect debts from beneficiaries after marketing their produce. If the company buys the produce and pays the farmers whatever is left after deducting the value of services and inputs provided, the possibility of default will be very low. Indeed, this strategy of buying back borrowers' harvested produce underpins the success of company's such as ICOUR and BOPP as well as the ADB's Nucleus-Outgrower programme. Again, for the ADB multifunctional structure could be widened to include some level of technical supervision of projects.

The British-American Tobacco (BAT) and Cotton Schemes exemplify the effectiveness of integrating output marketing with loans. Under the BAT scheme, a variation of the nucleus/outgrower concept, BAT provides partial guarantee for loans granted in favour of smallholder tobacco farmers who would normally not access bank facilities because of lack of adequate collateral. The loans usually in kind are for tobacco production. BAT supplies inputs and after harvesting, the BAT buys the produce from the smallholder farmers and ensures that the individual farmers pay their loans to the Bank. The difference between the BAT scheme and the nucleus/outgrower concept is that the BAT has no nucleus farm but supplies input and act as a guarantor of loans contracted by the smallholder tobacco farmers and in turn purchase the produce of the smallholders.

For the cotton scheme, the cotton marketing companies source loans from the ADB and on-lends as credit in kind to smallholder cotton farmers who after harvest sell their produce to the cotton companies. Part of the revenue generated from the sales of lint and seed cotton is used to repay the loan and accumulated interest. Again, the difference between this and the nucleus/outgrower scheme is that the cotton companies do not have nucleus farms. Unlike the BAT scheme, the cotton companies are not mere guarantors but contract the loans and on-lend to the smallholder farmers.

## 3.7 IMPROVING THE IMAGE OF THE AGRICULTURAL FINANCE INSTITUTIONS

To be able to attract new customers and maintain the existing ones, lenders in the agricultural sector such as the ADB and rural banks should increase the level of confidence and trust of their clientele in terms of the quality and reliability of products and services (both savings and advances) they provide.

The best agricultural lending practices and the strategies to achieve them are summarised in Table 2 below:

**Table 2: Lending Practices and their strategies**

| Practice | Strategies |
|---|---|
| Reducing Loan Default and delinquency rates | • Provision of consumption credit in addition to production credit.<br>• Incentives and penalties based on timing of repayment.<br>• Flexible disbursement and repayment schedules and more disbursement in kind.<br>• Credit information sharing with other institutions.<br>• Strengthening joint liability schemes. |
| Reducing Cost of Loan Administration | • Decentralise loan approval and increase branch approval limits.<br>• Simplification of loan approval procedures. |
| Enhancing Mobilisation of Savings | • Offering attractive and competitive interest on savings.<br>• Linkages with savings and loans associations.<br>• Extending credit to savers based on their deposits with the Bank.<br>• Designing specific savings products for specific target groups. |
| Improve Joint Liability Schemes | • Encourage groups to register as co-operatives.<br>• Identify good performers in groups and grant them loans on their own merits.<br>• Base loan approval on repayment capacity and credit record. |
| Risk Diversification | • Finance different groups of clientele.<br>• Finance projects of different gestation periods. |
| Introducing Innovations | • Strengthening branch and area office approval authorities.<br>• Investing in computers to facilitate operations.<br>• Introduce consumption credit to increase productivity of production credit. |
| Adopting a multifunctional structure | • Incorporating input supply and output marketing in credit delivery.<br>• Strengthening the technical supervision of financed projects. |

| Practice | Strategies |
|---|---|
| Charging Positive Lending Rates | • Charging economic interest rates based on the risk associated with lending. |
| Reducing Interest Rate, Liquidity and General Risks. | • Regular risk and liquidity management.<br>• Enticing and attracting long-term depositors<br>• Indexing lending rates to rates of inflation and Bank of Ghana rediscount rates<br>• Making regular assessment of the agricultural commodity market and seasonal price fluctuations.<br>• Establishing insurance schemes and demanding adequate borrower equity in financed projects. |
| Enhance Credit Delivery Efficiency | • Training of both credit officers and borrowers.<br>• Setting standards and rewarding credit officers for both individual and branch performance. |
| Improving the Bank's Image | • Using promotion and other components of the marketing mix to popularise the Bank's products and services.<br>• Regular market research to identify customer needs |

## 3.8 PILOT PROJECTS

The three organisations namely ICOUR, BOPP and Kuapa Kokoo discussed below provide evidence of how peer pressure or joint liability schemes and local participation can impact positively on projects.

### 3.8.1 The Irrigation Company of Upper Regions (ICOUR)

The Irrigation Company of Upper Regions (ICOUR) acts as a nucleus farmer, accesses credit from the ADB, uses the credit to bid for and procure agricultural inputs and give the inputs to outgrower farmers as loans in kind. They also provide land preparation services and after farmers have harvested their produce, they are purchased by ICOUR and part of the revenue so generated is used to pay off the loan and all accumulated interest. The farmers are organised into groups of 10 to 15 members mainly from the same village. The village committees request for the inputs and are responsible for recovering the loans. The executives of the individual village committees form a link between the farmers and ICOUR. The project has a consultative committee tasked with the formulation of policies to ensure the success of the project. The consultative committee chaired by the Deputy Upper East has representatives of ICOUR, farmers and fishermen, the respective traditional council and the administrators of the various District Assemblies. Levies on farmlands are subsidised by government with the view to generate rural employment.

### 3.8.2 Benso Oil Palm Plantation Limited (BOPP)

The Benso Oil Palm Plantation has similar operations as ICOUR but its crop is oil palm. Working on the principle that small holding can achieve lower costs and are more flexible than nucleus estates, BOPP initiated a small holder project on the lines of the ADB's Nucleus/Outgrower Scheme. Under this scheme, the Agricultural Development Bank receives funds from the government of Ghana through the Bank of Ghana from Caisse Francaise De Development (CCFD) for on-lending to smallholders for the purpose of developing oil palm plantations by small holders under the technical supervision of BOPP. BOPP provides the following to the small holders:

- Land for planting and clearing of same
- Plant and machinery
- Opening of roads to the farms
- Housing and Buildings
- Supply of inputs on credit
- Technical and training services
- Cash advances
- Treatment of pests and diseases
- Monitors the small holders and their holdings and produce reports to the Bank.

The smallholders on the other hand prepare land, purchase seedlings, maintain farm and harvest fruits using credit (usually in kind) provided under the project. Harvested Fruits by the smallholders are transported to the BOPP nucleus farm for purchase by the company and processing into palm oil. Prices to the smallholders are attractive and related to the open market price of palm oil. Part of the revenue generated from the sale is used to pay the loans with accumulated interest.

### 3.8.3 Kuapa Kokoo Limited

Kuapa Kokoo Limited was one of the first five companies to secure a buyers licence in 1993 when the government of Ghana altered the policy on internal marketing of cocoa to allow private organisations to compete with the hitherto sole buyer, the Produce Buying Company. Kuapa is currently the most efficient of all Licensed Buying Companies (LBCs). The company's successes have been a result of several strategies. These strategies include running the company in the interest of and for the direct benefit of farmers.

