

ECOWAS COMMISSION



Department for Agriculture,
Environment and Water Resources
Regional Agricultural Policy
(ECOWAP)

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NEPAD
Comprehensive Africa Agriculture
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(CAADP)

GHANA

Review of Ongoing Agricultural Development Efforts

Ghana's recent development process is characterized by balanced growth at the aggregate economic level and the continued importance of agriculture as the backbone of the economy. In recent years agricultural growth has been more rapid than growth in the non-agricultural sectors, expanding by an average annual rate of 5.5%, compared to 5.2% for the economy as a whole. In terms of subsectors, crop production between 1995 and 2006 has expanded steadily.

With the exception of sorghum, millet and cassava, in the period 2000–2006, output of most crops has increased at a faster rate than population growth. In terms of industrial crops, the production of tobacco has all but ceased and that of cotton and coffee has declined very significantly over the years while the production of sheanuts continues to increase. Cocoa has experienced strong growth between 2003 and 2005 while oil palm has also been growing steadily. Growth rates for livestock have generally been low and in particular very poor in the case of cattle. Poultry production in urban and peri-urban areas has grown significantly partly as a result of the growing demand by a rapidly increasing urban population. Fish production, did not change significantly between 2000 and 2006.

Past agricultural growth has primarily been driven by external forces, weather conditions and land expansion, rather than increases in productivity. Agricultural production and productivity in Ghana is heavily reliant on rain-fed agriculture; there is a lack of good water management and soils are coarse with low water holding capacity and crop water stress during the growing season. The low level of agricultural productivity in Ghana is attributed to low soil fertility, which is partly due to limited use of fertilizers. Improved seed use is also limited as is the application of agro-chemicals such as insecticides. On-farm production intensity is constrained by reliance on family labor in the absence of mechanized equipment or services. Poor access to inputs and financial services are root causes of the low adoption of modern inputs. Access problems are in turn linked to poor quality of rural road infrastructure. Inadequate storage infrastructure also limits market access and the incentive to adopt productivity-enhancing technologies. Specific constraints in the livestock sub-sector are low performing breeds, poor feeding, high cost of feed for poultry; poor housing and husbandry management; competition from imports; and poor post-production management. In the fisheries sub-sector major constraints are over-fishing of natural waters, an undeveloped value chain (e.g. inadequate supply systems for fingerlings and feed) and lack of skills in aquaculture. Agriculture growth is associated with rising income inequality and the concentration of poverty in lagging northern Ghana, where most of the poor depend on staples rather than export agriculture for their incomes. Sustaining and accelerating Ghana's agricultural growth thus poses several challenges.

Despite the important role of the agriculture sector in the economy, its performance and share in most key socio-economic indicators has stagnated or even declined in the past decade. Output per hectare from the crop sub-sector has declined over the years with increases in output mainly due to the expansion of cultivated area. The poor performance of agriculture is due to a seemingly unbreakable cycle of erratic inadequate input supplies, inappropriate technology, low output and productivity growth, low incomes and an acute inability to generate savings for investment. However, significant potential exist to increase crop yields from their current levels: coarse grain yields can be increased to over 2,000 kg/ha with adoption of best practices and improved access to adequate production inputs and credit; rice yields from current levels to up to 6,000 kg/ha, and groundnut yields to over 2,000 kg/ha of current levels.

With a per capita income of US\$454 in 2005, Ghana is bound to become the first African country to reach the Millennium Development Goal (MDG1) of halving poverty and hunger before the target year of 2015. There are, however, also indications of growing inequality between

social groups, occupational groups and geographical areas in the country. In 2006, 28.5% of the population was considered poor. Poverty rates are much higher in the north, 62.7% compared to 19.7% in the rest of Ghana. Ghanaians consume substantial quantities of roots and tubers particularly cassava and cassava products as well as plantain. In the case of cereals, maize dominates, followed by sorghum and rice. The consumption of fish is almost four times that of meat and has been increasing steadily over the years. In 2003, about 30% of Ghanaian children were stunted, 7.1% wasted and 22% underweight. In the same year, as many as 83% of Ghanaian rural households and 56% of urban households did not consume adequate iodine and over 80% of children and about 48% of women were anemic. The three northern regions and the Central Region continue to be areas of high malnutrition. Stunting and underweight values in particular are very high in these regions compared to the rest of the country.

LONG-TERM ECONOMIC DEVELOPMENT STRATEGIES & AGRICULTURAL DEVELOPMENT FRAMEWORKS

Agriculture in the Vision 2020

In the Vision 2020, a major policy for agriculture is the application of science and technology to increase productivity without damaging the environment. Export diversification through price competitiveness is also to be pursued. The common theme that runs through the policy guidelines of Vision 2020 is sustainable natural resource management, including land and forest resources, and fish stock. An important aspect of the strategy for agricultural growth is the dependence of the sector on a program for rural development to achieve the desired higher growth rates. Rural development itself is to be stimulated through enhanced delivery of social and economic services and soft infrastructure such as public transport systems.

The Accelerated Agricultural Growth and Development Strategy (AAGDS)

The AAGDS launched in 2001 was designed as a framework for policies and programs in the agricultural sector to support Vision 2020. The goal of the AAGDS is to increase agricultural growth from 4% to 6% over the period, 2001–2010, in support of the broader goals of Vision 2020. The two areas of focus of the AAGDS are a) the promotion of agricultural intensification in high potential areas using small-scale irrigation and modern inputs. Intensification is to be informed by appropriate policy, research and dissemination of technologies to enhance

adoption of improved methods of production and b) trade-led policies and export diversification. Based on these general directions, the strategic areas of the AAGDS are: (i) promotion of selected products through improved access to markets, (ii) development and improved access to technology for sustainable natural resource management, (iii) improved access to agricultural financial services, (iv) improved rural infrastructure, and (v) enhanced human resource and institutional capacity.

The Ghana Poverty Reduction Strategy (2003–2005) and the Growth and Poverty Reduction Strategy (2006–2009)

The agriculture sector has been recognized in both PRS documents as key to rural development and poverty reduction. According to Ghana's first PRSP prepared between 2002 and 2005, the agricultural growth rate was to increase from 4.1% in 2002 to 4.8% 2004. The medium term priority for the agriculture sector was to modernize the sector as an integral part of rural development. This implied creating the necessary environment to develop rural agribusiness enterprises (farming and value addition). In addition to actions to enhance research, extension, credit, market access and production infrastructure (such as irrigation and roads), agro-processing enterprises were to be established to enhance value addition. Farmer organizations were to be developed and supported to enhance their capacity to access and deliver services to members. The preparation of GPRSII (2006–2009) was guided by practical lessons and experiences drawn from the preparation and implementation of GPRSI. The second GPRS places emphasis on growth-inducing policies and programs for wealth creation and poverty reduction. The agriculture sector goals as specified in the GPRSII are an agricultural growth rate of 6–8% per annum over the next 4 years; crops and livestock leading the growth at an average annual growth rate of 6%; forestry and logging, and fisheries growing at 5% per year and the cocoa sub-sector remains robust in support of other sectors.

In the short-term, the strategy for agriculture-led growth is to promote export-led growth by diversifying the country's agriculture from the traditional cocoa and timber to especially cereals and other cash crops, including mangoes, papaya, pineapples, cashew nuts and vegetables, and reverse the decline in Ghana's fisheries. Intervention areas for modernizing agriculture as specified in the GPRSII are: reform of land acquisition and property rights, accelerating provision of irrigation infrastructure, enhancing access to credit and inputs for agriculture, promoting selective crop development, improving access to mechanized agriculture, increasing access to extension services, provision of infrastructure for aquaculture and restoration of degraded environment.

The Food and Agriculture Sector Development Policy (FASDEP)

FASDEP was developed as the framework for the modernization of agriculture, a strategic objective of the first GPRS. The strategic thrusts under FASDEP were the same as those of AAGDS. The specific strategies under each of the five strategic areas mentioned above had common objectives of improving access to technology, inputs, finance, irrigation, and markets. FASDEPII has been revised to respond to shortcomings in FASDEPI and its strategies are aligned to the requirements of agriculture in GPRSII. The value chain approach to commodity development in the policy should ensure that constraints are addressed comprehensively. FASDEPII aims to achieve: (i) food security and emergency preparedness; (ii) improved growth in incomes and reduce income variability (iii) increased competitiveness and enhanced integration into domestic and international markets; (iv) sustainable management of land and environment; (v) science and technology applied to food and agriculture development; and (vi) enhanced institutional coordination.

Agriculture Sector Plan (2009–2015)

FASDEP II outlines six objective areas to address the goals for the sector and the Agriculture Sector Plan has been developed to implement the policy. The objectives of the policy therefore form the basis of programmes and activities in the sector plan, which serves as the operational framework of investment programmes for the period 2009 to 2015. The first two programmes are on food security and growth in incomes and directly support commodity growth and development interventions. Three other programme areas on market access, environmental sustainability and science and technology support the commodity interventions. A final programme on institutional coordination supports the framework for all interventions.

INVESTMENT PROGRAMMES UNDER FASDEP-ASP

Food Security and Emergency Preparedness

The programme for enhancing food security and emergency preparedness will increase productivity and total production and improve food distribution to vulnerable groups and enhance nutrition. The nutrition aspect of food security will also be promoted through research, education and advocacy on choice of foods, and handling for food quality and safety. Groups most vulnerable to food insecurity will also be supported with income

diversification opportunities to enable them cope better with adverse food supply situations and production risk and enhance their incomes for better access to food.

