

AGRICULTURAL EXTENSION POLICY

DIRECTORATE OF AGRICULTURAL EXTENSION SERVICES

MINISTRY OF FOOD AND AGRICULTURE

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LIST OF ACRONYMS

AAGDS.....	Accelerated Agricultural Growth and Development Strategy
AEA.....	Agricultural Extension Agent
AgSSIP.....	Agricultural Services Sub-Sector Investment Project
AEDF.....	Agricultural Extension Development Fund
AGDIV.....	Agricultural Diversification Project
AIDS.....	Acquired Immune Deficiency Syndrome
CBO.....	Community Based Organisation
CBPP.....	Contagious Bovine Pleuro-Pneumonia
CLW.....	Community Livestock Worker
COCOBOD..	Ghana Cocoa Board
CSD.....	Cocoa Services Division
CSIR.....	Council for Scientific and Industrial Research
DADU.....	District Agricultural Development Unit
DAES.....	Directorate of Agricultural Extension Services
DAS.....	District Agricultural Sub-committees
DDA.....	District Director of Agriculture
DDO.....	District Development Officer
DFID.....	Department for International Development
DOC...	Department of Co-operatives
ERP.....	Economic Recovery Programme
F & A.....	Finance and Administration
FASDEP	Food and Agricultural Sector Development Programme
FBO.....	Farmer Based Organisation
FBODF...	Farmer Based Organisations Development Fund
FSCBP....	Fisheries Sub-Sector Capacity Building Project
GDP.....	Gross Domestic Product
GoG.....	Government of Ghana
GTZ.....	German Technical Co-operation
HIV.....	Human Immuno-Deficiency Virus
HRD&M.	Human Resource Development and Management
IS & D....	Information Systems and Database
ISSER.....	Institute of Statistical, Social and Economic Research
MDAs...	Ministries, Departments and Agencies
M&E.....	Monitoring and Evaluation
MoF.....	Ministry of Finance
MoFA....	Ministry of Food and Agriculture
MTADP...	Medium Term Agricultural Development Programme
MTEF....	Medium Term Expenditure Framework
NAEP.....	National Agricultural Extension Project
NARP.....	National Agricultural Research Project
NGO.....	Non-Governmental Organisation
NLSP.....	National Livestock Services Project
OFAT.....	On-Farm Adaptive Trials
PP&B.....	Projects, Programmes and Budgets
RCC.....	Regional Co-ordinating Council
RDA.....	Regional Director of Agriculture
RDO.....	Regional Development Officer
RELC....	Research Extension Linkage Committee
REP.....	Rural Enterprise Project
SAP.....	Structural Adjustment Programme
SDO....	Special Duties Officer
SMS.....	Subject Matter Specialist

SRI.....	Statistics, Research and Information
T&V.....	Training and Visit
UGFCC...	United Ghana Farmers Co-operative Council
UAES....	Unified Agricultural Extension Services
USAID.....	United States Agency for International Development
VIP.....	Village Infrastructure Project

FOREWORD

Agricultural extension is set to face many challenges in the foreseeable future. Modest gains have been made under various programmes, supported by both the Government of Ghana (GoG) and donor agencies. However the relevance and impact of extension on productivity and its contribution to poverty reduction are increasingly being questioned.

Since the mid-1980s, the country has experienced a lot of changes in the socio-economic arena. The macro-economic reforms which included the promotion of market economy with the removal of subsidies on agricultural inputs seem to have taken away some of the incentives the traditional extension services depended upon to attract farmers to rely on extension service advice. Further, public sector funding for extension has been decreasing over the years. The decentralisation of the Ministry of Food and Agriculture (MoFA) in particular demands a change in the agricultural extension delivery system and its management.

In reaction to these changing circumstances, MoFA needs to initiate strategies to respond to these challenges and to ensure that the effectiveness of the extension system is maintained and improved upon. Financing of agricultural extension services delivery need to be diversified in the face of dwindling public funding. Private sector operators such as Farmer Based Organisations and organised crop associations would be encouraged to contribute more to the provision of extension services, and also to participate in the delivery process through farmer-to-farmer exchange of information.

There arises the need to provide a policy framework to guide a ‘demand-driven’ pluralistic extension system within a liberalised and decentralised political economy. The decentralisation process will assist to make extension more participatory and demand-driven, which will then respond to the specific needs of the various districts, while the private sector is encouraged to fund and deliver services to farmers.

It is in response to these demands that MoFA with support from development partners, notably German Technical Co-operation (GTZ) and the British Government’s Department for International Development (DFID), initiated discussions on a new framework for an agricultural extension policy in Ghana. These discussions have been held in districts and regions and at the national level and have involved stakeholders and development partners, signifying an interactive process of policy formulation.

It is expected that with the implementation of these objectives, the agricultural industry will be better served through pluralistic, demand-driven extension services. This policy document is to be used as a guide for extension services delivery in the country. It should also be viewed as a basis for further discussion aimed at achieving better strategies for extension delivery and management in the country.

Minister for Food and Agriculture

1. INTRODUCTION

During the colonial era, the focus of agricultural development was on cash crops such as cocoa, coffee and rubber. After independence, efforts were made to include all the major agricultural commodities. Extension activity was based on giving technical information and distribution of agricultural inputs at subsidised rates.

In the 1980s when the Medium Term Agricultural Development Program (MTADP) was launched, publicly funded extension shifted from the commodity-based extension to a knowledge-based extension under which a unified extension system based on the Training and Visit (T & V) model was implemented. This method was based on a 'single line of command structure' with the centre making most of the operational decisions.

Alongside the publicly funded extension system was the involvement, to a lesser extent, of the private sector especially Non-Governmental Organisations (NGOs).

The situation has changed rapidly and currently extension delivery faces a number of challenges. Apart from a low field staff: farmer ratio, funding for public sector extension is shrinking, resulting in over-reliance on donor funding. The private sector is increasingly participating in the provision of agricultural services including extension. The decentralisation of MoFA has necessitated a change in strategy for the delivery of extension services. Further emerging issues such as the HIV/AIDS pandemic, empowerment of farmers, environmental degradation and poverty reduction need to be tackled within the extension delivery system. The new strategic framework for extension services delivery can therefore not be over-emphasised.

In reaction to these challenges, a policy dialogue was initiated for stakeholders. The aims of that dialogue were to:

- state key objectives and strategies to guide extension delivery and to
- initiate a social discourse among various stakeholders with regard to our changing circumstances and associated challenges to create a mutual understanding of what could be done to provide more cost-effective and sustainable extension services.

This document represents the results of the policy dialogue held with stakeholders with support from GTZ and DFID.

2. GENERAL BACKGROUND

2.1. Agriculture in the Ghanaian Economy

Agriculture is the dominant sector in the Ghanaian economy in terms of its share of GDP, foreign exchange earnings and employment. The sector is made up of the crops (including cocoa), fisheries, forestry and livestock sub-sectors. However the crops sub-sector accounts for over 50% of all agricultural production in Ghana. According to ISSER, the agricultural sector contributed about 40.5% of GDP and accounted for 38.6% of the country's foreign exchange earnings in 1999. It also provides livelihood for over 70% of the population. (See Tables 1 and 2 of Appendix 1 for details).

Most of the farmers have smallholdings and produce crops using traditional methods or low resource technologies. It is estimated that about 31% of farm holdings are less than one hectare, 55% are less than 1.6 hectares while only 18% are more than 4.0 hectares per farmer. This signifies the importance of smallholders for family, regional and national agricultural production and food security.