The company is solely owned by cocoa farmers co-operatives and farmers in the villages who want to participate have to show commitment by building or renting a warehouse in each village, organise themselves into village buying committees and select committee members to attend courses in simple book keeping and quality control. The advantages of this system include the following:

- The co-operative societies buy shares in the company.
- Farmers have a real stake in the company and want to serve it, unlike other LBCs.
- The responsibility and the means to purchase cocoa effectively are placed with societies.
- Members of societies provide supervision, which is normally at a high cost to other LBCs.
- The pick-up and pay purchasing and evacuation system significantly reduces the cost of purchasing cocoa.
- Society members who are all cocoa farmers allow the company to purchase 10% of beans on credit thus saving some interest on cost.
- Some of the societies have formed credit unions which enable them to save and obtain credit for the marketing and production operations

**Table 3: Financial Service Providers**

| Service Providers | Basic Financial Services Provided | Other Services Provided | Main Players/ Features |
|---|---|---|---|
| **Informal financial Service Providers** | | | |
| i. Relatives/Friends | Credit | - | • Credit extended based on trust and intimate knowledge of clients<br>• Loan procedures more flexible than formal financial service providers<br>• Lending rates usually over 100% p.a.<br>• Operators adopt measures to hedge against credit risks e.g. insisting on introduction by a known person and lending in familiar communities |
| ii. Moneylenders/traders | Credit | Input Supply and marketing services | |
| iii. Input suppliers & Processing Industries | Credit in cash and kind<br>Linkages to formal financial services providers | Extension and marketing services | |
| iv. Savings and credit associations | Credit and Savings Facilities | - | |

| Service Providers | Basic Financial Services Provided | Other Services Provided | Main Players/ Features |
|---|---|---|---|
| **Semi-formal Providers** | | | |
| i. Credit Unions | Credit in cash and kind and Savings facilities.<br>Linkages to formal financial service providers | Extension and marketing services | • Credit extended based on trust and intimate knowledge of clients<br>• Procedures and loan terms more flexible than formal providers |
| ii. NGOs | • Credit and Savings facilities<br>• Training in credit management<br>Advisory services on:<br>• Credit management<br>• Strengthening rural finance institutions<br>• Group animations<br>• Linking groups to formal financial service providers | Extension and marketing services<br>Advisory services on:<br>• Input procurement<br>• Marketing | • Like informal , operators adopt measures to hedge against credit risks<br>Examples: Sinapi Aba Trust, Freedom from Hunger, Technoserve, ADRA, and Care International |
| **Formal Financial Service Providers** | | | |
| i. Commercial and Development Banks | • Credit in cash and kind and Savings facilities<br>• Loan Guarantees e.g. for internal cocoa marketing<br>Advisory services on:<br>• Credit management<br>• Group formation<br>• Development of new credit technologies | Advisory services on:<br>• Input procurement<br>• Marketing<br>• Extension | Main player is the ADB. Others include Ghana Commercial Bank, Standard Chartered Bank, Barclays Bank, Prudential Bank, SSB Bank Limited, National Investment Bank and the Trust Bank.<br><br>Grant medium/long term loans for plantation establishment and short-term loans for production and marketing.<br><br>An important feature of ADB's increasing outreach has been |

| Service Providers | Basic Financial Services Provided | Other Services Provided | Main Players/ Features |
|---|---|---|---|
| ii. Rural banks | • Credit in cash and kind and Savings facilities<br>Advisory services on:<br>• Credit management<br>• Group formation<br>• Development of new credit | Advisory services on:<br>• Input procurement<br>• Marketing<br>• Extension | the strengthening of group or joint liability schemes Most important of ADB's group schemes are the Nucleus/Outgrower scheme and the group farming scheme<br><br>Uses both peer pressure and landed properties as collateral.<br><br>Rural banks engaged in agricultural financing include: Upper Manya Krobo, Atiwa, Asubonten, Bawjiase, Odotobri and West Mamprosi |

**Table 4. Major constraints in the provision of agricultural credit in Ghana**

| Constraint | Causes |
|---|---|
| High Loan Default Rate | • Adverse weather conditions and post harvest losses.<br>• Low demand for and price of agricultural produce.<br>• Limited information on farm production conditions, management skills and credit worthiness of borrowers leading to delays in loan approval, under financing etc.<br>• Loan diversion.<br>• Wilful default arising from imitation of previously failed credit schemes.<br>• Delays in prosecuting defaulters.<br>• Weak loan monitoring, supervision and recovery as well as management information systems |
| High Loan Administration Cost | • Dispersed nature of agricultural operators and limited branch network.<br>• Centralised loan approval authorities of lenders.<br>• High loan default. |
| Inadequate and Unsuitable Collateral | • Most agricultural operators do not have landed properties.<br>• Difficulty in proving legally enforceable title to land.<br>• Delays in mortgage registration. |
| Inadequate loanable funds and medium/long term deposit to support medium/long term lending | • Limited branch network.<br>• Low interest on savings.<br>• Poor savings habit. |
| Macroeconomic Bottlenecks | • High inflation rates.<br>• Foreign exchange risks due to rapid depreciation rate of the cedi. |

**Table 5: Best practices to improve agricultural credit delivery**

| Practice | Strategies |
|---|---|
| Reducing Loan Default and delinquency rates | • Diversifying loan portfolio to include non-farm lending and lending to different agricultural enterprises.<br>• Supporting medium to large-scale agro-projects using modern technologies e.g. irrigation (ICOUR, Kpong, Dawenya), storage, processing and marketing infrastructure (Cotton Marketing Companies).<br>• Lending to loose groups and nucleus/outgrower farmers in which medium/large scale nucleus farmers guarantee loans, supply inputs, provide marketing services and extension to outgrowers and attracting low lending rate and processing fees. |

| Practice | Strategies |
|---|---|
| | • Incentives in the form of lower interest rates and high credit levels for customers with good loan repayment records and penal interest rates and cessation of credit for defaulters.<br>• Loan disbursements in kind.<br>• Credit information sharing with other institutions e.g. provision of banker's opinion and institution of joint project financing and repayment schedules.<br>• Basing repayment schedules on cash flow surpluses.<br>• Inclusion of cross-default clauses in loan agreements.<br>• Linking input supply and output marketing to credit delivery.<br>• Setting standards and awarding bonuses to staff, for individual, branch and area office performance.<br>• Establishment of Credit Management Unit and Loan Loss and Recovery Department to monitor and recover loans.<br>• Use of external solicitors to enforce repayment<br>• Small loan defaults referred to community tribunals for early disposal.<br>• Bank taking equity positions in medium to large-scale companies to influence board decisions. |
| Reducing Cost of Loan Administration | • Decentralising loan approval by institution of credit limits for branches and area offices and upgrading of area offices to head office department status with responsibility for loan approval and credit management.<br>• All small farmer loans approved at area offices<br>• Use of group lending schemes to spread and reduce cost.<br>• Development of simplified credit manual and appraisal format for credit administration. |
| Enhancing Mobilisation of Savings | • Linkages with savings and loans associations, credit unions, susu groups and rural banks.<br>• Linking loan volumes to levels of deposits.<br>• Advertising and designing specific savings products for specific target groups e.g. ADB's 'Akuafo Abasobo' for farmers.<br>• Attracting deposits from commercial clients and medium/large scale agro-based institutions e.g. BOPP, GOPDC.<br>• Utilisation of lines of credit e.g. ADF's line of credit.<br>• Offering attractive and competitive interest on savings. |
| Improving Loan Collateral Provision | • Lending through groups e.g. nucleus/outgrower scheme, lending to medium to long-term agro-based industries (with outgrowers) who have assets to secure loans.<br>• Using assets to be procured by loan as additional security, using good financial appraisal to establish capacity for repayment, and ensuring borrowers have |

| Practice | Strategies |
|---|---|
| | adequate equity in financed projects. |
| Reducing Foreign Exchange Risk | • Denominating credit to exporters in foreign currency.<br>• Borrowing through governments and paying premiums to cover foreign exchange risk. |