Productivity improvement: Opportunity exists to increase the production of selected commodities through intensive methods. Currently, yield gaps for various commodities average around 50% of achievable yields, eg. cassava at 12.4 mt/ha against potential of 28.0 mt/ha. Targets are: (i) improved technologies adopted by smallholder farmers and yields of maize, rice, sorghum, cassava and yam increased by 50% and cowpea by 25% by 2015; (ii) improved livestock technologies adopted by farmers and production of local poultry and guinea fowl increased by 20% and small ruminants and pigs by 25% by 2015; (iii) improved culture fisheries technologies adopted and production of cultured fish increased by 30% by 2015.

Support for improved nutrition: There are several nutrient-rich foodstuffs whose production and consumption can be promoted along side fortification technologies. This component aims to reduce stunting and underweight (in children) as well as Vitamin A, iron and iodine deficiencies (in children and women of reproductive age) by 50% by 2015.

Support for diversification of livelihood options of the poor with off-farm activities linked to agriculture: This component aims to support 5% of people falling below the extreme poverty line in off-farm livelihood alternatives by 2015.

Food storage and distribution to reduce food insecurity: The objectives of this component are: (i) to reduce post-harvest losses along the maize, rice, sorghum, cassava and yam value chains by 30%, 35%, 20%, 40% and 50% respectively by 2015; (ii) to develop private sector capacity (including FBOs) to warehouse 50,000 tonnes of grain annually and to process (mill and/or package) 25,000 tonnes of maize, cassava, yam, sorghum and cowpea products annually.

Early Warning Systems and Emergency preparedness: This component focuses on improving the ability of the country to respond to outbreaks, natural hazards and other calamities and timely forecasts, and strengthen preparedness with linkages to international centres. It aims to reduce the number of vulnerable households by 20% by 2015.

Irrigation and water management: Irrigated agriculture would be made viable by backward linkages to infrastructure, inputs and research and forward linkages to agro-processing and marketing. Targets: (i) irrigation schemes productivity increased by 25% and

intensification by 50% by 2012; (ii) 150 micro and 25 small-scale irrigation schemes as well as agricultural water management schemes developed to benefit 50,000 households in all regions of the country by 2015; (iii) support the private sector to establish mechanisation service centres (for production and processing) in specific areas where rain water harvest is the major source of water for farming (e.g. Fumbisi, Katanga, Nasia, Nabogu and Soo valleys); (iv) production and value of output of existing large-scale irrigation schemes increased by 30% to 50% respectively by 2015; (v) Feasibility studies for large-scale irrigation projects in Accra Plains, Afram Plains and northern savannah areas completed by 2010 and funds for implementation sourced by 2012.

Mechanisation services: There is scope to diversify mechanisation services to other farm activities such as planting, cultivation, harvesting and primary processing. Targets: (i) at least one (private sector-led) mechanisation centre established in each region by 2015 to provide diversified services to all types of farmers and agro-processors (small, medium, large, crops, livestock, fisheries men, women); a system of incentives established for private sector commercial production of agro-processing equipment; (iii) processes for tax exemption for importation of appropriate materials for fabrication of food processing equipment put in place by 2009.

Improved growth in incomes and reduced income variability

Incomes will be enhanced through diversification and activities involving a range of commodities including cash crops, livestock, indigenous commodities and value addition would be promoted. This will be done through the value-chain approach and the application of science and technology to improve productivity. Enhanced incomes will reinforce food security through financial access to food and ensure that there is less variability from year to year and more equity within farming communities and between rural and urban areas.

Promotion of cash crop, livestock and fisheries production for income in all ecological zones: Opportunities exist for farmers to diversify from staple crop production. The targets for this component are: (i) income from cash crop production by men and women increased by 20% and 30% respectively by 2015; (ii) income from livestock rearing by men and women increased by 10% and 25% respectively by 2015; (iii) income from culture fisheries (production and processing) by men and women increased by 50% and 50% respectively by 2015; (iv) post harvest losses of

perishable commodities reduced by between 25% and 50% by 2015; (v) products from bee keeping, mushroom and snail farming and production of small stocks increased by 20 to 50% by 2015.

Development of new products through value addition:

This component aims to develop at least two new commercially viable products developed from each of staple crops, horticultural crops, livestock (including poultry) and fisheries by 2015.

Development of pilot value chains for one selected commodity in each ecological zone:

This component aims to develop efficient pilot value chains developed for two selected commodities in each ecological zone (pineapple and chilies in Coastal Savanna, commercial poultry and pig in Forest, maize and tomato in Derived Savanna and guinea fowl and tomato in Guinea/Sudan Savanna).

Intensification of FBOs and out-grower grower schemes concept:

The objective of this component is to intensify the development of out-grower schemes, to intensify FBOs and to achieve three-tier FBO structure achieved in all districts by 2015.

Rural infrastructure: Objectives are: (i) cost of transportation of agriculture produce in rural areas reduced by at least 5% in areas where infrastructure has been improved; (ii) rural industrial processing of cassava, oil palm, sheanuts, cashew nuts, soybeans and groundnut increased by 20%, 20%, 40%, 30%, 30% and 30% respectively by 2015; (iii) rural industrial processing of livestock and fish increased by 20% and 30% respectively.

Support to Urban and Peri-urban Agriculture aims to increase output from peri-urban agriculture by 20%.

Increased competitiveness and enhanced integration into domestic and international markets

This program aims to enhance the capacity of semi-commercial and commercial smallholders to produce for the international and expanding domestic markets, including agro-industry. The current escalation in food market prices presents an opportunity for higher level of commercialisation especially by smallholders. This programme complements interventions to be pursued under rural infrastructure, food storage and distribution, and mechanisation elaborated under the food security and emergency

Table 1: Output targets for selected commodities

Commodity (percentage increase)	Baseline yield (2000–2006) mt/ha	Baseline yield (2000–2006) mt	Target (mt)	
			2013	2015
Maize (50%)	1.48	1,165,329	1,714,284.00	1,714,284.00
Rice - Rainfed (50%)	2.05	230,380.6	348,316.00	348,316.00
Rice - Irrigated (50%)	2.80	14,705.14	0.00	0.00
Millet (25%)	0.84	161,814.3	206,808.00	206,808.00
Sorghum (25%)	1.00	302,957.1	397,162.50	397,162.50
Cassava (50%)	11.89	9,426,671	13,522,885.2	13,522,885.2
Cocoyam (Ach.Yield)	6.67	1,719,886	2,049,520.00	2,049,520.00
Yam (50%)	12.43	3,817,957	5,610,106.50	5,610,106.50
Plantain (Ach.Yield)	8.08	2,383,800	2,775,900.00	2,775,900.00
Sweet potato (30%)	8.50	102,127.5	132,765.75	132,765.75
Cowpea (Ach.Yield)	1.00	217,708	272,135.00	272,135.00
Groundnut (Ach.Yield)	0.75	353,513	438,295.00	438,295.00
Soybeans (Ach.Yield)	0.75	43,125	44,206.00	44,206.00
Pawpaw (50%)	25.00	863	0.00	0.00
Pineapple (50%)	60.00	15,684	720,000.00	720,000.00
Tomato - Rainfed (Ach.Yield)	25.00	681,250	953,750.00	953,750.00
Tomato - Irrigated (50%)	30.00	82,500	123,750.00	123,750.00
Cocoa (50%)	0.40	553,501	1,101,000.00	1,101,000.00
Oil palm (Ach.Yield)	12.00	1,804,118	4,995,000.00	4,995,000.00
Cotton	0.8	22,567	35,000.00	35,000.00

preparedness programme. Market access is private sector-led and government will provide infrastructure and services of a public goods nature.

Marketing of Ghanaian produce in domestic and international markets: Targets under this component are: (i) marketed output of non-export smallholder commodities increased by 50% by 2015; (ii) export of non-traditional agricultural export commodities by men and women smallholders increased by 50% by 2015; (iii) grading and standardization systems made functional by 2012.

Sustainable management of land and environment

This programme integrates the Agricultural Land Management Strategy into the sector plan and addresses various barriers, including policy, legal/regulatory, institutional, incentive, and knowledge/information, for the adoption and up-scaling of sustainable land management practices.

Implementation of the SLM strategy: This component has the following targets: (i) policies and regulations to support SLM at all levels reviewed and strengthened by 2010; (ii) institutional capacity at all levels within the food and agriculture sector built to support the promotion of SLM; (iii) technology dissemination and adoption for scaling-up of SLM commences at the beginning of 2009; (iv) technical capacity at all levels built to support promotion and dissemination of SLM technologies by 2012; (v) SLM knowledge to support policy and investment decision making generated and adequately managed by 2012; (vi) an effective, efficient and motivating incentive system for SLM established by 2010.

Science and technology applied in food and agriculture development

This program aims to support the vision for a modernised food and agriculture sector. Priority areas will be supported by improved technologies and client

Table 2: Summary investment costs 2009–2015 FASDEP-Agriculture Sector Plan

Programme	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
1. Food security and emergency preparedness	494.5	466.2	545.7	520.0	480.1	459.2	475.3
2. Increase income growth and reduced income variability	107.7	62.3	80.0	76.6	92.0	110.8	71.6
3. Increased competitiveness and integration into domestic and international markets	22.1	31.0	21.5	23.1	26.4	8.5	7.8
4. Sustainable management of land and water	5.4	5.5	5.5	5.2	4.6	4.5	5.1
5. Science and technology applies in food and agriculture	20.7	20.7	17.5	17.6	17.7	17.9	21.6
6. Improved institutional coordination and stakeholder engagement	29.9	22.0	26.3	17.1	19.8	18.8	20.9
Unconstrained total (100%) requirement							
GHc	680.2	607.6	696.3	659.7	640.6	619.7	602.3
US\$	469.3	419.2	480.4	455.2	442.0	427.6	415.6
Euro	340.3	303.9	348.3	330.0	320.4	310.0	301.3
Unconstrained total (75%) requirement							
GHc	510.2	455.7	522.2	494.8	480.4	464.8	451.7
US\$	352.0	314.4	360.3	341.4	331.5	320.7	311.7
Euro	255.2	228.0	261.2	247.5	240.3	232.5	226.0
Unconstrained total (50%) requirement							
GHc	340.1	303.8	348.1	329.8	320.3	309.9	301.1
US\$	234.7	209.6	240.2	227.6	221.0	213.8	207.8
Euro	171.3	152.0	174.2	165.0	160.2	155.0	150.6

AGRICULTURAL FUNDING AND TECHNICAL INSTITUTIONS

linkage systems will be enhanced to ensure demand-driven research and utilisation of results.