The common practices in Ghanaian agriculture are the use of bush fallowing to restore soil fertility, mixed cropping to minimise risks and the widespread integration of livestock into farming systems. There is little use of purchased inputs and land preparation is manual in most areas, though animal traction is important in the north. Mechanisation is used only by a few large enterprises and irrigated agriculture is inadequately developed. While plantation crops like cocoa, coffee and oil palm are grown as sole crops, food crops are mainly inter-crop mixtures of maize, plantain, cocoyam, cassava and legumes.

Rainfall is the main determinant of the type of crops cultivated in various parts of the country. The moist southern areas (rain and deciduous forest and forest grassland transition) support tree crops, major grains, starchy staples and many vegetables, whilst the drier savannah areas (coastal and northern zones) support the growth of cereals (maize, millet, sorghum, rice), root crops (yam and cassava), legumes (cowpeas and peanuts), tobacco and cotton. (The structure and performance of the agricultural sector is captured in Appendix 1.)

2.2. Agricultural Policy in Ghana

Ghana's agricultural policy is driven by five key objectives of:

- Ensuring food security and adequate nutrition for the population;
- Promoting the supply of raw materials for other sectors of the economy;
- contributing to export earnings;
- increasing employment opportunities and incomes of the rural population; and
- generating resources for general economic development.

After a significant growth in the immediate post-independence decade of the 1960's, the economy of Ghana suffered a continued decline from the early 1970's until the introduction of the Economic Recovery Programme (ERP) in 1983.

The ERP initiated reforms towards fiscal and monetary discipline in the economy, structural and institutional strengthening, as well as privatisation of state owned enterprises. This initiative sought *inter alia* to reverse the declining trend in the major contributors to the economy, including agriculture.

As part of these interventions, a Medium Term Agricultural Development Programme (MTADP) was initiated in 1987 to strengthen the capacity of the public sector agencies in the provision of agricultural services. The overall performance of the agricultural sector

under the MTADP improved and contributed significantly to the total GDP, which averaged 5% per annum. Before the ERP, the average annual agricultural growth was between 1.2% and 2.4%.

However, this trend of agricultural growth could not be sustained in the mid-1990s due to unfavourable macro-economic conditions, namely large increases in government deficits, pulling resources away from the private sector. This situation also resulted in high inflation and interest rates which discouraged private sector investment, high prices of farm inputs, storage and marketing problems and poor rural infrastructure.

There was therefore the need to design a new strategic framework to re-direct the socio-economic development of the country. The focus was effective development of the human resource base, poverty reduction and rural development in general. The strategies to guide the socio-economic development of the country were elaborated in **Ghana Vision 2020**, a national policy document. This document was reviewed in 2001. The result was the Food and Agricultural Sector Development Programme (FASDEP).

The expectation of government is that Ghana would be transformed from a poor low-income country into a prosperous middle-income country by the year 2020. It is expected that agriculture would grow at a rate of 6% within the period. In order to meet this expectation, MoFA has put in place the Accelerated Agricultural Growth and Development Strategy (AAGDS) and FASDEP to guide agricultural services delivery and production.

2.2.1. The Medium Term Agricultural Development Programme (MTADP)

The MTADP was initiated in 1987 for purposes of making quick progress towards sustainable growth and development in the country and to consolidate the gains made in agriculture under the ERP. The MTADP sought to establish and support a market-led growth in agriculture through policy and institutional reforms and a number of investment projects. It also aimed at cost recovery and transfer of the sale and distribution of inputs to the private sector.

The implementation of the MTADP saw the de-regulation of the financial market, liberalisation of agricultural trade and removal of subsidies on agricultural inputs as a means of improving incentives for farmers and encouraging private sector participation in agricultural development. Two of the agricultural services projects dealing with extension and research services - the National Agricultural Extension Project (NAEP) and National Agricultural Research Project (NARP) - were implemented under the MTADP as part of government's efforts at (a) strengthening the management of agricultural services, particularly extension and research and (b) establishing a framework for a more rational allocation of public resources to agricultural development. Other projects implemented under the MTADP included the National Livestock Services Project (NLSP), the Fisheries Sub-Sector Capacity Building Project (FSCBP), the Agricultural Diversification Project (AGDIV) and the Rural Enterprise Project (REP).

The projects, in general, sought to strengthen the capacity of the agricultural sector to deliver services to farmers and fishermen, build up institutional capacity, improve rural infrastructure and stimulate diversification of exports. These interventions saw a general increase in agricultural production up to the mid-1990s. During that period, production of the major staples such as roots and tubers, plantain and cocoa as well as the value of non-traditional agricultural exports increased considerably.

The improvement in macro-economic stability resulting from the introduction of the ERP made it possible for farmers and firms to respond positively to the shift in production

incentives created by the policy reforms. Specifically in the agricultural sector, good weather, combined with good commodity prices and flexible exchange rates, led to significant increases in both domestic and export marketing of the major crops including cocoa, maize, millet, tuna and other fish products as well as non-traditional exports such as horticultural products.

2.2.2. Current Agricultural Development Strategy

In 1997, MoFA formulated the AAGDS with the aim of increasing the sector's annual growth rate from the current 2-3% (1990-96) to 5-6% in order to achieve rapid, sustainable and equitable growth. This strategy provided a framework within which agricultural development programmes could be implemented. The specific objectives of the AAGDS¹ and FASDEP include:

- Improving access to markets and promoting production and export of selected commodities;
- Facilitating access to agricultural technology;
- Facilitating and increasing access to rural finance;
- Providing rural infrastructure and utilities; and
- Enhancing human resource and institutional capacity.

It is expected that the programmes implemented as part of this strategy will be demand-driven and will enhance agricultural production and promote competition in the domestic, regional and global markets, whilst helping in reducing rural poverty and conserving the environment. Changes therefore need to be made to extension services delivery to enable it provide more effective and sustainable services to the agricultural industry to help realise the objectives stated above.

¹ Source: World Bank (1999): *Ghana TOR for the Pre-appraisal Mission of the Proposed ASSIP*, Accra.

3. AGRICULTURAL EXTENSION IN GHANA

3.1. The Public Extension System - A Historical Perspective

Agricultural extension activities were initiated in Ghana in the nineteenth century by the early missionaries and foreign owned companies involved in the production of export crops such as coffee, cocoa and rubber. After independence, Ghana tried various approaches including extension under the farmers' co-operative movement and several donor-assisted projects. The United Ghana Farmers' Co-operative Council (UGFCC) provided extension services in the 1960s. These services were supplemented at the time by the 'Focus and Concentrate' project of the United States Agency for International Development (USAID). Under both initiatives, extension agents advised and supplied inputs to farmers.

In the 1970s and 80s, all the departments of the Ministry of Agriculture undertook separate extension services. Agricultural extension was therefore fragmented among the various departments within the ministry. In 1987 however, MoFA established the Department of Agricultural Extension Services (DAES) to bring all splinter MoFA extension services under one umbrella.

The DAES used a strategy based on the Training and Visit (T&V) extension system which involves regular training and field visits. This system also saw the withdrawal of MoFA from the procurement and distribution of agricultural inputs, including credit. This extension initiative was supported with World Bank funding through the National Agricultural Extension Project (NAEP) which was implemented between 1992 and 1999. This project was set up and implemented to help (a) improve the efficiency in the management and delivery of extension services, (b) improve the relevance of technologies available to farmers, and (c) strengthen the technical departments of MoFA.