**Table 6. Successful pilot projects and their main features**

| Pilot Project | Main Features |
|---|---|
| ICOUR | • ICOUR acts as nucleus farmer and accesses loan from the ADB.<br>• Loan used to procure inputs and given to outgrowers as loans in kind.<br>• After harvest, ICOUR purchases. Produce from outgrowers and part of the revenue of outgrowers used to pay loans.<br>• Outgrowers organised into 10-15 members.<br>• Group executives form link between outgrowers and ICOUR.<br>• Groups are responsible for loan recovery and thus exert peer pressure to ensure project success. |
| BOPP | • ADB receives funds from CCFD and on-lend for smallholder oil palm plantation development.<br>• BOPP has a nucleus farm.<br>• BOPP provides as loan in kind, agricultural inputs, land for planting, plant and machinery, housing, opening of roads to farms, technical and training services to smallholder farmers.<br>• BOPP monitor smallholder farmers and report to the ADB.<br>• Smallholders prepare land, purchases seedlings and maintain farm.<br>• Smallholders sell produce to BOPP and use part of revenue to pay loan.<br>• |
| Kuapa Kokoo | • Local co-operative societies buy shares in company.<br>• Farmers have real stake in company and want to serve it.<br>• Responsibilities and means to purchase cocoa placed with societies<br>• Members of societies provide supervision.<br>• The Pick-up and Purchase system reduces cost of cocoa purchasing.<br>Some societies form credit unions to give credit for cocoa purchases and production operations |

**Discussion:**

**Mr. K. Atta-Bronyah:**

Microbanking institutions use group loans as a tool for lending as the formal banks but the difference is that in the microfinance area the group formation is preceded with massive education and that is why they succeed with group loans. So the formal banks need to learn from their methodology.

Many international institutions have funds but they are not giving these funds out because of the methodology of lending which does not reach the very poor in society.

**Mr. E. Osei-Bonsu:**

It is a well-established fact that agricultural lending is risky. Since banks exist to make profit (Bank of Ghana will not hesitate to liquidate any loss making bank) as long as Treasury bill rates are very attractive, banks will shy away from agricultural lending and rather invest in treasury bills so as to maximise their incomes.

Most farmers live in the rural areas. Ironically the big commercial banks are pulling away from these areas due to high cost of doing business in the rural areas. This vacuum can only be filled by government intervention by way of credit guarantee schemes for banks and attracting donor funding.

**Mr. David Yawson**

Is Agricultural Development Bank (ADB) operating as a development bank or as a commercial bank? Secondly, has ADB checked the profits of the farmers who default in the payment of their loans?

There is the need to classify farmers and their loan portfolios so as to make decisions and not to lump all farmers together and blacklist them.

**Mr K. Atta-Bronyah:**

The information I gave was about the inventory of microfinance institutions in Ghana which was commissioned by the Ministry of Finance. We have other studies which could be useful to the programme. (ii) The Network has a computer-based resource bank which can be shared by all institutions with computers. In this resource bank we have information on all activities relating to microfinance.

## CHAPTER 4

# RESEARCH, EXTENSION AND MARKET INFORMATION

**By A. Boateng-Siriboe and P. Asibey-Bonsu**

## 4.1 INTRODUCTION

The agricultural sector is the dominant sector in the Ghanaian economy in terms of its share in GDP, employment and foreign exchange earnings. In 1996, the sector employed about 70% of the labour force, contributed about 45% to GDP (Table 1) and accounted for over 53% of foreign exchange earnings. In addition, it is an important source of raw materials for manufacturing; and finally the agriculturally dependent rural households (72% of the population in 1995) form the largest potential domestic market for agro-industries. (AAGDS)

Table 1: Percentage contribution to GDP by sector (at current market price)

| Item | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 |
|---|---|---|---|---|---|---|
| Gross Domestic Product | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Agriculture | 45.5 | 44.8 | 44.1 | 44.8 | 45.0 | 44.4 |
| Industry | 17.0 | 17.4 | 17.1 | 17.0 | 16.8 | 16.6 |
| Services | 37.5 | 37.8 | 38.1 | 38.2 | 38.2 | 38.9 |

Source: various World Bank Reports

The agricultural sector is made up of 5 sub-sectors namely: Crops other than Cocoa (61% of agricultural GDP), cocoa (14%), livestock (17%), fisheries (5%) and forestry (11%). Smallholder farmers on family-operated farms using rather rudimentary technology produce about 80% of the total agricultural output. Some of the industrial crops such as oil palm, rubber and pineapple are produced on large corporate – managed estates although smallholders also produce significant shares of these crops, especially oil palm. Table 2 shows that in 1996, 60% of the 2.0 million farm holders cultivated under 1.2 hectares, another 25% had holdings over 2.0 hectares. On average 62% of the holders were males (46% - 98% across the 10 regions) while the remaining 38% (2% - 54%) were females. Also about 30% of the holders were 50 years and above.

**Table 2: Percentage Distribution of Size of Holding by Region**

| Region | Size Holdings (Hectares) | | |
|---|---|---|---|
| | Less than 1.2 ha. | 1.2 – 2.0 ha. | More than 2 ha. |
| Volta | 82 | 12 | 6 |
| Eastern | 77 | 15 | 8 |
| Ashanti | 72 | 22 | 6 |
| Central | 71 | 18 | 11 |
| Greater Accra | 69 | 17 | 14 |
| Brong-Ahafo | 55 | 32 | 13 |
| Western | 52 | 32 | 16 |
| Upper East | 48 | 32 | 20 |
| Northern | 19 | 43 | 38 |
| Upper West | 16 | 42 | 42 |
| **Mean** | **60** | **25** | **15** |

In general, increase in production has been achieved primarily by farmers using more extensive farming methods (especially more land and labour), and only secondarily by increase in productivity through the application of improved technology (seeds and fertilization). Fertilizer usage, which averages 6kg/ha, is one of the lowest in Sub-Saharan African. Average yield of selected food crops are given in Table 3.

**Table 3: Yield of Selected Food Crops: Average for (1992-1995)**

| Crop | Yield (Mt/Ha) | Achievable Yield (Mt/Ha)* |
|---|---|---|
| Cassava | 11.3 | 28.0 |
| Plantain | 7.7 | 10.0 |
| Yam | 11.7 | 20.0 |
| Cocoyam | 6.6 | 8.0 |
| Maize | 1.5 | 5.0 |
| Rice (Paddy) | 2.0 | 3.0 |
| Cowpeas | - | 2.0 |
| Millet | 0.9 | 2.0 |
| Sorghum | 1.0 | 2.0 |

*Source: PPMED, MOFA, 1996*

*Indicates yields that have been achieved in isolated cases due to more effective extension and other logistic support.

## 4.2 ROLE OF RESEARCH AND EXTENSION

Agricultural research is defined as an activity which requires scarce resources to produce new agricultural information or knowledge useful to society (Akino and Hayami, 1974) with emphasis placed on the development of new technological packages that will stimulate productivity gains within agriculture.

The vehicle to extend these innovative (improved or new) technological packages to the target farmers is agricultural extension.

Agricultural extension is defined as a dynamic non-formal education process, which involves the provision of timely and relevant information on technologies to farmers as well as enhancing their skills. Its aim is to empower farmers to improve their standards of living through the sustainable use of natural resources in systems of farming and home making for the benefit of the individual, the family and the nation.