Enhanced application of science and technology by all economic agents: This component has the following targets: (i) increase the adoption of improved technologies by farmers by 25%; (ii) increase agricultural research funding to at least 10% of agriculture sector budgetary allocation by 2010 (It is established as a trigger by 2009.); (iii) pass a bio-safety bill by the end of 2009; (iv) ensure that a MOFA Unit to coordinate research output of the agricultural sector is well resourced and made functional by 2010; (v) establish and operationalise a sustainable funding mechanism for RELCs by June 2009.

Enhanced institutional coordination

This program aims to promote enhanced partnership and harmonisation of efforts in order to achieve maximum results in growth and development of the sector.

Strengthen Intra-ministerial coordination: Aims to (i) develop and implement a communications strategy within MOFA by 2009; (ii) develop and make functional a framework for communication between national, regional and district levels by 2010; (iii) resource and build capacities of all cost centres within MOFA for electronic financial data capture and reporting and asset management are built by 2009; (iv) strengthen the capacity of the HRDM Directorate in personnel management; (v) build the human, material, logistics, and skills resource capacity of all directorates of MOFA by 2010.

Inter-ministerial coordination: Aims to establish a joint platform for collaboration between MOFA and other MDAs by the end of 2009.

Partnership with Private sector and Civil Society

Organisations: Aims to establish a platform for private sector and civil society engagement with MOFA established by end of 2009.

Coordination with Development Partners (donors): Aims to strengthen MOFA-DPs coordination and collaboration strengthened and for DPs and MDAs to fund a common agriculture strategy.

The Medium Term Expenditure Framework guides all public sector budgeting and planning in Ghana. The framework allows a three-year rolling budget based on activities for implementing a sector's strategic plan. One of the principles in the Maputo Declaration that Ghana is committed to achieving is the allocation of at least 10% of government expenditure to the agriculture sector. Several other interventions that support agriculture do occur outside the government departments directly responsible for the sector. Government expenditure on agriculture dropped from 12.2% in 1980 to 4.1% in 1990 when subsidies on agricultural inputs were completely phased out. Since the late 1990s, the share of government expenditure going through the Ministry of Food and Agriculture (MOFA) has been less than 2%; inclusion of expenditure on the cocoa sub-sector however raises this share considerably. The distribution of MOFA's expenditure has historically been biased towards recurrent expenditure. Yet, the share of development expenditure is growing, increasing from 30–35% in the period 1998–2000, to 46% in 2005–2006. The areas affected by low investment expenditure are irrigation infrastructure, land development, rural roads, and post-harvest infrastructure, the latter in partnership with the private sector.

Private agricultural sector funding

The Agricultural Development Bank (ADB) was established in 1965 and is the lead bank for agricultural financing in the country. The share of ADB's agricultural loans in its loans and advances portfolio as of 2000 was 65%, reaching 70% in 2005. The areas of financing are agricultural production, export financing, agro-processing and marketing and cocoa financing with more focus on production and marketing and very little on agro-processing. The ADB provided only about 28% of the total demand for credit in the agricultural sector up to the year 2006, suggesting an excess demand for credit in the sector, a situation that does not favor investment and growth of the sector.

Rural micro-finance institutions: the Rural Financial Services Project (RFSP) has resulted in the growth of rural banking in Ghana, especially in the south. Rural banking has been quite widespread and successful in the south. It is also gradually growing in the north. Many rural people save at and obtain loans from rural banks; many are also shareholders.

Parastatals and other public-sector institutions

The Ghana Cocoa Board (COCOBOD) is the oldest and biggest government parastatal in the country. It has been charged with the development of the cocoa, coffee, kola and sheanut industries. However because of the importance of cocoa to the Ghanaian economy, the activities of the COCOBOD with respect to other crops are limited.

Grains and Legumes Development Board (GLDB)

exists to support research on new improved crop varieties as well as the improvement of existing varieties through production and distribution of seed and planting materials to farmers.

Ghana Irrigation Development Authority (GIDA): is an institution under MoFA, responsible for irrigation development in the country.

Millennium Development Authority (MiDA): focuses on increasing the production and productivity of high value cash and staple food crops in three selected regions of Ghana. Interventions are aimed at the marketability and competitiveness of Ghana's agricultural products in domestic, regional and international markets. The program has three projects: (i) development of agricultural productivity, (ii) transportation infrastructure development, and (iii) rural services development.

National Agricultural Research System (NARS) comprises nine research institutes under the Council for Scientific and Industrial Research (CSIR), the Cocoa Research Institute, and the faculties and schools of agriculture, as well as the departments of botany, zoology and food sciences of the country's universities. There are 29 agencies involved in agricultural research in Ghana, 15 of which are for higher-education. Most of the research is conducted at Ghana's five main universities. CSIR undertakes several collaborative research projects with various centers of the Consultative Group on International Agricultural Research (CGIAR). In 2001, public spending on research as a proportion of agriculture GDP was 0.44% having increased from 0.21% in 1981. Despite this improvement, the 2001 ratio was only half the average of 0.85% for Sub-Saharan Africa. The Agricultural Services Sub-Sector Investment Program (AgSSIP) was launched in June 2000 to facilitate and support the achievement of this shift toward commercialization. A key component of AgSSIP is sustainable financing of research by restructuring and strengthening agricultural research and extension and improving farmer and other stakeholder participation in the governance and financing of agricultural research.

Producer organizations

Farmers' associations: Promotion of farmer organizations has been a key strategy of government to facilitate access of farmers, especially smallholders, to services and inputs. A Farmer Based Organisation (FBO) Development Fund was created under AgSSIP to support this strategy and a pilot FBO development project was implemented in a number of districts. The goal is to establish a network of commodity or activity based FBOs from the community level to district, regional and national apex bodies. Various types of farmer associations, which aim at furthering their various collective interests, exist. Most of them are single crop and single animal associations. There are, however, a few that are more general: the Peasant Farmers' Association of Ghana, National Farmers and Fishermen Award Winners' Association of Ghana (AFFAWAG), Ghana National Association of Farmers and Fishermen (GNAFF) and others.

Produce Buying Agencies (PBAs): are typical marketing intermediaries that bulk produce from villages for sale to bigger marketing companies such as the Ghana Cocoa Board or for export. PBAs also sometimes provide inputs required by farmers. They also function at times as quality assurance agents and are important in the grading of produce. PBAs are widespread in the cocoa industry, some are owned by farmer associations.

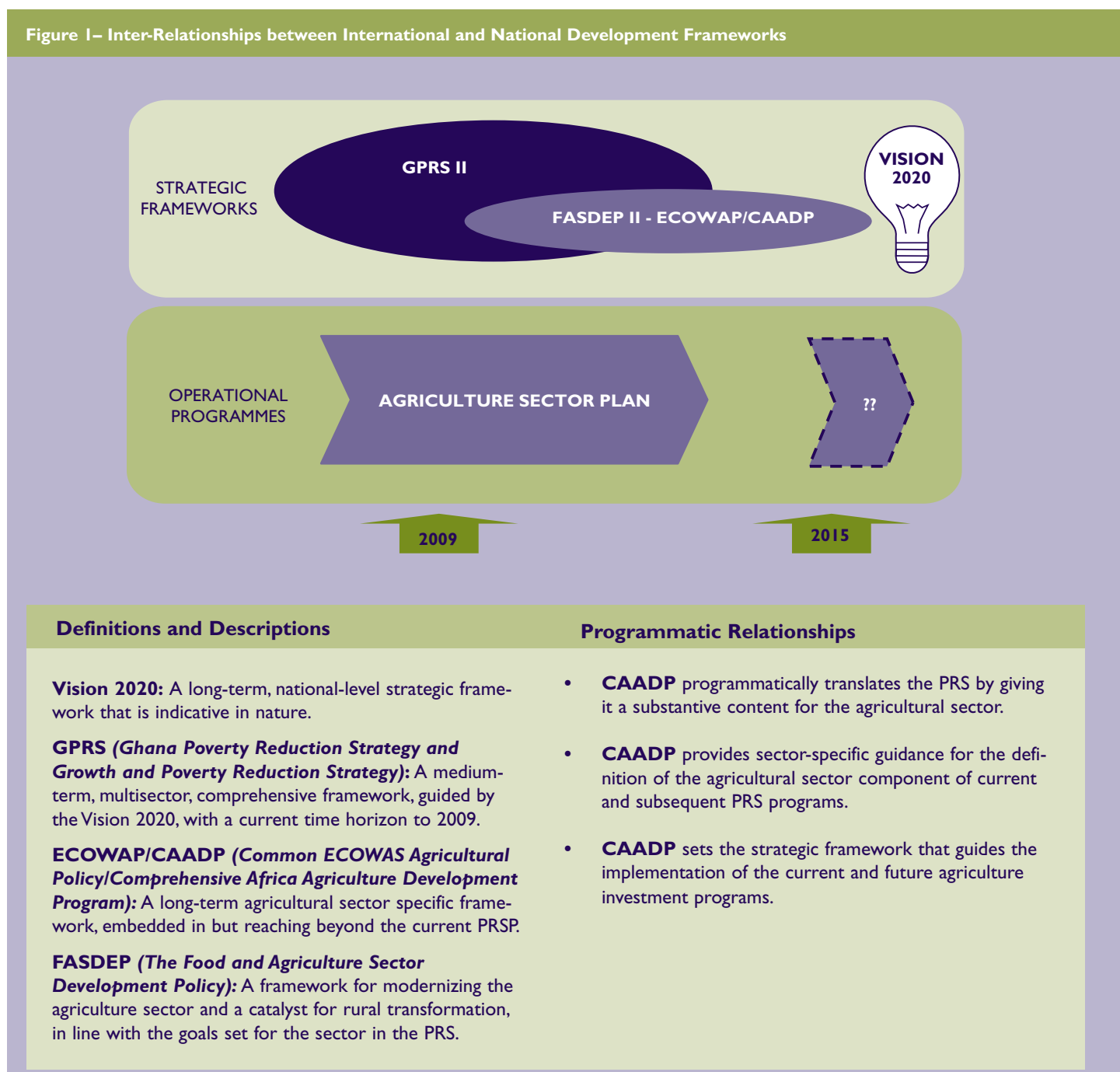
Agricultural Marketing Companies: Private companies for agricultural produce marketing, some of which are being promoted by non-governmental organizations, are beginning to emerge. A good example is the Savannah Farmers' Marketing Company Limited (SFMC) which markets sorghum, groundnuts, soybeans and sheanuts. SFMC works on the basis of a supply chain from farmers, who are scattered all over the three northern regions, to companies such as Guinness Ghana Breweries Ghana Ltd and others in and outside Ghana.