As part of this unified agricultural extension strategy, Agricultural Extension Agents (AEAs) are trained once a month by Subject Matter Specialists (SMSs) drawn from the subject matter or technical departments of MoFA. They (AEAs) visit groups of contact farmers on a fortnightly basis. Each contact farmer group has a minimum of 10 farmers and each AEA interacts with between 16 and 24 of such groups in a farming season. Interaction with farmers is done by way of farm demonstrations and discussions with farmer groups.

Currently, MoFA, through many donor-assisted projects, is experimenting with various alternative extension methods such as Participatory Extension, Farmer Field Schools and Integrated Pest Management, all of which are aimed at ensuring a high level of farmer participation. The role of the AEA has become that of facilitating learning among farmers instead of only transferring technology. The results of these experimental projects have indicated enhanced knowledge and skills among farmers. This has been attributed to the fact that farmers have become part of the decision making process. MoFA is therefore encouraged to continue with such initiatives in order to empower farmers to make better judgement of their own performance.

3.2. Research-Extension Linkage

Most of the agricultural research done in Ghana is under the supervision of the Council for Scientific and Industrial Research (CSIR) which is under the Ministry of Environment, Science and Technology (MEST). Agricultural research is carried out by eight² semi-autonomous institutes with specialisation in crops, soils, animals, oil palm, fisheries and food. All these institutes are affiliated to the CSIR. Cocoa research is however carried out by the Cocoa Research Institute of Ghana (CRIG) under the management of COCOBOD.

Some technical departments of MoFA also undertake some adaptive trials on crops, livestock and fisheries with or without the collaboration of the research institutes of CSIR.

In 1991, the World Bank supported the National Agricultural Research Project (NARP) to (a) improve upon the institutional arrangements that govern agricultural research, (b) ensure that research priorities reflect national agricultural development objectives, and to (c) ensure that research is responsive to farmers' needs.

Through the formation of the Research Extension Linkage Committees (RELCs) under NAEP and NARP, a close working relationship was forged between research and extension. The RELCs are made up of researchers, Regional Directors of Agriculture (RDAs), SMSs, Regional Development Officers (RDOs), farmers' representatives, NGOs and input suppliers. The responsibility of these RELCs is to assess the adoption of technologies by farmers, review research and extension programmes, assess their relevance to agricultural development in the various zones and make appropriate recommendations.

The RELCs have played a significant role in staff training and have influenced the quality of research and extension programmes thus making these arrangements more relevant to the needs of farmers. Extension programmes are also heavily guided by RELC recommendations especially in the areas of training and intensification of extension education activities. However a major shortcoming of the RELCs which are based on the present five agro-ecological zones, is their inability to respond to the specific needs of the regions and districts.

Other mechanisms have been put in place to ensure effective research and extension linkage. For example there are

- Technical review meetings which are attended by extension, research and technical departments of MoFA. At these meetings, SMSs are introduced to new technologies, specific technologies are evaluated based on field experiences and farmers' problems are discussed and solutions sought for them.
- Again various stages of technological development and delivery exist in which researchers, SMSs, extension staff and farmers are involved. These include adaptive trials on the MoFA zonal research stations, on-farm trials carried out by SMSs and extension staff in collaboration with farmers and small plot demonstrations carried out on specific technologies by farmers and AEAs.

² The Research Institutes are: Crops Research Institute, Animal Research Institute, Soil Research Institute, Food Research Institute, Water Research Institute, Oil Palm Research Institute, Savannah Agricultural Research Institute and the Plant Genetic Research Centre.

3.3. COCOBOD-MoFA Extension Services Merger

In 1973 the Cocoa Production Division of the Ministry of Agriculture was transferred to a newly created Ministry of Cocoa Affairs. It was re-named Cocoa Services Division (CSD) and placed directly under COCOBOD which manages all organisations dealing with cocoa. The CSD gave technical advice to cocoa and coffee farmers in addition to the production and distribution of cocoa and coffee planting materials.

In August 1998, government unified the extension services of MoFA and COCOBOD for the purpose of providing farmers with more cost-effective agricultural extension services. With the merger, MoFA took ministerial responsibility for cocoa extension. The challenge for MoFA is to (a) develop the capacity for cocoa extension and (b) collaborate with the relevant agencies and private sector organisations to support the cocoa industry.

These changes took place alongside the liberalisation of cocoa purchase. Currently, some of these private cocoa-purchasing companies also provide extension services to farmers. This brings to the fore the need to develop and implement strategies aimed at establishing a good working relationship between the public and the private sector service providers to ensure quality service for farmers.

3.4. Decentralisation

Ghana inherited a highly centralised system of government from the colonial administration. This has been criticised for inefficiency and inability to respond to the problems and issues that are contextually relevant to the populace. The 1992 constitution therefore made provision for the decentralisation of the government machinery. The aim was to (a) create a conducive environment within which people could participate in their own development and (b) encourage self-help, local responsibility and ownership of development programmes.

The decentralisation of MoFA, which started in 1997 based on a ministerial directive, was meant to empower the districts to plan and implement their own agricultural extension activities and manage their resources within the framework of the national policy. It also sought to put in place a more conducive institutional structure to enable MoFA respond more effectively to the contextual needs of farmers and the agricultural industry. This is premised on the understanding that farmers' problems can be better understood and solved at the level where they actually occur.

The policy sought to transfer responsibilities, including administration and the provision of services, to the District Assemblies while at the regional and the national levels, attention was focused on policy planning, co-ordination, technical backstopping, monitoring and evaluation.

Some of the problems associated with the decentralisation of MoFA to date are the following:

- Financial decentralisation has not taken place;
- Districts do not have the full complement of staff;
- Most District Directors of Agriculture (DDAs) do not have adequate training in extension management;
- The roles and responsibilities of some staff at the regional level are not clearly defined;
- Regional and district staff have not been adequately trained on relationships; and
- The relation between MoFA and the Ministry of Local Government and Rural Development (MLGRD) with regard to implementing agricultural programmes at the district level has not been clarified.

Despite the challenges associated with the decentralisation, its implementation can be seen as enabling extension respond to the real needs of the farmers while ensuring transparency of resource use and accountability to the clients.

(MoFA's organogram under a decentralized system and a summary of the roles of selected categories of staff are indicated in Appendices 2 and 3.)

3.5. The Role of the Private Sector / NGOs in Extension Delivery

The last decade has seen an upsurge in private sector involvement in the provision of extension services in the country. Producer organisations, buyers, processing and export companies provide extension services for specific agricultural commodities e.g. cocoa, cotton, oil palm, cashew, pineapple and vegetables. Costs are recovered through service charges deducted from payments to farmers at the time of sale. Such extension, however, tends to focus on 'high value' crops like cocoa, cotton, oil palm, cashew, pineapple and vegetables.

MoFA's Veterinary Services Directorate began investigating opportunities for the commercialisation of its services under the National Livestock Services Project (NLSP) between 1994 and 1999. Cost recovery was applied to all services with high private good content (e.g. castration, deworming, non-mandatory vaccination etc). However, government continues to provide free services for public good services such as mandatory vaccination against epidemic diseases like anthrax, rinderpest and contagious bovine pleuro-pneumonia (CBPP).

The Community Livestock Worker (CLW) scheme is another form of private sector extension. This scheme provides basic training for selected members of village communities who on return, provide frontline first aid veterinary services to the community. The communities, through user charges, finance some of the services (private goods) while government supports others (public goods). However, CLWs have problems with acquisition of tools and other veterinary supplies as well as cost recovery since many farmers fail to pay promptly for services.