Although differences in patterns of agricultural growth amongst nations are largely the result of national differences in factor and environmental endowments, as well as agricultural policies, it is also established that agricultural technology development (research) and dissemination (extension) have an effect on growth.

It has been established that substantial increases in agricultural production can be attained through the adoption of simple technological improvements by smallholder farmers. This is more so, if supported by the effective provision of a range of key services to them, including market information, provision of credit, inputs and the assurance of reasonable remunerative producer prices. This experience led the Government to initiate its Medium Term Agricultural Development Programme (MTADP) in 1998 with the generation and dissemination of improved technological packages through an effective research and extension network.

### 4.2.3 The National Agricultural Research System (NARS)

At the inception of the Medium Term Agricultural Development Programme (MTADP), the problem with the National Agricultural Research System (NARS) was that research did not adequately address national priorities and was of little relevance to farmers' needs. Government funding of research was very limited and may have been a contributory factor to research being conducted according to the dictates or priorities of external funding agencies rather than to address the felt needs of local farmers.

MTADP recommended that the national agricultural research system be improved through the forging of closer links between research, extension and farmers and increasing the level of research funding.

These recommendations led to the conception of the National Agricultural Research Project (NARP) in 1988 and its implementation between 1991 and 1999.

The NARP gave a boost in funding and re-orientation of research to the National Agricultural Research System (NARS). This helped to correct the imbalance of research activity in favour of few commodities especially maize and cocoa research funded by CIDA and the World Bank respectively.

A National Agricultural Research Strategic Plan (NARSP) was put in place from 1994 to provide focus, a frame work for action and to have a research system which will be responsible for the generation of farm level productivity enhancing technologies for dissemination to farmers through the extension network.

The implementation of the NARP has also seen the strengthening of research extension linkages. This was the result of the formation of Research Extension Linkage Committees (RELCs) in the five agro-ecological zones of the country.

Research institutions and agencies of NARS also enjoy collaboration with various regional and international research institutions. Among them are: the International Institution of Tropical Agricultural (IITA), the International Maize and Wheat Improvement Centre (CIMMYT), International Centre for Research in Semi-Arid Tropics (ICRISAT), the International Livestock Research Institute (ILRI), West African Rice Development Association (WARDA) and the Semi-Arid Food Grain Research and Development (SAFGRAD). Others including United Nations bodies are; ISNAR, CoRAF, CIRAD, NRI, FAO, UNDP, IFAD and IAEA.

The various research institutions (Table 4) have developed or introduced a number of improved varieties, production technologies and rendered various services to farmers. Tables 5-7 show the various improved varieties of maize released by the Crops Research Institute (CRI) and the adoption rates of some recommended technologies.

While NARP made some impact at redirecting research focus in line with national priorities, research continues to be predominantly funded from donor sources. The GoG share in the funding of NARP itself was 19% and funding beyond completion of NARP in 1999, for most of the institutes, have reduced to payment of salaries.

The Accelerated Agricultural Growth and Development Strategy (AAGDS) identified the need to increase private participation in research with the intention of making it more demand – driven and enhancing cost – recovery. The dominance of small and medium scale producers in the sector, however, is an identified factor likely to slow down the process of cost recovery from research. It is projected that, research may have to remain in the domain of

"public good" services for a considerable time to come.

Apart from the support the NARS received through the NARP, there had also been support from other international donors to various institutions within the NARS. Notable among these have been the almost two decades of support received from CIDA for the Ghana Grains Development Project (GGDP) of the Crops Research Institute (CRI) and that of the GTZ for the Savannah Agricultural Research Institute (SARI). Other donors have been the Department for International Development (DFID) and SIRAD of France.

A high potential area for improving funding for research is seen in the research institutions themselves building effective linkages with the private sector for demand-led research. The Food Research Institute (FRI) is identified as having achieved good success in providing the following technical services to the private sector;

- Food analysis and quality control, including evaluation of in-plant situation.
- Product quality improvement.
- Identification and selection of food processing equipment.
- Training.

The number of clientele of FRI has increased since 1998 and clientele quality is also noted to be improving with the institute signing contracts with four major food-processing firms in the country.

NARP was initiated against a background of very heavy demand for training to address skills deficiencies within the National Agricultural Research System (NARS). Under the NARP, a Human Resource Development Component was included, to provide the requisite skills needed for implementation of the priorities of the National Agricultural Research Strategic Plan launched in 1994.

Over one hundred fellowships were granted for post-graduate training in both local and foreign universities in core agricultural disciplines as well as in support services discipline like Library and Information Science, Management Information System, Accounting, etc. Over 60% of those sponsored have completed their courses and returned to post. Others are still in training.

While the programme under NARP is acknowledged for supporting an appreciable proportion of the initial demand, much of the demand still remains. Disciplines such as Agricultural Engineering, Biometry/Statistics, Fish Breeding, Biotechnology / Tissue Culture, Nematology, Virology and Socio-Economics in which the deficiency was most critically felt are still short of personnel.

### 4.2.4 The National Agricultural Extension System (NAES)

The problems of the extension system that the MTADP sought to address included the following:

- Lack of qualified personnel and professionalism in extension delivery.
- Weak research – extension links.
- Limited opportunities for extension to test research results.
- General lack of mobility.
- A multiplicity of extension services which lacked effective co-ordination and management, was expensive, and in most cases was confusing and tended to waste the limited time of the farmer.

Recommendations of MTADP were to unify the extension systems; put in place a system for effective linkage between extension and research; and build capacity of personnel through regular training and logistic support. The National Agricultural Extension Project (NAEP) was proposed and also implemented from 1992-1999.

The National Agricultural Extension System (NAES) continued to be treated under the NAEP as a public good service, which was in the main funded and delivered by the state through the Agricultural Extension Services Department of MoFA.

Private sector participation in extension has mostly been in cash crops (cotton, cashew, oil palm, rubber and pineapple). Private agencies like the cotton companies and CASHPRO etc. tend to provide extension as part of a package to include advice, credit and marketing. They recover their costs through different kinds of arrangements.

The Unified Public Extension System has a network of about 1,400 Agricultural Extension Agents (AESs) formerly referred to as frontline staff (FLS).

Under the current decentralization process, the District level MoFA, now referred to as District Agricultural Development Units (DADUs) will now be a department of the District Assembly.

Subject Matter Specialists (SMS) from the various technical departments and located at the Regional Agricultural Development Units (RADUs) provide regular necessary technical backstopping to the district extension machinery. Some district staff, with special skills in veterinary services, pest control and market information are classified as special services staff and may be exempted from the general extension services delivery.

A modified Training and Visit is the main extension methodology used.

An alternative methodology has been the Farmer Field School (FFS) concept introduced with the FAO's Integrated Pest Management (IPM) and Integrated Crop Management (ICM) programmes. Shades of the FFS concept are used by other programmes as those supported by GTZ.

NAEP used RELCs as an effective tool for problem identification and basis for generating messages/technologies relevant to farmers' needs. Before RELC, government extension services were more supply – driven and based on perceived needs of farmers. The problem identification process involved a series of screening from the district to the regional and then to the zonal levels.

Identified limitations of the system at present are as follows:

- While MoFA decentralization has improved the extension agent to farmer ratio from 1:300 to 1:1500, problems of staff quality may have emerged. There is the need to improve staff quality by re-training the staff whose schedules of work used to be area specific (e.g. crops/animals production/veterinary services and cocoa).
- The business management aspect of production has also been lacking in current extension delivery.
- There is still a bias in the delivery of crop production technologies which constitute nearly 75% of extension messages.
- The RELCs have not been very effective because they functioned at the zonal level. Farmer identified problems that are for instance, area/district specific and not general for the zone tend to be lost in the prioritisation process.
- The decentralisation process has not been completed, few bottlenecks regarding budgets and human resources are yet to be resolved.