RELATIONSHIP BETWEEN INTERNATIONAL AND NATIONAL AGRICULTURE DEVELOPMENT FRAMEWORKS (VISION 2020, GRPSII, FASDEPII AND CAADP)

The goal of the Comprehensive Africa Agricultural Development Programme (CAADP) and the Common ECOWAS Agricultural Policy (ECOWAP) is to serve

as a framework for intervention in agricultural policies and development strategies in Africa and in West Africa, respectively. These frameworks are also intended to be integral parts of national efforts to promote agriculture sector growth and overall economic development in the countries. The overriding goal of ECOWAP/CAADP is to help African countries increase their economic growth through agriculture-based development. This goal is in close harmony with Ghana's FASDEP and the GPRS. An important aspect of the GPRSII is that it seeks to make operational various international covenants, under which

CAADP and the MDGs, of relevance to the poverty reduction objectives of the strategy and of which Ghana is signatory. The agricultural sector has been recognized in both GPRS I and GPRS II as key to rural development and to poverty reduction. FASDEPI was developed to support the implementation of GPRS I; its revision into FASDEPII responds to the 'growth focus for poverty reduction' paradigm of GPRS II. The Agriculture Sector Plan is the operational framework for FASDEPII. The interrelationships between all of the above frameworks are schematically presented in Figure I.



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Agricultural Growth, Poverty Reduction, and Food Security: Past Performance and Prospective Outcomes

The *Comprehensive Africa Agriculture Development Programme (CAADP)* aims to add value to the efforts of individual countries, where necessary, to ensure that its growth and poverty objectives are achieved. Doing so requires reviewing past, current, and emerging efforts against these objectives. This includes:

- Examining the recent growth performance of the agricultural sector, as well as future growth and poverty outcomes based on observed trends.
- Determining how such outcomes compare with the targets established for the sector under the CAADP agenda and how they compare with the Millennium Development Goal to halve the proportion of people living on less than a dollar a day (MDGI).
- Measuring the prospects of meeting these targets and analyzing the implications for future sector growth and poverty-reduction targets.

IS GHANA ON TRACK TO MEET CAADP'S GROWTH AND POVERTY TARGETS?

The following analysis puts figures to three scenarios for agricultural development: i) a continuation of Ghana's current agricultural growth path, ii) achieve the 6% agricultural growth target set by the CAADP initiative through accelerated production, iii) reach middle-income (MIC) status by 2015 through accelerated growth in the agricultural sector combined with accelerated growth in the industry and manufacturing sector.

Recent Performance and Current Trends Compared to CAADP Targets

Ghana has experienced two decades of sound and persistent growth and belongs to a group of few African countries with a record of positive per capita GDP growth over the entire last 20 years. Ghana is also bound to become the first African country to reach the first Millennium Development Goal (MDG1) of halving poverty and hunger before the target year of 2015. Agricultural growth has been more rapid than growth in the non-agricultural sectors in recent years, expanding by an average annual rate of 5.5%, compared to 5.2% for the economy as a whole. However, agricultural growth heavily depends on rainfall patterns and current growth is still driven by land expansion. Future growth trends for the sector under the status quo are projected to 2015 and 2020 based on the following assumptions:

1. A more modest annual growth rate in agriculture of 4.2% for the next 10 years, with the following sub-sector specific growth rates: cereals (3.7%), root crops (3.9%), other staple crops (4.5%), export crops (4.4%), livestock (5%) and fishery and forestry (3.9%).
2. The targeted growth rates for the industrial and service sectors are 5.6% and 5.2%, respectively. These growth rates are equivalent to the annual average growth in 2001–2006 for both sectors.
3. An annual expansion rate of national crop land of 3.1% annually, with different land expansion rates in the four agro-ecological zones: 2.0% in the Coast, 1.6% in the Southern Savannah, 3.2% in the Forest and 4.2% in the Northern Savannah, respectively.

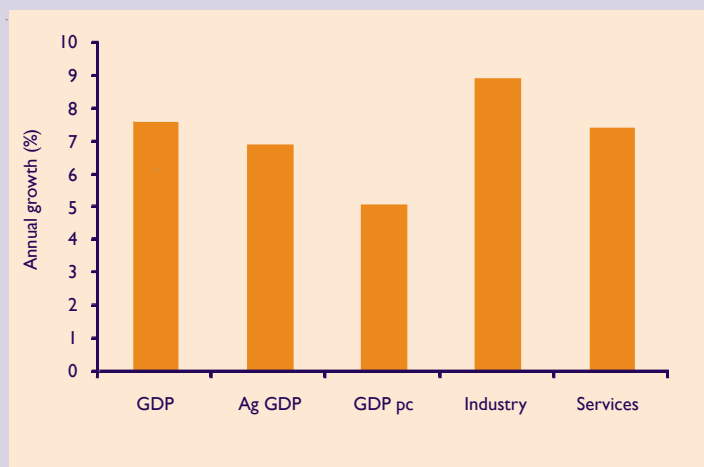
Based on the above assumptions, future growth performance is projected to stabilize at around 5% for the overall economy and at a little bit more than 4% for the agricultural sector, with an average per capita income growth of less than 3% (Figure 1a).

Although positive, the growth rate for agriculture is significantly less than the 6% targeted under CAADP. The projected performance is, however, sufficient for Ghana to achieve the MDG1 of halving its 1990s national poverty rate by 2008. According to the projections in Figure 2a, national and rural poverty rates will decline by about 50%. Given that the population will grow by 2.5% annually, the absolute number of poor people at the national level would fall by almost 2.5 million by 2015 under current trends as shown in Figure 3.

Figure 1a : Annual growth rate under different scenarios 2006–2015 (%)



Figure 1b: Annual growth rate required to meet MIC 2006–2015 (%)



CAN EMERGING GOVERNMENT STRATEGIES ACHIEVE CAADP'S GROWTH AND POVERTY TARGETS?

Overview of the Government's Strategic Objectives for the Agricultural Sector

The Government of Ghana's agricultural sector targets are outlined in three key strategic documents: the Vision 2020, the Ghana Poverty Reduction Strategy (GPRS) and the Food and Agriculture Development Policy (FASDEP). The Government has declared an ambitious development goal of reaching middle-income (MIC) status by 2015. Ghana's per capita income (or GDP) is currently US\$454, while the income level of a MIC typically begins around US\$1,000. Ghana will therefore have to more than double per capita incomes during the next 10 years if it hopes to achieve MIC status. The government emphasizes an agriculture-led growth strategy that will maximize the benefits of accelerated growth. The agriculture sector goals as specified in the GPRSII are: (i) agricultural growth rate of 6–8% per annum over the next 4 years; (ii) crops and livestock leading the growth at an average annual growth rate of 6%; (iii) forestry and logging, and fisheries, each growing at 5% per annum, (iv) while the cocoa sub-sector remains robust in support of other sectors. Substantial gaps between actual and potential yields for most crops indicate that higher agricultural growth is possible and the government of Ghana intends to increase the share of agriculture in its spending to move towards closing these gaps.

Projected Growth and Poverty Outcomes under Government Strategies

The growth rates necessary for Ghana to double incomes by 2015 are presented in Figure 1b. They imply an agricultural growth rate of 6.9% allowing the country to reach beyond the CAADP target of 6% annual growth by 2015. However, growth in agriculture alone cannot achieve the required income increase. Combined growth across agricultural and non-agricultural sectors will be necessary for Ghana to double incomes by 2015. Figure 1b shows that the industrial and manufacturing sector will have to grow by 8.9 and 7.4%, respectively, leading to an overall GDP growth rate of 7.6% and a per capita GDP growth of more than 5%. If these growth rates were attained, per capita income will reach US\$956 by 2015, more than doubling the 2005 per capita income of US\$454. Under this scenario, the absolute number of poor people at the national level would fall by more than 3.5 million (Figure 3).