There has also been an increase in the involvement of NGOs in the funding and supply of extension services in Ghana. Their services generally address the needs of specific client groups and are often commodity focused. In most cases, the NGOs, in complementing the activities of the public services and working in partnership with the publicly funded AEAs, provide commodity-specific inputs such as seedlings and credit. Though these NGOs are generally non-profit making, their services are short term and often non-sustainable.

NGOs involved in the provision of extension services include religious groups, producer associations and Farmer Based Organisations (FBOs). These FBOs include the registered co-operatives, pre-co-operative societies being organised and prepared for registration, as well as rural associations. For example, under the Nucleus Farmer Out-grower scheme, farmers are assisted in the form of inputs and/or services, which are channelled through the nucleus farmer. The nucleus farmer monitors the use of these inputs and services and also arranges re-payment through the collection of produce from the out-grower farmers. He also ensures that the farmers are not only adequately capitalised but also have access to relevant production technology, information and markets.

Increased private sector participation has been a positive development as it has complemented government efforts in the face of dwindling government resources. The DAES, however, needs to put in place a mechanism to co-ordinate and monitor these initiatives to ensure their sustainability.

4. THE NEW EXTENSION POLICY

4.1. The Need for a New Agricultural Extension Policy

Agricultural extension services in Ghana have undergone considerable changes in the past four decades. Changes in the political economy of the country, particularly the liberalisation of the economy with more private sector participation in service provision, decentralisation of governance and the national focus on poverty reduction call for a review of our agricultural development efforts.

As mentioned earlier, the decentralisation policy intends to shift the responsibility for provision of extension services from central government to district authorities. This means that district assemblies are envisaged to organise and operate their own extension services while MoFA directorates focus on developing policies and programmes, co-ordination, providing technical backstopping and training services to the regions and districts.

The growth of the private sector has seen the development of private providers of extension services. These are usually limited to export commodities but their number and scope are expected to continue to grow. Similarly, there has been a growth in the involvement of NGOs in the provision and financing of extension services. The increasing involvement of the private sector and NGOs in the delivery of extension services is expected to result in improved farmer coverage.

Government is also paying attention to ways of strengthening the management of public finances through the development of the Medium Term Expenditure Framework (MTEF), focusing on increased efficiency in its financial administration. The DAES therefore has to develop methods that will enable it perform in a more cost-effective manner.

Despite progress made under the MTADP in terms of generating economic growth, many rural dwellers remain poor. Furthermore, women still have limited access to production inputs like farmland, credit and extension services.

In line with government's new objectives, agricultural extension is to become more focused on:

- ensuring equity in the distribution of the benefits from development;
- improving rural livelihood; and
- reducing poverty especially among rural women, the youth and the physically challenged.

Agricultural extension efforts, therefore, need to respond to the needs of the poor and the socially disadvantaged segments of society.

Agricultural extension delivery is still constrained by a number of factors such as high cost of agricultural inputs, inadequate credit to farmers, poor rainfall distribution, inadequate processing and marketing facilities and high incidence of pests and diseases among others. There is the need for agricultural extension to develop strategies to support farmers to respond to these challenges.

The role of agricultural extension in Ghana's economic development up to the year 2020 has been spelt out in the AAGDS and FASDEP documents. One of the major instruments for the implementation of AAGDS is the Agricultural Services Sub-Sector Investment Programme (AgSSIP). The aim is to address fundamental issues concerning resource allocation and management in agricultural services delivery. During the preparation of the AAGDS and the FASDEP, MoFA realised the need for national extension services to:

- be pluralistic, demand-driven and client-focussed;
- promote accountability in the public sector and be responsive to changing needs;
- encourage private sector participation, and
- be consistent with other government policies, including decentralisation of government functions to district assemblies.

The above aims call for a new way of visualising, planning and implementing delivery of agricultural extension services.

4.2. A Vision for the Future of Agricultural Extension Services

In the short to medium term (2-10 years), an efficient and demand-driven extension service in a decentralised system would be established through partnership between the government and the private sector. It is envisaged that clients (farmers and other users of services) would participate in extension programme formulation, implementation, monitoring and evaluation to ensure that their needs are met.

The private sector, including NGOs, will participate in extension services delivery and funding in response to farmers' demands while farmers are empowered through FBOs and Community-Based Organisations (CBOs) to seek services from both private and public sector providers and develop the capacity to pay for such services. This initiative would be supported by establishing an Agricultural Extension Development Fund (AEDF) and the Farmer Based Organisations Development Fund (FBODF).

Government will provide funding for extension services delivery especially to small and poorly resourced farmers while large-scale farmers and members of FBOs practising 'market-oriented' farming will be encouraged to seek and pay for services they receive from private organisations. This is already taking place in the cotton and horticultural industries.

The extension delivery system will not only be concerned with technological issues, but will also deal with other issues that affect the general livelihood of the farming communities such as marketing, health (HIV/AIDS, guinea-worm, etc.), gender balance in development and sustainable natural resource management. Other related socio-economic issues will also be explored to support government's poverty reduction efforts.

4.3. Mission Statement

MoFA will work with the regional and district administrations to ensure that extension services contribute in an effective and efficient way towards the social and economic development of Ghana through:

- addressing the specific needs of farmers, especially the rural poor, in an effort to reduce poverty;
- ensuring that farmers adopt environmentally sustainable methods;
- raising agricultural productivity; and
- creating an enabling environment for private sector participation in the funding and delivery of extension services.

4.4. Guiding Principles

In order to realise the vision stated above, extension services delivery will be guided by the following set of principles:

- Extension services will be more demand-driven and client-focused.
- Agricultural extension services in Ghana will be pluralistic, flexible and responsive to the changing socio-economic environment of the rural sector.

- The national agricultural extension system will ensure the provision of adequate extension services to small-scale and poorly resourced farmers, with special attention to women, the youth and the physically challenged.
- Delivery of extension services to small-scale and poorly resourced farmers will be funded by government.
- Public sector funding of extension services will aim at establishing a high degree of financial sustainability through enhanced planning and prioritisation of commitments.
- Agricultural extension will be open to new funding mechanisms.
- With the devolution of government functions to the District Assemblies, the ultimate responsibility for decisions on the nature and level of publicly funded extension services will be determined by the District Assemblies in consultation with MoFA, farmers and other stakeholders.
- Views on the requirements of the farming community will be obtained by involving the community in problem identification, planning, implementation and evaluation of extension services.
- The private sector will be encouraged to finance and engage in agricultural extension services delivery to a greater extent.
- Agricultural extension (both public and private) will be made cost-effective and steps will be taken to ensure accountability to beneficiaries and other stakeholders.
- Extension services will be made more pro-active in developing business and marketing skills of farmers.
- Delivery of extension services will be monitored by the District Assemblies in conjunction with MoFA and farmers to ensure high quality service.
- Human resource development will be made a continuous process and will be intensified at all levels.

4.5. Policy Objectives and Strategies

The new extension policy is based on nine objectives. These objectives and the strategies for achieving them in the short to medium term have been spelt out below.