Like the NARS, field extension activity has almost come to a halt after the NAEP in 1999 for lack of funds. The Ministry of Finance decides funding levels and budgetary allocations have been just enough for salaries.

The structures put in place to strengthen the research-extension-farmer linkages (Regular training and RELC activities) are not functioning.

The NAES like NARS is to be resourced and revitalised by implementation of the Agricultural Services Sub-Sector Improvement Programme (AgSSIP).

The public sector agricultural extension system has also enjoyed donor support over the years. The major donors have included the World Bank, FAO, UNDP, USAID, GTZ and DFID. Donor support has been given either directly to support institutional development in extension delivery, or for actual extension delivery in special agricultural development projects (Table 8).

Focus of USAID support has shifted from public sector extension services to direct support for extension to the private sector under the Trade and Investment Programme (TIP). The ratio of fund allocation to government, relative to funds for direct support for private sector development changed from 4:1 to 1:5.

The USAID private sector extension support emphasises the business aspect of production management, which has been lacking in the public sector services.

Implementation has been through International NGOs with capability to provide this type of extension services, mainly TechnoServe and AMEX International.

The main goal of TIP has been to enhance the competitiveness of non-traditional exporters, including non-traditional agricultural exports. The main activity area of TIP are:

- Quality management in export and domestic trade.
- Establishment of links to markets.
- Support to out-growers to feed export trade.
- Development of management and accounting skills.
- Mediation between producers and financial institutions.

Product Associations that have benefited from this support include; Sea freighted Pineapple Exporters of Ghana (SPEG), Horticultural Association of Ghana (HAG) and Vegetable Producers and Exporters Association of Ghana (VePEAG).

Extension services to women were observed to be weak under NAES according to the Mid-term evaluation Report. Adoption of women specific technologies was notably low. This raised the question of the relevance of extension messages to women, and the effect of low levels of female extension staff on effectiveness of delivery of women specific messages.

A Gender and Agricultural Development Strategy (GAADS) is being developed with the assistance of DFID Rural Livelihood office to address the gender related problems of agricultural extension.

MoFA recognizes the contribution of NGOs to the delivery of extension services. Many of these NGOs work collaboratively with MoFA using Agricultural Extension Agents (AEAs) of the ministry in the delivery of the services.

MoFA also recognizes that the NGOs have an advantage in providing services related to business management and is making attempts to work more formally with agricultural NGOs. NGOs as well as Community Based Organisations (CBOs) provide a wide range of services including improvement

of access to inputs/credit, extension, managerial training and market development.

### 4.2.5 Agricultural Extension and Technology Diffusion under AgSSIP

Under AgSSIP, the NAES is expected to build on the positive lessons of the NAEP and to mainstream the following concerns:

- Reformation of the NAES to incorporate the government policy on decentralization and to classify the division of tasks, and financing between the public and private sectors.

- Participation of users of agricultural extension services in setting priorities and in influencing decisions on the organization and management of extension services. RELCs will include representatives from Farmer Based Organisations (FBOs) and agro business.

- Promotion of a pluralism of delivery of extension services with the contracting of capable FBOs and NGOs to provide extension services. An Agricultural Extension Development Fund of US$5.0 million would be established under phase I of AgSSIP for contracting out of extension services.

- Development of strategies to increase female enrolment in the agricultural colleges as well as introduction of appropriate labour – saving mechanisms suited for women farmers and food processing.

- Strengthening of RELC activities at Regional and District levels to ensure adequate representation from men, women, farmers, traders, input dealers and agro-processors.

**Constraints**

- The major constraint is lack of adequate funding beyond payment of salaries. Completion of the IDA/GoG funded projects NARP and NAEP has almost brought technology development and dissemination to a halt.

- There is low involvement of the private sector in the development of research agenda.

- Low level of female extension staff apparently results in low effectiveness of delivery and adoption of women specific technologies.

- Low extension – farmer ratio and low cooperative activity among farmers limit extension coverage.

## Lessons learnt

- Research and extension in the main will continue to be public good services for a long time to come due to the dominance of small and medium scale agricultural producers in the system.

- Returns from investment in research in particular cannot be easily identifiable especially in the short term.

- Research institutes themselves can help improve funding levels through effective linkages with the private sector for demand-led research.

- Research indicates that improved linkages are a key condition for agricultural knowledge and information system planning and transfer.

- The transfer and adoption of new or improved technology is always influenced by factors such as availability of inputs; relative prices of inputs; and commodities marketing channels, which are not within the control of agencies involved in the generation and transfer of technologies. This calls for the need to strengthen linkages between public sector organisations and the private sector organisations involved in the provision of such services/facilities.

- Low adoption of women specific technologies raises questions about the relevance of extension messages to women, and the effect of low level of female extension staff on the effectiveness of delivery of women – specific messages.

## Best practices

- The institutionalisation of the RELCs and the process of problem identification established under the NARP and the NAEP are laudable in principle. Stronger linkages between research, extension, farmers, and agribusiness at regional and district levels would greatly enhance the relevance and consequent demand for technology development and dissemination.

- The successful provision of extension services by the private sector in tree crops such as oil palm, cocoa, and rubber where the entire cost is borne by out-growers through deductions of the sales revenue of their commodities is worth noting. Producers and exporters of cash crops such as oil palm, fruits and vegetables may be encouraged to finance an increasing part of the extension services cost on these commodities.

- The experience of FRI in linking up with the private sector through the provision of technical assistance are exemplary. Such services which meet the felt needs of the private sector provide excellent avenues for income generation.

Table 4: **The National Agricultural Research System - Mandate Of Research Institutions**

| Members of NARS | Mandate | Geographical Coverage |
|---|---|---|
| Crop Research Institute | Improvement of cereals, horticultural and industrial crops (except cocoa, coffee, kola, oil palm) and farming system development | Southern Ghana |
| Animal Research Institute | Applied research on production, health, nutrition, livestock economics and extension | National |
| Savannah Agricultural Research Institute | Improvement and production of cereals, legumes, root and tubers and industrial crops | Guinea Savannah Agroecological zone |
| Soil Research Institute | Improvement of soil fertility and maintenance, soil surveys, soil conservation for increased agricultural production and conservation of the environment | National |
| Food Research Institute | Food processing, preservation, storage, marketing, distribution, quality control and utilisation | National |
| Forestry Research Institute | Research for management, utilisation development of forest resources | National |
| Plant Genetic Resources Centre | Collection, characterisation, evaluation, conservation, distribution and documentation of plant genetic resources. | National |
| Oil Palm Research Institute | Conducting research on oil palm and coconut | Oil Palm growing areas |
| Cocoa Research Institute | Mainly Cocoa research; also has mandate for coffee, kola and shea nuts | Forest area and the Northern region for shea nut |
| Faculties of Agriculture in four Universities | All have Departments of Agricultural Economics, Agricultural Engineering, Animal Science, Crop Sciences, Soil Science, and therefore conduct research across all Sub-sectors, Departments of Home Science and Food and Nutrition also conduct research on food processing, preservation and quality. Departments of Botany in the Science faculties also carry out research on crops. | National |
| Natural Resource Institute | Research on post-harvest handling of roots and tubers<br>Marketing of yam and cassava | National but focus on Brong-Ahafo |
| Biotechnology and Nuclear Agricultural Research Institute (BNARI) of the GAEC | Application of nuclear and biotechnology techniques for increased food production. Leading in tissue culture and food irradiation research | National |
| MoFA | Veterinary and Fisheries research. | |