POVERTY REDUCTION REMAINS A CHALLENGE IN THE NORTH

Despite Ghana's current and projected success in poverty reduction at the national level, sharp regional differences in poverty rates will continue to persist. While both the national and total rural poverty rate will be halved by 2008 or 2009, even with accelerated growth in the agricultural and non-agricultural sectors, the poverty

Figure 2a: Projected changes in poverty rates under different scenarios 2005–2015 (%)

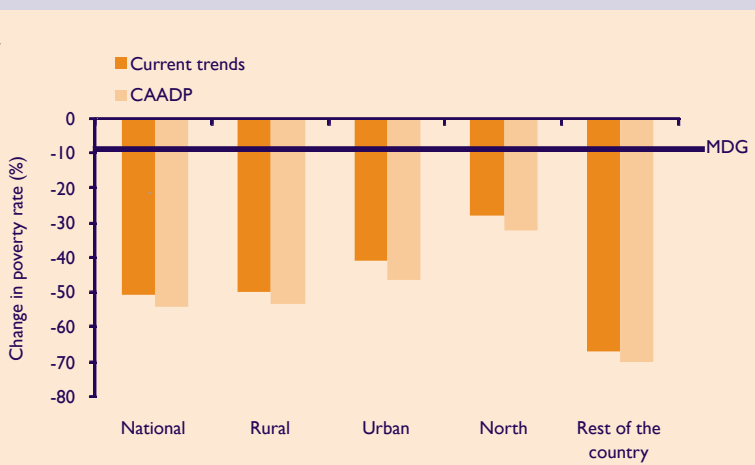


Figure 2b: Increase in per capita income under different scenarios 2006–2015 (US\$)

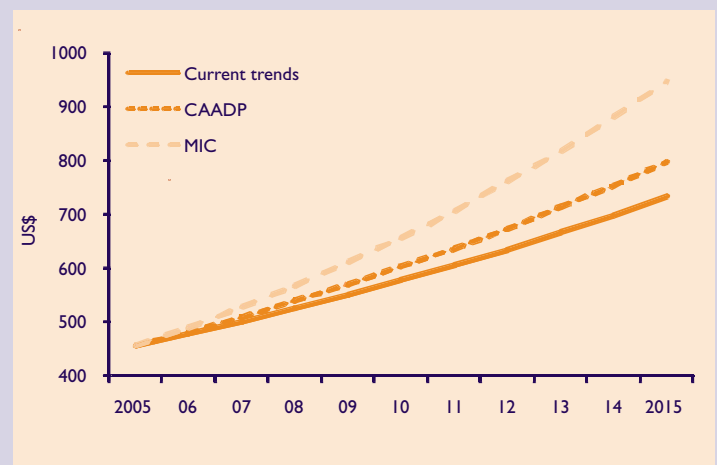
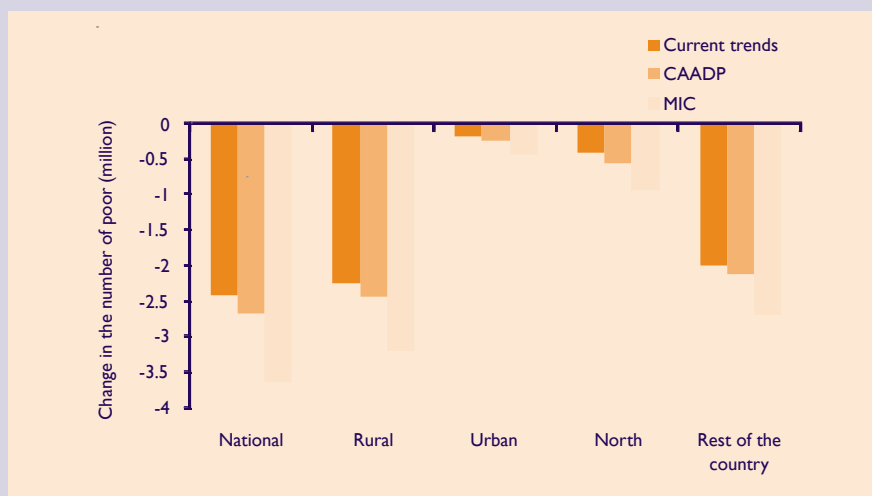


Figure 3: Projected decline in absolute number of poor under different scenarios 2005–2015 (mill.)



rate in the North will fall by less than 30% (Figure 2a). Halving the poverty rate in the North thus remains a distant target. Figure 3 shows that the projected decline in the absolute number of poor is extremely small in the North compared to the rest of the country. The North has fewer opportunities in either agriculture or non-agriculture compared to other parts of Ghana. Thus, while accelerated growth will allow Ghana to meet its MIC goal, the poverty rate in the North will still remain at 35% in 2015. By then, more than 66% of the country's poor will live in the region (compared to 45% today). To accelerate growth in the North, greater attention would have to be given to activities that benefit a majority of farmers, such as cereal production and livestock or to the development of non-traditional cash crops typically grown in this region.

The results presented here indicate that: (i) a continuation of current growth trends in Ghana would not achieve the CAADP growth target but would allow Ghana to meet the MDG1 objective of halving poverty rates

by 2015 by 2008; (ii) emerging government strategies under the GPRS would allow Ghana to reach beyond the CAADP target and become a middle income country by 2015; (iii) meeting the latter objective would require GDP to grow by 7.6% through combined growth in the agricultural and the non-agricultural sectors; (iv) such accelerated growth, however, will not allow for halving the poverty rate in the North by 2015.

A closer look at the results already indicates significant variation across regions. Because poverty is distributed unequally and growth may affect different regions differently, it is important to examine the distributional consequences of alternative growth strategies for the sector and their implications for poverty reduction for a broader category of households across regions (see Brochure 3: *Strategic Options and Sources for Agricultural Growth, Poverty Reduction and Food Security*).

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Strategic Options and Sources for Agricultural Growth, Poverty Reduction, and Food Security

Implementing the Comprehensive Africa Agriculture Development Programme (CAADP) as the centrepiece of a poverty-reduction strategy implies that agriculture and its individual subsectors must play a primary role as leading sources of pro-poor growth at the national and rural levels. Ghana and the other African countries are not just seeking to accelerate

growth but also to maximize and broaden the impact of such growth on poverty reduction. Successful implementation of the CAADP agenda therefore should be guided by a good understanding of the impact of sector-wide growth and growth within individual agricultural subsectors on income and poverty levels among different categories of rural households. In the present case, a better under-

standing of the possible equity implications of Ghana's CAADP and middle-income country (MIC) strategies under the Ghana Poverty Reduction Strategy (GPRS) would allow the Government of Ghana to emphasize the options that are more likely to balance growth and maximize its poverty-reduction impact.

AGRICULTURAL SECTOR GROWTH AND ITS CONTRIBUTION TO ECONOMIC GROWTH

If the current MIC strategy were to be successfully implemented to achieve a growth rate of 6.9%, which is above the 6% CAADP target growth rate and were to be complemented by strategies to induce a comparable rate of growth in the nonagricultural sector, the contribution from growth in agriculture to poverty reduction would be higher than that from growth in the nonagricultural sector. For every 1% decline in poverty – rural and national – about 54% would be attributable to growth in the agricultural sector (see Figure 1).

While accelerated growth in agriculture as a whole may be the most promising poverty-reduction strategy currently available to Ghana, such a strategy needs to recognize that not all subsectors contribute to agricultural growth and poverty reduction in the same way. The size of the contribution of individual subsectors is determined by their initial shares in income and employment and their potential for incremental growth. In Figure 2, the axis on the left and the bars show the projected contributions to agricultural GDP growth resulting from an additional 1% annual rate of growth in the individual subsectors. The line and the axis on the right show the corresponding contributions to the reduction in the rate of poverty. The staples and fishery and forestry subsectors exhibit the highest levels of contribution to agricultural incomes and

poverty reduction. An additional 1% growth per year to 2015 in either subsector would generate an incremental of around US\$130 million and US\$80 million, respectively. The corresponding decline in the overall rate of poverty would be 0.9 in the case of the former sector and 0.5 in the case of the latter.

The long-term contributions (to 2015) of alternative growth strategies to poverty reduction are plotted in Figure 3. Each line depicts the decline in poverty that would be achieved if Ghana were to focus on particular sources of growth. The top (current trends) line indicates the decline in poverty rates under the continuation of current trends across all subsectors, which would result in a modest reduction from 28.5% in 2005 to 24.3% in 2008, a level sufficient for Ghana to meet the first Millennium Development Goal (MDG1) of halving the 1990s poverty rate. The second line from the top shows the outcome of successful CAADP implementation across all agricultural subsectors, which would reduce the poverty rate to 15.4%. The lines in between denote the outcomes of alternative isolated strategies that would focus exclusively on two single subsectors: staple crops and export crops. The projected outcomes indicate that such efforts would be less effective than a more comprehensive, sectorwide strategy in terms of reducing overall poverty levels.