- i. MoFA will promote farmer-driven extension and research to ensure that services provided are relevant to farmers' needs. The strategies to be adopted are:
 - strengthening linkages among farmers, extension workers and researchers;
 - involving clients in the planning and evaluation of extension activities;
 - establishing functional RELCs at the zonal and regional levels; and
 - encouraging the RELSs to source funds from the private sector including farmers, farmer organisations and other institutions to support research activities.
- ii. MoFA will empower farmers through the formation and development of FBOs including marketing and agro-processing associations and co-operatives in collaboration with the Department of Co-operatives. This objective will be achieved through:
 - the establishment of an institutional framework for FBO development;
 - collaboration with other agencies in facilitating the formation, sustenance and management of new FBOs;
 - strengthening the capacities of all FBOs particularly in leadership and managerial skills; and
 - the provision of appropriate information on credit, land acquisition and marketing, among others.

- iii. MoFA will promote the best agricultural practices. The strategies to be used are:
- collating, documenting and assessing existing technologies (from research institutions and indigenous practices);
 - ensuring strong research-extension-farmer linkages;
 - ensuring the participation of all stakeholders in technology generation, adaptation and dissemination; and
 - ensuring human resource development at all levels.
- iv. MoFA will improve on the efficiency and cost-effectiveness of publicly funded extension services. Options for improving on these include:
- the provision of a clear definition of target beneficiaries, types of publicly funded extension they should expect to receive and the cost of providing those services;
 - placing more emphasis on working with farmer groups;
 - encouraging private sector participation in extension delivery and funding;
 - exploring the possibility of cost sharing (where a proportion of the cost of a service is charged to the user of that service); and
 - supporting the setting up of an Agricultural Extension Development Fund to promote private participation in extension.
- v. MoFA will broaden extension services delivery. The strategies to be adopted to achieve this include:
- reviewing various extension approaches with the view to assessing their suitability;
 - developing and maintaining links with local and international organisations to identify the most appropriate approaches;
 - supporting the development of various approaches in collaboration with private sector providers;
 - encouraging a range of organisations/agencies including NGOs, private sector companies and public organisations to provide extension services;
 - elaborating extension indicators and quality standards to guide service providers;
 - ensuring that activities of all service providers are properly co-ordinated and monitored for maximum effectiveness;
 - training all staff as well as other service providers in the use of alternative extension approaches; and
 - disseminating information on appropriate approaches to all extension service providers.
- vi. MoFA will ensure that appropriate institutional structures are developed at all implementation levels to operate the new agricultural extension policy. MoFA will therefore make more operational the roles and responsibilities of staff at the various levels (national, regional and districts) as defined by the decentralisation policy. To achieve these, MoFA will:
- revise its decentralisation handbook to ensure that all categories of staff are adequately informed about their and responsibilities;
 - enhance human resource capacity at the district levels;
 - monitor extension activities at the district level to ensure conformity with national extension policy;
 - ensure that there is financial decentralisation; and
 - ensure that all service providers are well informed on the provision of the new extension policy.

- vii. MoFA will implement an effective monitoring and evaluation system for agricultural extension services. The strategies include:
- the development and implementation of an extension M&E system based on the MTEF framework by involving major stakeholders in the planning, monitoring and evaluation of extension activities;
 - linking M&E systems at the different levels (national, regional and districts);
 - undertaking a baseline survey of the present performance of the agricultural extension system; and
 - developing capacity of staff in M&E activities.
- viii. MoFA will undertake a broad based human resource development programme by ensuring continuous capacity building of agricultural development workers. This objective will be achieved through:
- enhancing career development through in-service training, upgrading of professional skills and development of managerial skills;
 - training of agricultural extension workers (public and private) in areas of group formation and dynamics, gender issues, programme planning and appropriate extension methods to enable them work more effectively with farmers/farmer groups; and
 - re-orientation of the curricula of agricultural training colleges and universities to take into account the development of skills for the private sector, NGOs, FBOs and CBOs that will be engaged in extension services delivery. Areas to be considered will include group formation, principles of financing and credit administration and marketing. The curricula will also address emerging topical issues such as health, gender in agriculture and the environment.
- ix. The national agricultural extension system will respond to the emerging issues of HIV/AIDS pandemic, environmental degradation and poverty reduction. Extension efforts will also focus on the areas of gender, equity and client empowerment as they relate to sustainable agricultural production. To achieve this objective, MoFA will:
- develop and implement activities that will respond to the national poverty reduction efforts;
 - collaborate with relevant MDAs (e.g. Health, Education, Social Welfare) to fight the HIV/AIDS pandemic;
 - develop extension activities to focus on the relationships among natural resource management, poverty reduction, increased food supply and income;
 - ensure equity in agricultural services delivery by making these accessible to vulnerable groups including women, the youth and the physically challenged; and
 - promote environmentally friendly agricultural production activities.

5. INSTITUTIONAL AND FINANCIAL IMPLICATIONS

5.1. Institutional Implications

- The institutional implications of this policy will include strengthening of the collaboration among the various directorates within MoFA and between MoFA and the Regional Co-ordinating Councils, the District Assemblies, research institutions and the universities.
- Efforts will be made to promote and strengthen collaboration between MoFA and other MDAs. This will ensure their participation and collaboration in the planning, implementation, monitoring and evaluation of cross-sectoral programmes that affect the livelihood of farming communities. The present level of co-operation between MoFA and the Ministry of Health (in HIV/AIDS and population control), the Department of Feeder Roads (in feeder road construction under the VIP etc.) could serve as the basis for further collaboration with other MDAs.
- MoFA will also establish to establish partnership with the Department of Co-operatives to promote the growth and development of FBOs to enable them play fully their expected role of empowering and providing services to their members. Similarly there is the need for MoFA to play the leadership role in the establishment of an effective private-public partnership in extension delivery.
- With the responsibility for agricultural development now shifting to the districts, there is the need to have representation of District Directors of Agriculture on the RELCs. District Agricultural Sub-Committees (DASs) need to be formed within District Assemblies to facilitate RELC activities and agricultural development in general.
- With the implementation of government's COCOBOD/MoFA extension services merger policy, the Cocoa Research Institute of Ghana (CRIG) should serve on the RELCs in cocoa growing areas.
- The passing of the Local Government Service Bill into law has serious implications for extension delivery at the district level. For effective functioning of extension services under a fully-fledged decentralised system, the relationships among the district, regional and national agricultural staff in the public sector must be clearly spelt out.
- Effective structures need to be established at the regional and district levels in accordance with Act 462 to support extension delivery.
- Issues concerning responsibility for continuous staff development (training and education), promotion, remuneration and other service conditions at the national, regional and district levels should also be clearly spelt out. Postings and promotions should be clearly defined at the various levels of MoFA.

5.2. Financial Implications

It is recognised that public sector managers will not be able to perform well if the flow of budgeted resources is uncertain. The Medium Term Expenditure Framework (MTEF) was proposed to provide greater consistency between policy and resources and therefore more predictability in the flow of resources to support agricultural development work at all levels. However, observation of the MTEF has revealed:

- The untimely and inadequate release of funds from the Ministry of Finance (MoF) and
- Over-reliance of government on external funding arrangements.

In order to effectively implement the strategies indicated in the policy, there is the need to ensure that:

- Government funding of agricultural extension activities is substantially increased and sustained;
- MoFA releases budgeted funds and in time;
- There is more cost-effectiveness in extension services delivery;
- Financial management within MoFA is improved;
- Funds and logistics released to District Assemblies for agricultural activities are used for the intended purposes and promptly accounted for;
- Funds are solicited from the private sector and from beneficiaries of services to support extension. This can be done through the establishment of an Agricultural Extension Development Fund (Refer 5.2.1); and
- MoFA intensifies and co-ordinates efforts in revenue generation to support agricultural development in the country.