6 GoG Provides funding for the NARS and is responsible for national policy on agricultural research.

**Table 5: Improved Maize Varieties Developed And Released By CRI**

| Variety | Year of Release | Special Attributes | Days to Maturity | Grain Yield (ton/ha) |
|---|---|---|---|---|
| Golden Crystal | 1984 | Yellow Flint/Dent | 110 | 5.0 |
| Kwanzie | 1984 | Yellow | 95 | 4.0 |
| Safita 2 | 1984 | White Dent | 95 | 4.0 |
| Dobidi | 1984 | White Dent | 120 | 5.5 |
| Aburotia | 1984 | White Dent | 105 | 4.5 |
| Okomasa | 1988 | White Dent SR* | 120 | 5.0 |
| Abeleehi | 1990 | White Dent | 105 | 5.0 |
| Dorke SR | 1990 | White Dent | 95 | 4.5 |
| Obaatanpa | 1992 | White Dent SR* QPM** | 110 | 5.5 |
| CIDAba | 1997 | Hybrids QPM | 110 | 5.5 |
| Mamaba | 1997 | Hybrids QPM | 110 | 5.5 |
| Dadaba | 1997 | Hybrids QPM | 110 | 5.5 |

**Source: CRI Annual Reports**

Table 6: National Adoption Rates Of Maize Technologies (1997)

| Year | Location | Adoption Rates (%) | | | Sample Size |
|---|---|---|---|---|---|
| | | Improved Variety | Row Planting | Fertilizer Use | |
| 1997 | National (20 sample districts throughout Ghana). | 54 | 53 | 21 | 420 |

**Note:** n-392 for row planting (excludes ridge planting)

**Source:** 1998 CRI/CIMMYT Survey

**Table 7: Adoption Rates Of Maize Technologies By Ecological Zone (1997)**

| Ecological Zone | Adoption Rates (%) | | | Sample Size |
|---|---|---|---|---|
| | Modern Variety | Row Planting | Fertilizer | |
| Guinea Savanna | 66 | 73 | 36 | 84 |
| Transition | 68 | 59 | 29 | 63 |
| Forest | 38 | 39 | 9 | 189 |
| Coastal Savanna | 69 | 65 | 29 | 84 |
| All Zones | 54 | 53 | 21 | 420 |

Source: **1998 CRI/CIMMYT *Survey***

**Table 8: The National Agricultural Extension System - Donor Support**

| Donor | Programme of support | Nature of Support |
|---|---|---|
| World Bank | 1. National Agricultural Extension Project<br>2. AgSSIP (in pipeline) | Institutional restructuring and strengthening |
| FAO | Special Programme for Food Security; ICPM | Training of farmers in FFSs;<br>Training of trainers (FLS and SMS) |
| UNDP | National Poverty Reduction Programme | Support for the participation of 1600 farmers in the FFSs |
| IFAD | SRDP (NR); LACOSREP; UWRDP; SCIMP;<br>National Root and Tuber Development Programme | Main source of funding for the projects |
| USAID | APPP | 1. Building capacity to enhance technology transfer. Provision of vehicles, office, and field equipment, agro-chemicals, and seeds for demonstrations and training to the extension services.<br>2. Some funding to Sasakawa Global 2000 programme, which was aimed at enhancing productivity of smallholders through technology transfer. |
| GTZ | 1. Support to MoFA; Sedentary Farming; Integrated Pest Management (IPM) | 1 Support in development of Extension policy under AgSSIP.<br>2. Farm record keeping.<br>3. Development and transfer of technologies for sedentary farming in districts in Brong-Ahafo region.<br>4. Development and Promotion of IPM practices through PPRSD. |
| AFD | Lowland Rice Development Project | Housing training of field staff on the project |
| DFID | Support to MoFA | 1. Support to Directorate of extension in the development of framework for mainstreaming gender in agricultural development and extension activities in particular.<br>2. Support to district level machinery for better co-ordination and improved delivery of rural services (Agriculture used as entry point). |
| SG2000 | Post-harvest Management Credit to farmers.<br>Crop production technologies | Provide logistics for extension staff to transfer technologies on production (improved seed, fertilisers, herbicides). On farm crib construction, and food processing equipment. |

[7] This list of donors is not exhaustive. CIDA's new Food Security Programme is likely to have an extension component. Many NGOs (e.g. ADRA and CRS) also support extension services with funding from donors.

[8] DFID funded the Larger Grain Borer Control, and the Wenchi Farmer Systems Training and Development projects between 1992 and 1997.

## 4.3 ROLE OF MARKET INFORMATION

Agricultural market information could simply be described as that information or data required to guide stakeholders to make rational decisions that will eventually lead to the efficient allocation of resources for the purposes of producing and/or marketing agricultural products.

Market information generally comprises, among others, commodity prices, commodity movements, transport charges, demand conditions, etc.

In Ghana, the main providers of market information are the Government and private institutions. At the public level, the Statistics, Research and Information Directorate (SRID) of the Ministry of Food and Agriculture (MOFA), Bank of Ghana (BOG) and Ghana Statistical Services (GSS) collect agricultural commodity prices. Of these three institutions, SRID could be said to be the main agency responsible for the collection of such data on weekly basis at the wholesale and retail levels from selected urban and rural markets. Only a few commodities including the major staples are covered in this exercise. The Ghana Export Promotion Council (GEPC) – another government agency – provides market information to exporters.

The private sector providers of market information are TechnoServe and Adventist Development and Relief Agency (ADRA) which link small-scale farmers to markets by providing them with the relevant information, whilst AMEX International serve the needs of contact farmers by linking them to external markets.

**Constraints**

- Major constraints identified in the provision of market information especially by MOFA include lack of adequate funding to provide needed logistics, for the collection of data. Low staff motivation among others, affect the quality, type of data collected and the timeliness of dissemination. As a result of these constraints, there exist important data gaps that need to be filled to meet the needs of users of these services. Data that need to be collected include farm gate prices, agricultural commodity movements, agricultural input and transportation costs, current international commodity prices and input prices.
- Another area of concern is the absence of standardised grades and the use of uniform weights and measures in pricing commodities.
- The untimeliness (one week after collection of data) of the dissemination of commodity prices through radio broadcast at the national level does not seem to be very beneficial to both farmers and traders who need current figures to enable them take decisions.

- **Lessons learnt**

The Statistics Research and Information Directorate of the Ministry of Food and Agriculture should be well-equipped and the capacity of the staff up-graded to enable the Directorate expand the market information data base to meet the needs of all users of their services.
Local radio stations could be used in all regions and districts to disseminate market information in the local languages on daily basis.

Effort should be made to gradually introduce the use of weighing scales to farmers and traders. They should also be educated and encouraged to grade and standardise their products.

- **Recommendations**

In order to ensure that farmers have access to market information, a link should be established between the Non-Governmental Organisations (NGOs) and the Department of Agriculture at the District and Regional levels. This will enable the NGOs have access to market data collected at the local level to be disseminated to the farmer groups they (NGOs) work with. Adoption of the strategies used by ADRA, TechnoServe and AMEX will facilitate the linkage of the local farmers to markets outside their communities and districts.

**Discussion:**

**Dr. Charles Whyte (USAID):**

Though your paper has much information on research, extension and market information. However, it is not presented in the context of production support and financial services (i.e. what are the new and innovative ways of providing these services?). What are the lessons learned and best practices in the context of PSAFS.