The bottom line in Figure 3 illustrates the added contribution of stimulating growth in the non-agricultural sector under the MIC agenda, allowing Ghana to become a middle-income country by 2015. It may be difficult to actually achieve the high rates of agricultural and non-agricultural sector growth that would be required to meet the MIC target, estimated at 6.9 and 8.2%, respectively

Figure 1: Average annual growth rates under model scenarios (%)

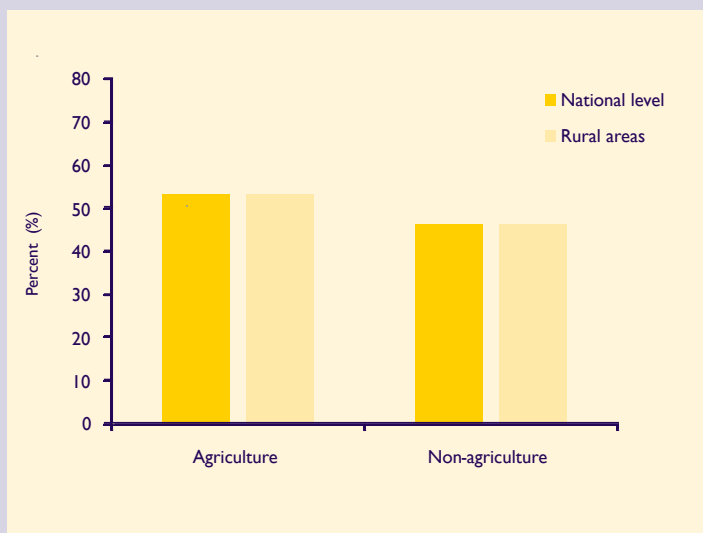
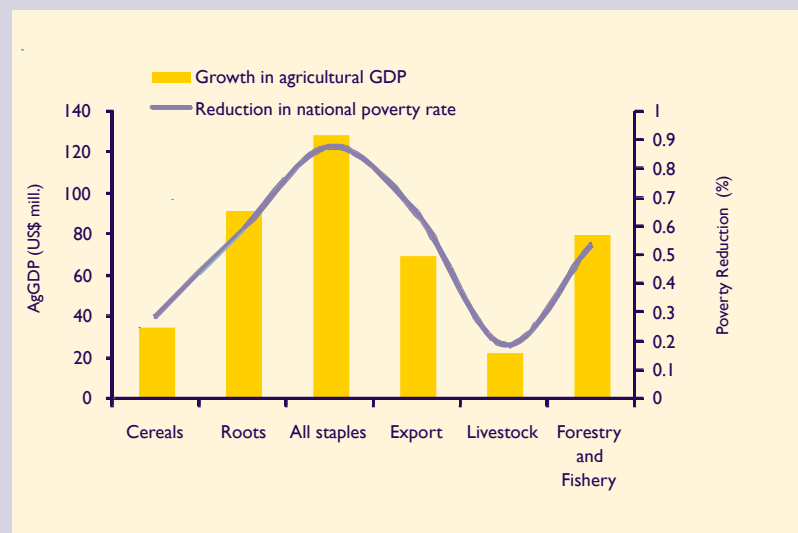


Figure 2: Subsector contribution to per capita agricultural GDP growth (US\$) and poverty reduction (%)



(see *Brochure 2: Agricultural Growth, Poverty reduction, and Food Security: Past Performance and Prospective Outcomes*).

However, the above results suggest that Ghana can make significant progress towards that goal by 2015 – by ensuring successful and sustained implementation of the CAADP agenda, coupled with an effective strategy to stimulate growth in the nonagricultural sector.

An analysis of the alternative growth sources and poverty-reduction outcomes yields the following lessons with respect to efforts to successfully design and implement strategies to meet the CAADP growth target and achieve the MIC goal in Ghana:

1. Agriculture will remain an important source of growth and poverty reduction in Ghana during the next 10 years.
2. Continuation of current trends will be sufficient to reach MDGI in 2008 and halve rural poverty before 2015 but will not allow Ghana to become a middle-income country by 2015.
3. Isolated strategies targeting any of the major sub-sectors separately would only marginally lower the poverty rate compared to current trends.
4. Realizing a comprehensive, agricultural sectorwide growth of 6% would allow Ghana to reach MDGI, one year earlier compared to current trends.
5. If a strategy was implemented that would combine accelerated agricultural growth with accelerated growth in the non-agricultural sector, the poverty rate could be reduced to 9.5% by 2015, and

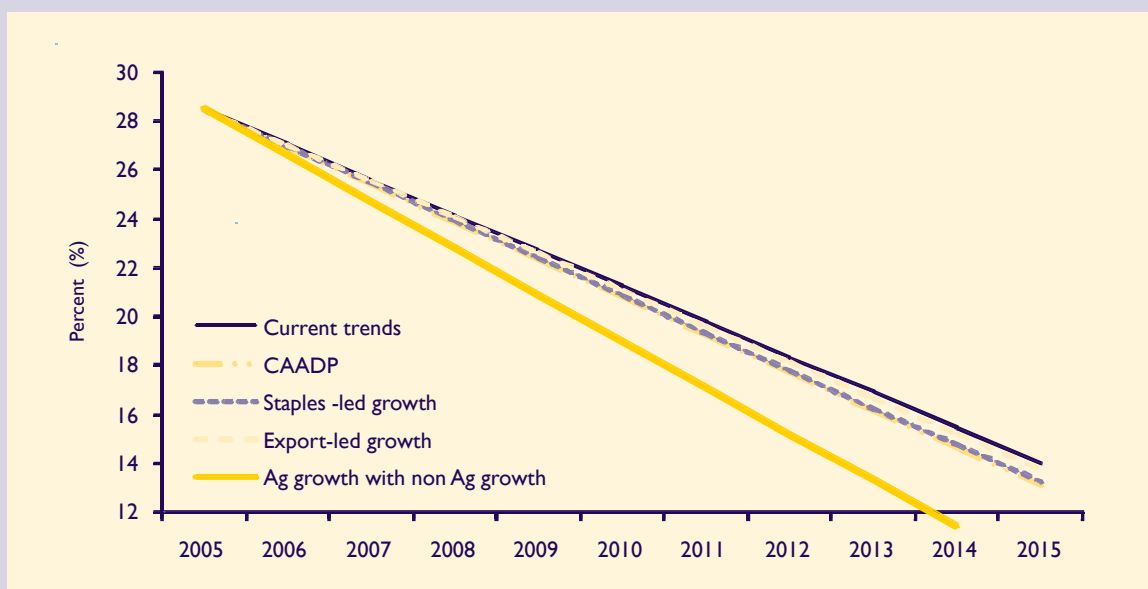
Ghana would achieve middle-income status by 2015.

POTENTIAL EQUITY EFFECTS RELATED TO GOVERNMENT GROWTH TARGETS

Impact of Sub-sectoral Growth on the Reduction and Distribution of Poverty among Regions

Planned strategies under CAADP are projected to generate strong growth across all subsectors and for all rural household categories. The distribution of growth and its impact on poverty is shown, however to vary significantly among regions. Agricultural growth under the CAADP scenario is pro-poor. Income growth in the North starts catching up with the rest of the country as growth in rural households' income in the Northern Savannah zone gets higher than the average growth rate (Figure 4). This relatively high growth rate for the Northern rural households' income suggests that poverty reduction in the North might speed up. However, given its high initial poverty rate, the poverty rate will remain at a high level of 40.6% in the North by 2015. This causes the gap between the North's and the poverty level of other regions (and also the income level) to generally widen and to further exacerbate regional divergence (Figure 5).

Figure 3: Poverty outcome by 2015 of alternative growth strategies (%)



Possible Equity Effects and How to Address them under Current CAADP Targets

Implementation of CAADP should take these potential equity effects into consideration. The purpose here is not necessarily to achieve equal outcomes but rather to raise the overall level of income gain and poverty reduction by maximizing the gains among household groups at the lower end of the spectrum. This can be done by putting emphasis in the design and implementation of programs on those subsectors that contribute more immediately and to a greater extent to income growth and poverty reduction among households in the northern regions that would otherwise lag further behind. The benefits from agricultural growth may vary among households in the different regions due to the following factors:

1. The importance of individual sectors as a source of income and employment for different household groups;
2. The scope for incremental growth in individual subsectors, given technological, market, and other conditions affecting demand and supply; and
3. The initial distribution of growth among individual agricultural subsectors, and the fact that growth in some subsectors affects growth in others through adjustments in demand, supply, and price conditions.

The importance of individual subsectors as sources of income growth and poverty reduction among households

in the different regions is depicted in Figure 6. The graphs illustrate significant variation in the agricultural structure and the share of non-agricultural income across the four zones. Fishery and forestry constitute the largest agricultural contributor to income growth in the Coastal zone, export and staple crops are the most important agricultural subsectors for growth in the Forest zone; and staple crops are the largest agricultural contributors to growth in the Southern and in the Northern Savannah zones. The various graphs confirm the predominance of the agricultural sector as a source of income growth for households in the rural areas across regions.

Graph d of Figure 6 also highlights the role of the staples subsector as the single most important contributor to income growth and poverty reduction for households in the northern regions. Households in the North tend to have lower average incomes and higher rates of poverty. Although households in these regions do experience higher income growth under CAADP targets (Figure 6), the growth path will lead to greater regional income divergence and further concentrations of poverty in the North. Compared to the rest of the country, the North has fewer opportunities in either agriculture or non agricultural activities. The strong contribution of the non-agricultural sector in most of the regions highlights the importance of complementing current CAADP subsector targets with strategies to stimulate growth in that sector.