5.2.1. Agricultural Extension Development Fund (AEDF)

In order to facilitate the process for pluralistic extension delivery, MoFA, through the AgSSIP, will support the establishment and operation of an Agricultural Extension Development Fund (AEDF) to be managed by a Board of Trustees. The DAES will spell out the terms of reference and develop an implementation manual to detail the composition of the board, duties of office holders, management of the fund, eligibility criteria and the role of MoFA and District Assemblies in the management and utilisation of the AEDF. District Assemblies, farmers, donors, banks, NGOs, FBOs and civil society will be encouraged to contribute to the AEDF.

APPENDICES

Appendix 1

The Structure and Performance of the Agricultural Sector³

In Ghana, the agricultural sector is made up of 5 sub-sectors namely, crops other than cocoa (64% of agricultural GDP), cocoa (13%), livestock (7%), fisheries (5%) and forestry (11%). The non-cocoa crop sub-sector includes cereals (maize, rice, sorghum and millet) roots and tubers (cassava, yam, and cocoyam), industrial crops (tobacco, cotton, kola nut, oil palm, rubber, groundnut, copra and sugar cane), horticultural crops (pineapple, mango, chilli pepper, ginger, lime and orange) and other crops such as plantain, banana, bean and, tomato. The fisheries sub-sector includes marine and fresh water products (tuna, shrimps, tilapia, mudfish, lobsters and herrings, among others). The forestry sub-sector includes well-known tropical timber species such as Odum and Mahogany and hundreds of other well known and lesser-known secondary species (Table 3).

Table 1. Contribution to GDP by Sector, 1993-2000 (%)

Year	Agriculture	Services	Industry	All
1993	41.4	30.8	29.8	100.0
1994	40.8	31.3	27.9	100.0
1995	40.6	31.5	27.9	100.0
1996	40.8	31.3	27.9	100.0
1997	40.4	31.6	28.0	100.0
1998	40.6	32.1	27.4	100.0
1999	40.5	31.9	27.6	100.0
2000	41.0	31.0	28.0	100.0

Source: ISSER, The State of the Ghanaian Economy 2001

Table 2: Foreign Exchange Earnings by Agricultural and Non-Agricultural Sectors, 1993-1999 (%)

Year	Cocoa %	Timber %	Non.Trad %	Total Agric. %	Non-Agric. %	All %
1993	26.7	13.8	2.4	42.9	57.1	100.0
1994	25.8	13.3	3.2	42.3	57.7	100.0
1995	27.1	13.3	2.0	42.4	57.6	100.0
1996	35.1	9.4	3.2	47.7	52.3	100.0
1997	30.7	11.4	3.8	45.9	54.1	100.0
1998	30.3	9.3	4.3	43.9	56.1	100.0
1999	26.2	8.3	4.1	38.6	61.4	100.0
2000	22.5	9.0	3.9		64.6	100.0
2001	20.5	9.2	3.6		66.7	100.0

Source: ISSER, The State of the Ghanaian Economy 2001

³ This is an extract from the AAGDS document.

Table 3: Contribution of Various Sub-Sectors to Agricultural GDP (%)

<u>Sub-Sector</u>	<u>Contribution to Agric. GDP (%)</u>
Crops (other than cocoa)	64.0
Cocoa	13.0
Livestock/Poultry	7.0
Fisheries	5.0
Forestry	11.0

Source: MoFA, SRID 2000

Policies affecting the forestry and cocoa sub-sectors are the responsibility of the Ministry of Land and Forestry (MLF) and the Ministry of Finance respectively. The Ministry of Food and Agriculture is responsible for the management of the crop, fisheries and livestock sub-sectors that account for 75% of total agricultural GDP. The production levels of selected food crops, livestock and fish are presented in Tables 4-6 below:

Table 4: Production of Selected Food Crops ('000mt)

Crop	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Cassava	2,717	5,702	5,662	5,973	6,025	6,611	7,111	7150	7172	7,845	8,107	8,966
Yam	877	2,632	2,331	2,720	1,700	2,126	2,275	2,408	2,703	3,249	3,363	3,547
Plantain	799	1,297	1,082	1,322	1,475	1,637	1,823	1818	1,913	2,046	1,933	2,074
Cocoyam	815	1,297	1,202	1,236	1,148	1,408	1,552	1,530	1,577	1,707	1,625	1,688
Maize	553	932	731	961	940	1,034	1,008	996	1,015	1,015	1,013	938
Sorghum	136	241	259	328	324	360	353	333	355	322	280	280
Millet	75	112	133	198	168	209	193	144	162	160	169	134
Rice(Paddy)	81	151	132	157	162	221	216	197	281	210	249	296

Source: MoFA, SRID 2000

Table 5: Livestock Population (million herd)

Type of Livestock	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Poultry	10.57	11.23	12.17	12.29	13.08	14.59	15.88	17.28	18.81	20.47	22.28
Sheep	2.16	2.13	2.13	2.22	2.07	2.42	2.50	2.58	2.66	2.74	2.83
Goats	2.19	2.16	2.13	2.20	2.16	2.53	2.66	2.79	2.93	3.08	3.23
Cattle	1.20	1.16	1.17	1.22	1.12	1.25	1.26	1.27	1.29	1.30	1.32
Pigs	0.45	0.41	0.40	0.38	0.37	0.36	0.35	0.34	0.33	0.32	0.32

Source: MoFA, SRID 2001

Table 6: Annual Fish Production ('000mt)

Source	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Marine	319	290	371	319	287	336	378	295	279	269	355	353
Inland	58	57	57	52	54	65	74	76	76	76	88	78
Total	377	347	428	371	341	401	452	371	355	345	443	331

Source: MoFA, SRID 2000

Smallholder farmers on family-operated farms using rather rudimentary technology produce about 80% of the total agricultural produce. Only a few 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 palm oil. As presented in Table 7, in 1996, 60% of the 2.0 million farm holders cultivated under 1.2 hectares, another 25% cultivated between 1.2 and 2.0 hectares while the remaining 15% had holdings of over 2.0 hectares. On the 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 or above.

Table 7: Percentage Distribution of Size of Holdings by Region

Region	Size of Holdings (hectares)		
	Less than 1.2 ha	1.2-2ha.	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

Source: MoFA, SRID 2000

In general, increases in production have been achieved primarily through the use of more extensive farming methods (especially more land and labour) rather than through the application of improved technology (seeds, fertilizers etc). The average area of selected food crops planted is given in Table 8. Fertilizer usage which averages 6 kg/ha with a wide variation across crops, is one of the lowest in Sub-Saharan Africa.

Table 8 Area planted with Selected Food Crops ('000 ha)

Crop	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Maize	465	610	607	637	629	669	665	663	697	697	695	713
Cassava	323	535	552	532	520	551	591	589	630	640	660	726
Guinea Corn	215	263	307	310	299	335	314	373	332	312	289	
Millet	124	209	210	204	191	193	190	170	181	186	208	193
Yam	119	227	224	207	154	176	178	187	211	243	261	287
Cocoyam	142	203	196	173	179	205	214	206	218	372	248	262
Plantain	129	174	157	164	184	212	229	225	246	253	244	265
Rice	88	95	80	77	81	100	105	118	130	105	115	138

Source: MoFA, SRID 2001

Despite the successes achieved under the ERP, much remains to be done in terms of raising agricultural productivity. This is an area where a more effective agriculture-industry linkage can play a significant role. Out of a total land area of 23.8 million hectares, about 13 million hectares representing 57% of the total land area of Ghana is said to be suitable for agricultural production given the current technological know-how. However, the total area under cultivation in 2000 was only 5.3 million hectares representing 39% of the total area suitable for cultivation. The total area under irrigation is 10,000 hectares while the area under inland water bodies is 1.1 million hectares (Table 9).