Further the paper needs to be presented within the time frame allocated – refine it so that it can be concise and yet deliver the full information. Using your first two lessons learned it seems contradictory to say public sector to offer PSAFS as a public good yet in the next lesson say that there is the need to link with the private sector. What are the lessons here and what are the best practices?

**Dr Taye Bezuneh:**

The presenter has provided excellent information on research and extension experience. It is suggested for the speaker to summarise the

(i) Best practices

(ii) Lessons learned

**Mrs G. Ohene-Konadu:**

According to the presenter women have not benefited much from extension services – reason given is that level of female extension workers is low. I think that you do not need more women extension workers to promote the concerns of women. What is needed gender sensitised men and women. When this happens, it doesn't really matter whether the extension officer is a male or female. What is important is a gender sensitized person who recognises the differences between the two sexes and therefore packages the message in a way that suits woman's context.

## Chapter 5

# THE DEMAND FOR AND ACCESS TO AGRICULTURAL PRODUCTION SUPPORT AND FINANCIAL SERVICES IN GHANA: A STUDY OF RURAL COMMUNITIES IN THREE DISTRICTS

**By Dr. K. A. Marfo**

## Introduction

This study is the second of two studies aimed at establishing a database/information system and identification of best practices from lessons learned in the provision of agricultural production support and financial services. It adopted the demand-side approach to complement the first one which used the supply-side approach. The study was undertaken in three districts of Ghana representing three agro-ecological zones. These were North Tongu in the Coastal Savanna, Techiman in the Transition and Wa in the Guinea Savanna Zone. Four villages were selected in each district. A total of 15 households were selected in each village giving a total of 60 households per district. All farmer organizations in each district were identified and interviewed.

## Results

Results showed that many heads of households were in the 36-55 years age group with more of them being females (52.9%) than male (46.5%). North Tongu had the highest number of educated households (i.e at least primary education) of 86.1% followed by Techiman with 75.0%. Wa had only 15% of its household heads being educated confirming the vast difference that exists between the South and North in terms of educational levels.

Crop farming was the dominant source of livelihood. All respondents engaged in this activity and was the most important source of livelihood for 93.7% across all locations. Livestock production was however most important for only four households (2.2%). This implies that interventions and policies that impact on crop farming in particular would have profound effect on the livelihoods of the rural communities studied.

Results on the degree of use various services and inputs to support crop production as found in the study are shown below:

- **Tractor services**

It was found that to support their crop farming activities more than half of the households (55%) across the three study areas used tractor for land preparation in the year 2000. An additional 13.3% had ever used this service even though they did not use it in 2000. The use was highest in the North Tongu district where 95% of households had used tractors for land preparation followed by Wa with 61.7% and then Techiman with 8.3%. The

low use of tractor services in Techiman is more likely the result of less demand for the service. Of the three districts tree cover is densest in Techiman and slash and burn is the predominant method of land preparation in such environments.

The major constraint however mentioned by users of tractor services was that the service was not always available.

- **Seed**

Less than one-half of the households was found to have used improved seed in 2000 across the three districts. A little over 26% have ever purchased improved seed. Thus about one-quarter of households had never purchased improved seeds. This may be due to the absence of improved seeds of many crops grown in the country. Improved seeds are available mainly for maize and to some extent cowpeas, soybeans and rice. The two important problems mentioned were high cost and seed not always available. 58.3% of households that did not purchase improved seeds in 2000 indicated that they did not have need for them. This may be explained by the fact that many farmers keep seed of improved varieties after the initial purchase for subsequent use.

- **Fertilizers**

Fertilizer use was higher among women in the coastal savanna but similar among both household types in the transition. Across all the three districts use in 2000 was higher for female-head households. The major constraint mentioned by farmers to the use of this input was its high cost.

- **Crop Protection Chemical**

Results of the study revealed that a little under one-quarter of the households used crop protection chemical in 2000. Like fertilizers, the major constraint to its use was the high cost.

- **Extension/veterinary services**

The lack of extension service was surprisingly high in the Coastal savanna. Half the sample households have never had contact with extension. This was found to be surprising because extension services in the Volta Region of which North Tongu is a part was strengthened in the 1980s through the Volta Region Agricultural Development Project (VORADEP) – a World Bank sponsored project. The major problem of extension services was found to be its not been always available.

- **Financial services**

One in 10 households had access to financial services. The ratio of female to male households that received financial services was two to one.

## Conclusion

The Techiman district showed the highest use of production support and financial service. Though the area is well known for its high of improved practices it is likely that the activities of ADRA (an NGO) are responsibel for better service delivery to households.

Households with female heads were not at a disadvantage with respect to access to services. This may be due to the targeting of women by NGOs.

Private sector had been effective in the provision of tractor service and seed at the farm level. Tractor service is a high investment activity. However the high demand makes it possible for providers of the service to charge economic rates that sustain the service.

The low demand (due to 'high' price), high transport cost (because of bulkiness) and high overhead cost (storage requirement) make fertilizer service delivery unattractive at the farm level..

NGOs were found to be effective in the area of service delivery because they provide a package of services, from input provision through financial to managerial.

## Lessons learnt

(i) Private sector could be expected to provide services at the village level under conditions of high demand, low overhead costs and low barrier (capital requirement) to entry.

(ii) There is very high access to and use of services where NGOs provide support. This is because they provide the whole range of production support and financial services. The NGOs should however nurture the groups that they sponsor to enable these services to be sustained when support is withdrawn

(iii) Farmer organizations are not effective in service provision without outside assistance.

**Best practice**

Delivery of the full complement of inputs and services that enhance returns. An example is the Techiman district where ADRA is offering the range of services that makes farming profitable.

**Discussion**

Mr. V. Djarbeng.

ADRA Ghana's strategy involves providing tree seedlings/improved seeds to farmers. The reason is to ensure that the tree component provides a basis for sustainability. In the early years of the programme farmers are provided inputs at lower interest rates. As the groups mature, the interest component is increased to reflect existing commercial lending rates. At the close of the project, clients are encouraged to access credit from commercial institutions. At the background, of this is the tree, which will provide the client with the income to access the service the NGO provided.

# CHAPTER 6

## WORKING GROUP SESSIONS

**WORKING SESSIONS:**

**Group 1:**

**Members:**

Mrs J. M. Kordylas - Chairperson
Mrs. G. Ohene-Konadu - Rapporteur
Mr. Richard Attipoe
Dr Wayo Seini
Mr. P. Agyemang-Yeboah
Mr. Vincent Djarbeng
Mrs Rita Akrong

**SUBJECT AREA:** AGRICULTURAL INPUTS AND EQUIPMENT

**SERVICE TYPE:** AGRICULTURAL MECHANIZATION SERVICES

A. **Constraints**

- Low density of equipment and service providers
- Poor quality of raw materials
- Lack of standard which translates into poor quality of products for users
- High cost of raw materials and manufacturers lack capital to purchase them
- Importers of raw materials are not guided by any laid down standards
- Rapid depreciation of the cedi which affects everything across board
- Local manufacturers lack capacity to manage their business

**B. Suggested solutions:**

**Constraint:** Low density of equipment and service providers because of high cost of equipment

**Solution:** Institute credit scheme for farmers to increase demand. Structural adjustment has resulted in high cost of inputs and equipment so that farmers can no longer afford them.