The implementation of the CAADP agenda needs to reflect these dynamics in order to ensure that the income and poverty-reduction benefits of future agricultural growth are widely shared and its potential equity effects

Figure 4: Projected rates of income growth among rural households under CAADP, 2005–2015 (%)

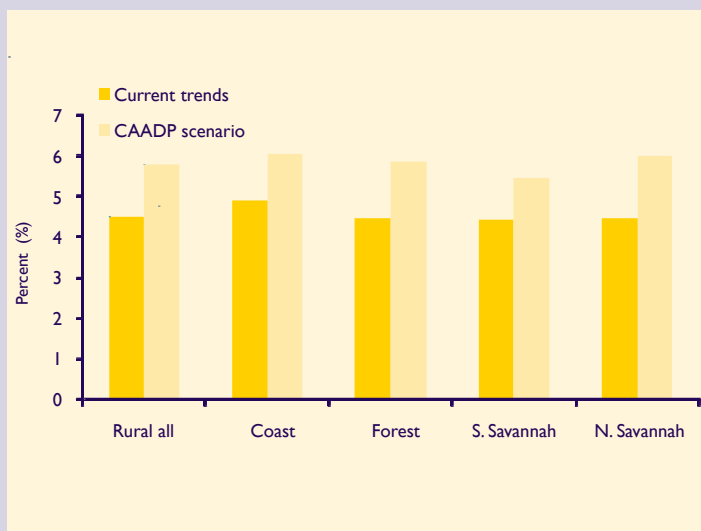


Figure 5: Projected gaps in poverty rates among rural households under CAADP targets, 2005–2015

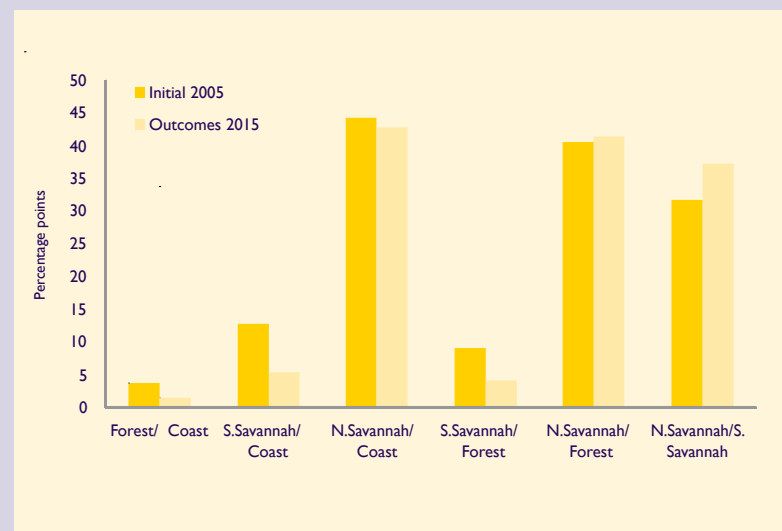
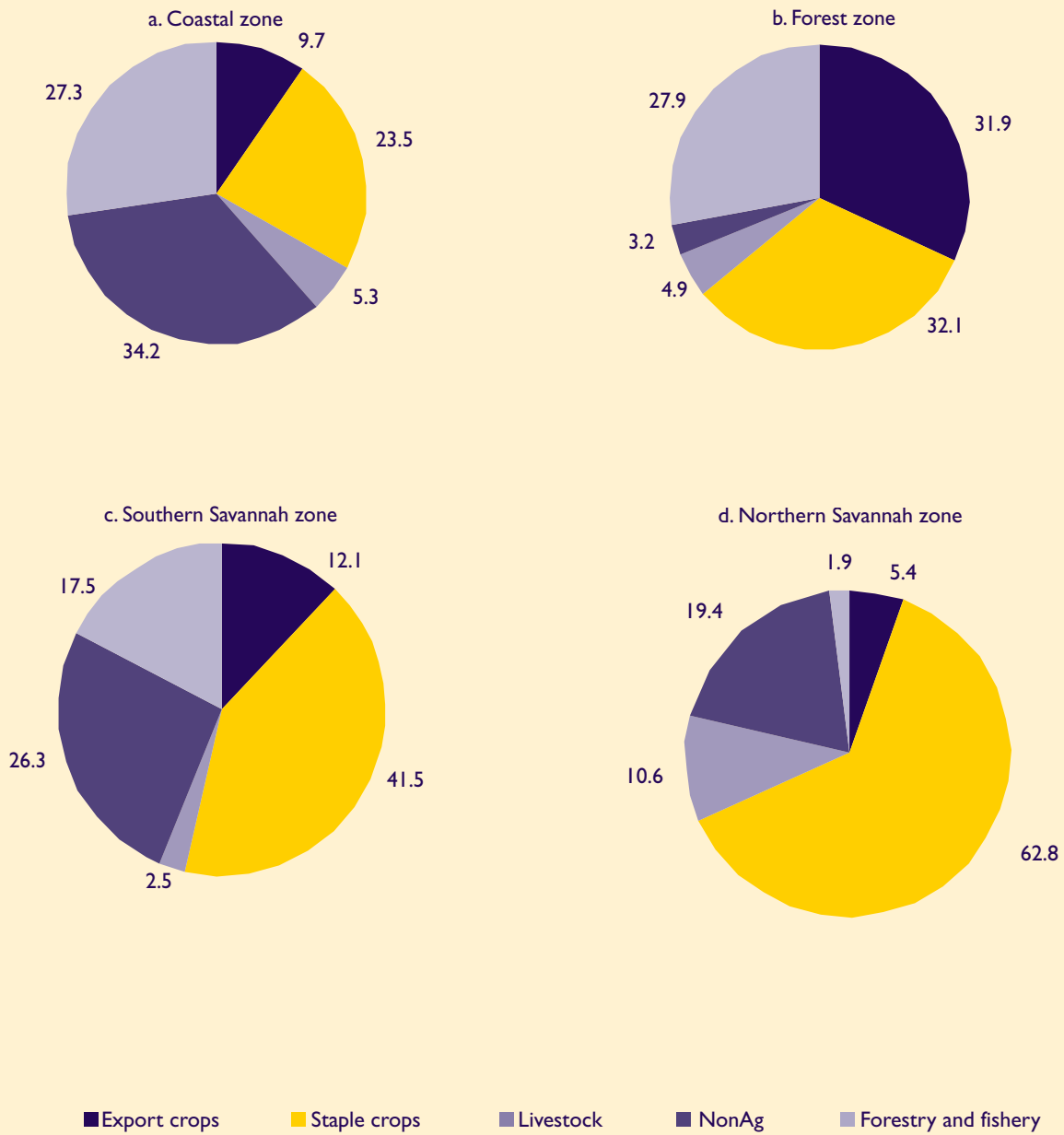


Figure 6: Projected contributions of individual subsectors to income growth and poverty reduction among key household groups by ecological zone (%)



are neutralized. If the design and implementation of future programs under the CAADP agenda are carried out such that they take into consideration the subsectoral and geographic distribution of vulnerable households, it should be possible to balance out the income and poverty-reduction benefits of these programmes and thus avoid outcomes such as the ones projected in Figure 5. For example, to accelerate growth in the North, greater attention should be given to activities that benefit a majority of farmers, such as cereal production and livestock. This is especially important for poorer, smaller-scale farmers. There is also the potential to develop non-traditional cash crops that are typically grown in the North. The same is true for sheanuts and sheabutter production and trade. Increasing inter-regional trade with neighbouring countries provides new opportunities both within and outside of agriculture, which can foster growth and poverty reduction in the North.

The following lessons can be drawn regarding the design and implementation of programs to stimulate growth and reduce poverty under the CAADP agenda:

1. Agriculture remains a key source of growth and a major contributor to poverty reduction nationally as well as across regions.
2. The realization of the CAADP agenda is projected to stimulate growth across agricultural subsectors and across regions.
3. The distribution of income growth and its impact is expected to vary considerably across regions, with differences in annual growth allowing rural

household groups in the North to catch up with income growth in the other regions.

4. However, given its high initial poverty rate, the poverty rate will remain at a high level in the North by 2015 and this causes the gap between the North's and the rest of the country's poverty level to widen further exacerbating regional divergence.
5. The staple subsector is the major source of future growth and poverty reduction among the poorest households in the North.
6. Consequently, the implementation of the CAADP agenda needs to emphasize this subsector in these regions with a high concentration of the poorest households so as to better balance out and broaden the impact of growth and poverty reduction.
7. The nonagricultural sector can potentially play a critical complementary role, including in the case of the poorest households.

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Long-Term Funding for Agricultural Growth, Poverty Reduction, and Food Security

The level of funding required to achieve the different growth and poverty outcomes projected in Brochure 2 (Agricultural Growth, Poverty Reduction, and Food Security: Past Performance and Prospective Outcomes) is calculated on the basis of the estimated historical relationships between the rate of agricultural GDP growth

and the change in the poverty rate, and between the level of public agricultural funding and the rate of agricultural GDP growth. Estimates of the first relationship indicate that a 1% growth in agricultural GDP leads to a 1.14% reduction in national poverty rates. On the other hand, estimates of the second relationship suggest that a 1% increase in agricultural spending raises the sector's growth rate by 0.15%. This is quite weak compared to the average value across Africa, which is twice as high at 0.366%. The effect of agricultural public spending differs substantially when estimated for the specific agro-ecological

zones. The marginal effect of aggregate spending is relatively higher in the Forest and Southern Savannah zones, where we see elasticities of 0.45 and 1.30 respectively. The estimated elasticity of agricultural productivity with respect to public agricultural expenditures may reflect low spending efficiency. The long-term projections discussed below are therefore carried out using both the estimated elasticity for Ghana and an elasticity of 0.30 to simulate a more optimistic spending efficiency scenario.

LONG-TERM FUNDING REQUIREMENTS TO MEET THE MIC AND CAADP TARGETS IN GHANA

Table 1 shows the budget allocation to agriculture of the last 5 years. Agricultural spending by the Ministry of Agriculture (MoFA), other ministries, departments and agencies, particularly the Department of Forestry, the Council for Scientific and Industrial Research, and the Cocoa Marketing Board constituted 5.2% of total government spending or 3.6% of agricultural GDP on average between 2000 and 2005. Table 2 summarizes the results of the projections of long-term funding needs in the agricultural sector. The results focus on two scenarios: one based on the weak relationship between agricultural spending and agricultural growth (a low-elasticity scenario) and a second assuming the same level of responsiveness of agricultural growth to public spending as observed on average among African countries (a high-elasticity scenario).

For Ghana to achieve middle-income status by 2015, which is consistent with the CAADP agenda and implies the realization of the growth and poverty outcomes discussed in Brochure 2 (*Agricultural Growth, Poverty reduction, and Food Security: Past performance and Prospective*

Outcomes), an annual growth rate in agricultural spending of 19.6% or 15.1% would be required depending on the responsiveness of agricultural growth to agricultural spending. With low responsiveness the share of agriculture in government spending would have to increase substantially from the current 8.5% to 11.0% in 2010 and 14.1% in 2015. These increases would translate into additional agricultural expenditures by a total amount of GH¢2643 million over the 2005–15 period, or GH¢264 million per year. If the government were able to achieve greater efficiency in its spending, the share of agriculture in government spending would have to rise by less to 9.3% in 2010 and 10.1% in 2015.