Table 9. Land Use Specific to Agriculture

Item	Hectares	%
Total Land Area (T.L.A)	23,853,900	100.0
Agric. Land Area (A.L.A)	13,628,179	57.1
Area under cultivation (200)	5,808,600	24.4
Total area under irrigation (2000)	10,000	0.05
Area under inland water bodies	1,100,000	4.6
Others	9,125,721	38.3

Source: MoFA, SRID 2000

NOTE: Percentage will not add up to 100 because area under cultivation is part of Agricultural Land Area, while area under irrigation is part of area under cultivation.

The need to rapidly transform agriculture in Ghana is underscored by the fact that Ghana's population is expected to increase from an estimated 17.7 million (1996) to about 36 million by 2020 and thus reduce the agricultural land availability per capita from 0.77 hectares (1996) to 0.38 hectares (2020). Table 11 shows the distribution of Ghana's population by region. This situation will make the traditional shifting cultivation and the limited use of improved technology undesirable from both economic and environmental points of view. Not only is Ghana striving to transform its agriculture from virtual subsistence into a highly productive, efficient and responsive sector of the economy. The country is also taking steps to significantly change the relative contributions of various agricultural commodities to the GDP as stated below.

Table 10: Relative Contributions of Agricultural Commodities

Commodity	Current Contribution	Expected Contribution
Roots and Tubers	55%	40%
Cereals	5%	10%
Industrial Crops	1%	5%
Fruits and Vegetables	2%	5%
Cocoa	14%	10%
Fish	5%	10%
Livestock	7%	9%
Forestry	11%	11%
	100%	100%

Source: MoFA, AAGDS 2000

If Ghana succeeds in this effort, the agricultural sector will shift from dependence on roots, tubers, plantain and cocoa to a more balanced situation with cereals, fish, livestock, fruits and vegetables making more significant contributions.

Table 11: Rural Population by Regions (2000)

Region	Population (Ghana)		Rural Population		Density (per/sq.km)
	('000)	% Total	('000)	% Rural	
Ashanti	3188	17.3	2134	67	131
Eastern	2199	13.5	1518	72	109
Gt. Accra	2910	15.8	495	17	897
Volta	1612	8.6	1290	80	78
Brong-Ahafo	1825	9.9	1332	73	46
Northern	1855	10.1	1391	75	26
Western	1843	10.0	1419	77	77
Central	1580	8.6	1122	71	161
Upper West	574	3.1	511	89	31
Upper East	917	4.4	798	87	104
Total/Mean	18412	100	12014	65	77

Source: MoFA. SRID, 2000 Based on 2000 Population Census

Agricultural Performance in Recent Years

From 1991 to 1994, agricultural growth averaged only 2.4% (Table 12). With good weather and a boost from world cocoa markets, agricultural growth increased to 4.2% and 4.0% in 1995 and 1996 respectively. Slow growth in the early 1990s raised concerns about policies to privatise and liberalise agricultural production and marketing. Clearly, there have been problems. For example, removing fertilizer subsidies has been associated with a sharp increase in fertilizer prices and a decline in fertilizer use. Annual fertilizer imports which reached a peak of 65,239 mt in 1989 dropped to 19,840 mt in 1996 as shown in Table 13.

Table 12: Real Growth Rates, Annual Percentage Change

Item	1991	1992	1993	1994	1995	1996
Gross Domestic Product	5.3	3.9	5.0	3.8	4.5	5.2
Of which Agric. (as % GDP at current market prices)	5.8	-1.2	2.3	2.7	4.2	4.0

Source: Various World Bank Sources

Table 13: Fertilizer Imports (mt)

Year	Total Fertilizer Imports
1987	38,070
1988	39,575
1989	65,239
1990	44,950
1991	0
1992	29,400
1993	20,160
1994	24,060
1995	28,140
1996	19,840
1997	56,163
1998	42,315
1999	21,993

Source: MoFA, SRID 2000

Another specific problem with agriculture in the 1990s was the poor control of timber harvesting. During the 1990-95 period, official records showed an average annual timber harvest of 1.4 million cubic meters, compared to 516,000 cubic meters in 1980-84 and 931,000 in 1985-89. These figures mean a significant amount of illegal cutting. In 1995, the Ministry of Land and Forestry estimated an annual sustainable yield of only 1.0 million cubic meters from forest reserves and off-reserves as against an annual demand of about 3,000,000 cubic meters. In spite of these and other specific problems, the shift towards market management for agriculture has continued, the domestic food supply has improved and export diversification is gaining momentum. Non-traditional agricultural exports increased from \$34 million in 1991 to \$84.5 million in 1999 as shown in Table 14.

Table 14: Recent Performance of Non-Traditional Agricultural Exports, 1991-2001

Item	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
<u>Agricultural Products</u>	59	54	59	58	61	63	68	72	74	77	75
No. of Products	1,217	1,323	869	1,280	1,280	1,714	1,654	1,344	1,232	1520	1570
No. of Exporters	33.9	22.1	26.1	27.4	27.4	50.3	57.4	77.8	89.5	74.5	66.9
Value (US\$m)											
Total Value of All Non-traditional Exports (US \$m)	62.5	68.4	71.7	119.3	159.7	276.2	329.1	401.7	404.4	400.7	417.5
% Contribution by Agric.	54.2	32.2	36.4	32.9	17.2	18.2	17.5	19.4	20.9	18.6	16.0

Source: MoFA, SRID 2001.

Though considerable progress was made within the agricultural sector during the period of Structural Adjustment (1983-1996), Ghana's agricultural sector as a whole (input acquisition, distribution, on-farm production, agro-processing, export, storage, marketing etc) continues to operate at very low levels of efficiency. Furthermore, as a result of the very low level of inter-sectoral linkages (estimated in 1991 at only 13%) indicating that the 5 sub-sectors of agriculture