**Constraint:** Poor quality of raw materials. Scrap metals in the system are not of good quality, resulting in the production of inferior quality products by manufacturers

**Solution:** Link small scale producers to GRATIS Foundation for practical training . GRATIS have the Intermediate Technology Training Units in all 10 regions which can offer the needed practical training. GRATIS should work with Ghana Standards Board to help set up standards for manufacturers

**Constraint:** High cost and lack of capital

**Solution:** Link manufacturers to banks

**SERVICE TYPE: SEED/PLANTING MATERIALS**

**Constraint:** Low demand because of lack of information and funds. Industry is dominated by informal sector characterised by on-farm seed production. There is also an institutional constraint posed by limited field staff and logistics of the seed inspection division of the Plant Protection and Regulatory Services Directorate (PPRSD).

**Solution:** Ensure the quality of production. Increase the role of private sector in seed production. Strengthen the PPRSD to monitor the production of seed by the private sector.

**SERVICE TYPE: AGRO-CHEMICALS**

**Constraints:** High prices relative to crop prices. Such high prices are due to the depreciation of the cedi.

**Solution:** Farmer association could be animated to the possibilities of organizing input acquisition to improve access and reduce costs.

**Constraint:** Inappropriate handling and application of agro-chemicals reduces their efficiency and also poses health hazards.

**Solution:** Train farmers in the appropriate use of agro-chemicals.

**SERVICE TYPE: LIVESTOCK AND POULTRY FEED**

**Constraint:** High cost of imported raw materials. Increasing cost of utilities.

**Solution:** Dissemination and commercialisation of research findings on the use of local raw materials for feed must be vigorously pursued.

**SERVICE TYPE: IRRIGATION**

**Constraint:** Large scale is expensive.

**Solution:** Construct more small-scale irrigation projects.

**SERVICE TYPE: MANAGERIAL SERVICES**

**Constraint:** High level of illiteracy among producers

**Solution:** - Need to attract high calibre of people to teach in the rural areas

- Short term. Support National Service Scheme so that graduates can participate in non-formal education of rural farmers. Such graduates should be well enumerated from funds allocated for non-formal education.

- Long Term: Include farm business and agri-business management in curricula of agricultural training institutions.

**Gender Issues:**

Gender unfriendly equipment. Equipment should be gender friendly. There's a gender and development section at GRATIS so GRATIS must be encouraged to develop programmes to bring women up to a standard where they can access all inputs on equal footing with men.

**Pilot Project Activities**

(i) Replicate Sasakawa initiative.

(ii) Under irrigation, the management system developed at ICOUR Ltd. and Kpong Irrigation Project are good examples which should be applied to other large scale irrigation projects.

(iii) Equip CSIR (CRI) to develop improved seeds for other crops other than maize and cowpeas.

**Working Group 2:**

Dr. K. A. Marfo - Chairman
Ms. A. Boateng-Siriboe – Rapporteur
Mr. P. Asibey-Bonsu
Mr. D. Yawson
Mr. Aminu Sandan
Mrs. Margaret Gavor

## Research, Extension and Market Information

### Lessons Learnt:

a) Research and extension will continue to be public good services in the short to medium term due to the dominance of small and medium scale agricultural producers in the system.

b) Returns from investment in research in particular cannot be easily identifiable especially in the short term.

c) Research institutions themselves can help improve funding levels through effective linkages with the private sector for demand-led research.

d) Research indicates that improved linkages are key condition for agricultural knowledge and information system planning and transfer.

e) The transfer and adoption of new and improved technology is always influenced by factors such as availability of inputs, relative prices of inputs and commodities marketing channels which are not under the control of agencies involved in the generation and transfer of technologies. This calls for the need to strengthen linkages between organizations in the public and private sectors which are involved in the provision of such services.

f) Low adoption of women specific technologies raises questions about the relevance of extension messages to women and the effect of low level of female extension staff on effectiveness of delivery of women-specific messages.

### Best Practices:

a) The institutionalization of the Research Extension Linkage Committees (RELCs) and the process of problem identification established under the National Agricultural Research Project and the National Agricultural Extension Project.

b) Provision of extension services by private companies involved in the development of tree crops (i.e oil palm, cocoa and rubber) under outgrower schemes where the entire cost is borne by the farmers through deductions from their sales revenue.

c) The experience of the Food Research Institute linking up with the private sector through the provision of technical assistance.

**Pilot activities:**

It is proposed to replicate the RELC system in one of the districts. This committee should also serve as an agricultural planning committee and it must have representatives of all stakeholders in agriculture including women. It is also proposed that the capacity of the committee be enhanced in marketing, agri-business, etc. The committee should also develop strategies for the marketing of agricultural produce through the formation of farmer and/or commodity groups and by linking them up with markets outside the district.

**Strengthening private sector participation:**

Since about 75% of our producers are small-scale farmers it is proposed to encourage producers and exporters of high value crops like pineapple, vegetables etc. to establish a strong linkage with researchers and extension agents. This is being proposed because these high valued crops which have been well organised in terms of production up to the marketing stage. Growers and exporters of these commodities will have no problems financing the services they get since they derive substantial benefits from their activities.

The small-scale producers of the staple crops on the other hand have difficulties in marketing their produce and until they have markets identified and these are well established, these farmers will not be able to pay for research and extension services.

## Working Group 3: Financial Services

Mr. K. Atta-Bronyah - Chairman
Mr. W. Tetteh
Mr. E. Osei-Bonsu - Rapporteur
Mr. S. Fordjour
Mr. Solomon Martey
Dr. R. Al-Hassan
Dr. N. Agyemang-Mensah

### Lessons Learned

1. Forging linkages between the ADB and Rural Banks particularly, by way of the former wholesaling credit to the latter for on-lending to farmers and other micro and small-scale rural enterprises, could be most beneficial to all parties/stakeholders. This is a win-win strategy/situation as it addresses most of the constraints presented in the paper on Financial Services by Messrs W. Tetteh and E. Osei-Bonsu

2. Credit with education (CWE) which is a group-lending methodology, ensures low loan default rate. NGOs could play the social intermediation role while the financial institutions handle the financial intermediation aspect

3. Lending to farmers and outgrowers through medium and large companies like ICOUR, BOPP, BAT and KUAPPA KOKOO is highly cost effective.

4. Financial service providers need to ensure sustainability of credit by charging market rates

5. Since subsidies are considered very essential in agriculture lending, banks should endeavour to provide them whenever the opportunities arise.

   In nurturing and promoting micro and small scale enterprises including farming (especially start-up businesses) banks should consider granting the interest charged on loans and advances. Interest charges could be gradually increased with the growth of the business. Market rates should only be charged on the basis of affordability on the part of enterprises and sustainability with respect to lending institutions.

### Best Practices

1. Group lending
2. Linking credit with savings
3. Inventory credit

The methodologies/mechanisms for operationalising the above-named practices are well covered and explained in Dr Ramatu Al-Hassan's report. Before introducing any of the above schemes, however, there is need for in-depth research, proper education and effective sensitisation programmes.

**Gender Issues**

Encourage women to access loans for productive ventures. In this regard, banks should put in place the necessary mechanisms to make it easier for women to access credit.

NB. Women have been found to be good loan performers with 100% recovery rate in certain cases

**Identification of pilot project areas**

These have been well covered in the paper presented by Messrs Tetteh/Osei-Bonsu

In addition,

1. Studies can be undertaken by the project to identify how best financial services can be delivered to rural dwellers
2. The project can also in future link up with other formal organizations to undertake further studies with the view to improving credit delivery and methodology.

**Strengthening Private Sector Participation**

There should be:

1. Networking and consultations between private sector organizations
2. Sharing of information and proper co-ordination of activities

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