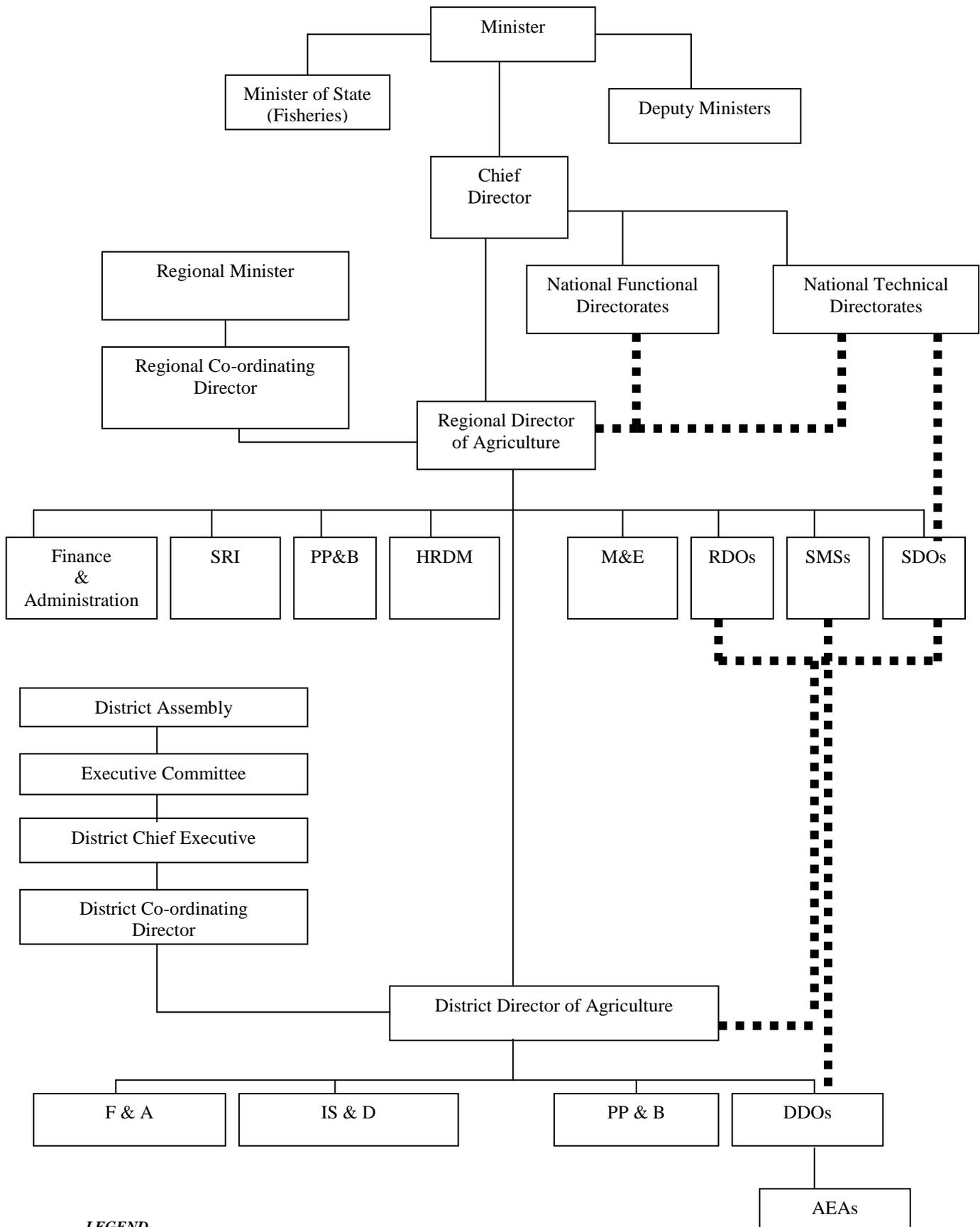
operate virtually as individual units and not as inter-dependent units, as well as the non-integration of agriculture with industry and the relatively under-developed support infrastructure, Ghana's agriculture has been estimated to be operating at only 20% of its potential. What this means is that if Ghana were to develop more efficient support infrastructure such as roads, agro-based industries, market information, efficient financial institutions and commodity markets in addition to the adoption of more productive technologies, the agricultural sector will be able to gain a five-fold increase in production.

Given the prospects of economies of scale (farm sizes moving from about 2 hectares to 50-100 hectares) and several other factors, marginal cost will be expected to increase but the exact level of production cannot be pre-determined. It is however expected that production will be more competitive. In specific terms, there is no fundamental reason why Ghana's agricultural sector cannot increase the value of goods and services within the sector from the estimated US\$3 billion in 1996 to US\$15 billion by 2007. The pre-conditions for achieving this quantum jump in the agricultural sector include the establishment of an enabling macro-economic framework that is pro-agriculture i.e. there must be incentives to ensure that at least 5% of Agricultural GDP is re-invested in the sector annually by the private sector (farmers, processors and distributors). In addition, the present situation in which agricultural production processes are de-linked from each other must be reversed to enable production to be driven by improved market access in the domestic, regional and international markets. Studies have shown that agro-industrial activities have the highest potential in terms of forward and backward linkages and therefore the under-development of Ghana's agro-processing potential remains one of the missing links in Ghana's quest for sustained agricultural growth.

With regard to foreign exchange earnings, though cocoa still ranks high, processing of agricultural produce, especially cassava, fish, fruits and vegetables, into high-value commodities can make significant contributions. Both the private sector and the government will need to allocate significant resources to distribution and by-product activities, as distribution has been a major bottleneck to development whereas by-product activities have presented serious losses to the economy. In addition to the above, for agriculture to grow at an annual rate of 6%, it will also be necessary to establish internationally acceptable quality standards, including standards for packaging and product presentation. These will help in the move towards making the country's agriculture a major source of organic food products in Africa.

Appendix 2

ORGANOGRAM OF MoFA



LEGEND
 ■■■■■ COMMAND RELATIONSHIPS
 - - - - - ADVISORY, CONSULTATIVE OR COLLABORATIVE RELATIONSHIPS

Appendix 3

Main Roles of Selected Categories of Staff (Officers)

- 1. National Directors (Directorates)**
 - Policy planning and formulation.
 - Co-ordination.
 - Technical backstopping.
 - Monitoring and evaluation.
- 2. Regional Directors of Agriculture (RDAs)**
 - Management and co-ordination of RADU activities.
 - General co-ordination at the regional level.
 - Monitoring and evaluation of DADU activities.
 - Advising Regional Minister on technical matters.
- 3. Regional Agricultural Development Officers (RADOs)**
 - Assisting RDAs.
 - Collaborating with research and SMSs to prepare technical materials, OFATs etc.
 - Participating in training activities of agricultural colleges/farm institutes, where appropriate.
- 4. Subject Matter Specialists (SMSs)**
 - Compilation of all relevant technical information.
 - Setting up OFATs in collaboration with RDOs, DDOs and AEAs.
 - Assisting AEAs to mount demonstrations.
 - Assessing farming practices, farmers'/AEAs' training needs.
 - Participating in technical review meetings.
 - Assisting in formulation of production recommendations.
 - Assisting in teaching in agricultural colleges/farm institutes.
 - Training AEAs.
- 5. District Directors of Agriculture (DDAs)**
 - Managing, co-ordinating and monitoring DADUs.
 - Implementing district agricultural programmes.
 - Establishing and updating district profiles.
 - Ensuring that AEA training and technical backstopping are effected.
 - Designing and implementing staff development programmes in collaboration with RDAs.
 - Liasing with all relevant partners in agricultural programmes.
- 6. District Development Officers (DDOs)**
 - Ensuring timely implementation of planned activities.
 - Co-ordinating activities of AEAs.
 - Assisting in the establishment of district profiles.
 - Assisting AEAs to develop route maps, work calendars and programmes.
 - Visiting each AEA in the field fortnightly.
 - Participating in monthly training sessions for AEAs and SMSs.
 - Monitoring and evaluating AEA work programmes.
 - Identifying and analysing work gaps.
 - Assisting AEAs in data collection.

7. Agricultural Extension Agents (AEAs)

- Assisting farmers in the application and adoption of appropriate technologies.
- Compiling data.
- Identifying and establishing contact with farmer groups.
- Preparing route maps, work calendars and visiting schedules.
- Assisting farmers to identify problems and advising on solutions.
- Arranging and participating in OFATs.
- Assisting farmers to establish mini-demonstrations, arranging field days etc.
- Identifying and forecasting pest/disease outbreaks.
- Educating farmers in farm management.
- Collaborating with other partners.

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