The additional agricultural spending required under the high-elasticity scenario will only be GH¢1147 million over the 2005–15 period, or GH¢115 million per year. Although Ghana is quite close to achieving the underlying agricultural growth rate required to reach its middle-income goal by 2015 (i.e. 6.9% compared to the current rate of 5.3%), it will be necessary to raise agricultural expenditure. However, it will also be important to reform public institutions, particularly those with agriculture-related functions, to improve the efficiency of spending and provision of public goods and services.

Table 1 - Economic growth and government budget allocation

	2000	2001	2002	2003	2004	2005
GDP in constant (2000) million GH¢						
Ag GDP	950.3	994.1	1141.6	1237.3	1397.7	1453.8
NonAgGDP	1449.5	1516.2	1748.5	2190.1	2421.2	2584.4
GDP	2399.8	2510.3	2890.1	3427.3	3818.9	4038.2
Spending in constant (2000) million GH¢						
Ag	30.4	31.8	28.5	40.8	67.1	58.2
NonAg	919.9	645.0	703.3	775.8	934.3	944.4
Total	950.3	676.8	731.8	816.6	1001.3	1002.6
Shares (%)						
Ag spending/total spending	3.2	4.7	3.9	5	6.7	5.8
Ag spending/AgGDP	3.2	3.2	2.5	3.3	4.8	4
Total spending/GDP	39.6	27.0	25.3	23.8	26.2	24.8

IDENTIFYING INVESTMENT PRIORITIES FOR ACHIEVING MIC AND CAADP TARGETS

Estimating the total public resources needed to reach national agricultural growth targets is essential, but the choice of priority investments is more important. Figure 2 shows the marginal returns to public investments in agriculture, education, health and feeder roads for Ghana as a whole and for the four agro-ecological zones.

Figure 2 shows that substantial returns to most types of public investments exist. However, there are also large differences among different types of public investments and across different agro-ecological zones. At the national level, agricultural public expenditures have the highest returns in terms of agricultural productivity. For one marginal cedi invested in agriculture, GH¢16.8 is returned. In addition, there are positive and substantial returns of public spending in non-agricultural sectors. For example, investments in infrastructure, especially road development, are often ranked among the top two public spending sources of overall growth and poverty reduction. For Ghana, a marginal cedi invested in feeder roads returns GH¢8.8, while a cedi invested in health returns GH¢1.3. Public investment in education yields a negative return indicating that the formal education system is not benefit-

ing the agricultural sector as much as the non-agricultural sector. The government may need to make educational curricula more agriculturally relevant in order to retain educated persons on the farm. Marginal returns to the different types of public investments differ among the four agro-ecological zones. The returns to agricultural spending are highest in the Southern Savannah zone, followed by the Forest and Coastal zones. The Northern Savannah zone has the lowest returns to agricultural spending but the highest returns to health, followed by the Forest and Southern Savannah zone. Returns to spending on rural roads are highest in the Forest zone, followed by the Coastal zone. Together these results suggest that high benefits can be obtained from additional public spending on the agricultural sector, particularly developmental spending and capital investments. In addition, it could be helpful to target different investments to different regions, while it might also be useful to include more agriculturally-relevant information in the educational system.

For Ghana to become a middle-income country by 2015, which is consistent with it reaching the CAADP target of 6% agricultural growth, and associated with a decline in poverty rates of almost 70%, the share of agricultural expenditure in government spending would have to almost double from the current 8.5 to 14.1%. Reforming public institutions to improve the provision of agriculture-related public goods and services could substantially lower this share.

Table 2 – Estimated resource allocation to the agricultural sector (2005-2015)

	Baseline scenario	MIC scenario	
		Low-elasticity	High-elasticity
Growth rate (%)			
AgGDP	5.3	6.9	6.9
NonAgGDP	5.8	8.2	8.2
GDP	5.6	7.6	7.6
Ag spending	10.5	19.6	15.1
Total spending	10.5	13.7	13.1
Ag spending/Total spending (%)			
2010	8.5	11.0	9.3
2015	8.5	14.1	10.1
Ag spending/AgGDP (%)			
2010	7.9	10.9	9.0
2015	10.1	19.1	13.0
Total spending/GDP (%)			
2010	35.5	36.9	36.2
2015	44.6	48.4	46.2

Figure 1 – Required funding levels under MIC targets – in constant 2000 (GH¢ million)

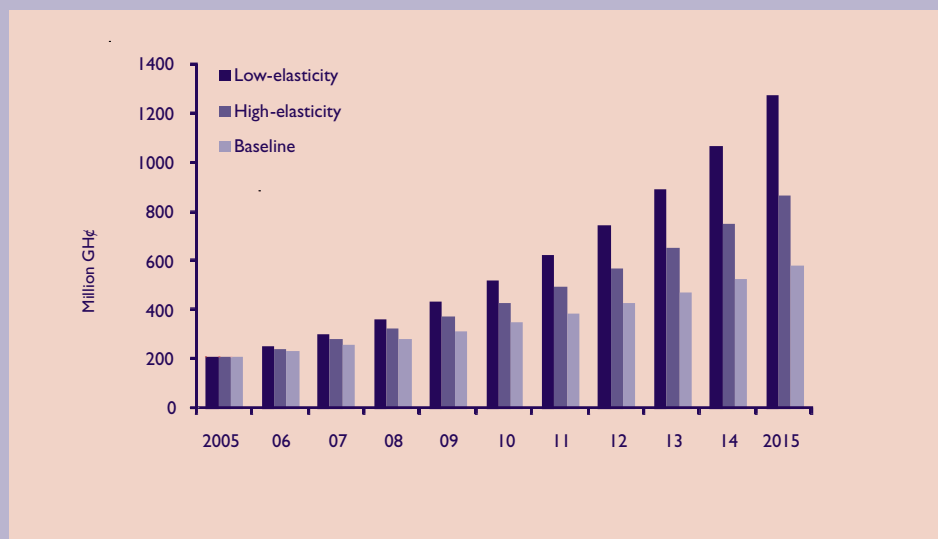
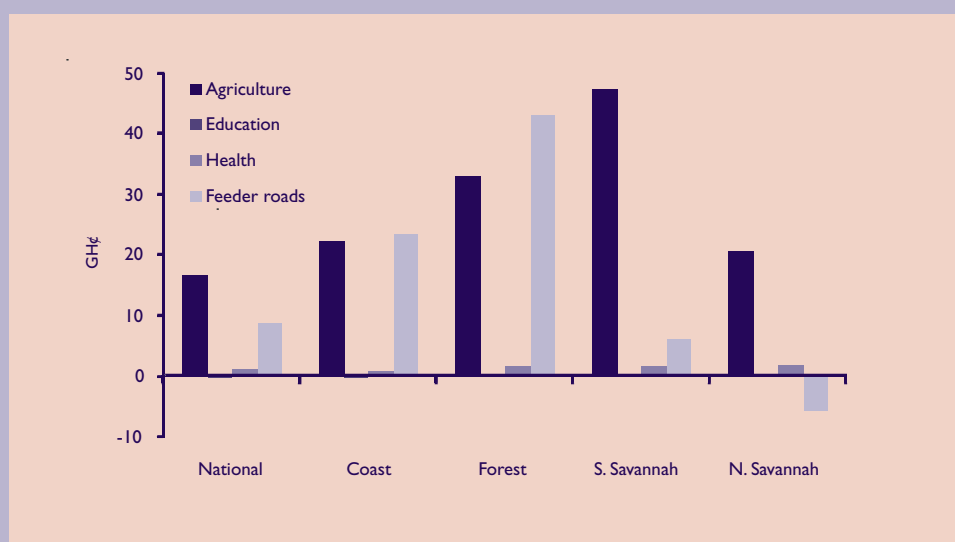


Figure 2 – Marginal returns to public investments in Ghana



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Strategic Analyses and Knowledge Support Systems to Inform and Guide the CAADP Implementation Process

The New Partnership for Africa's Development (NEPAD) has made political and economic governance a cornerstone of its strategy, as illustrated by its adoption of and commitment to the African Peer Review Mechanism (APRM). At the sectoral level, this philosophy translates into recognition of the need to improve policy and strategy planning and implementation. This in turn calls for tools to help generate the necessary knowledge to inform and guide sector policies and strategies in order to facilitate a successful implementation of the Comprehensive Africa Agriculture Development Programme (CAADP).

CAADP AS A STRATEGIC FRAMEWORK

CAADP is a strategic framework to guide country development efforts and partnerships in the agricultural sector. Similar to the broader NEPAD agenda, it embodies the principles of peer review and dialogue, which, when adequately followed and applied, will stimulate and broaden the adoption of best practices, facilitate benchmarking and mutual learning and, ultimately, raise the quality and consistency of country policies and strategies in the agricultural sector. The following are some of the most important CAADP principles and targets:

- i) Designating agriculture-led growth as a main strategy to achieve the Millennium Development Goal of halving the proportion of people living on less than a dollar a day (MDG1);
- ii) Pursuing a 6% average annual sector growth rate at the national level;
- iii) Allocating 10% of national budgets to the agricultural sector;
- iv) Exploiting regional complementarities and cooperation to boost growth;
- v) Adopting the principles of policy efficiency, dialogue, review, and accountability, shared by all NEPAD programs;
- vi) Strengthening and expanding partnerships and alliances to include farmers, agribusiness, and civil society communities;
- vii) Assigning programme implementation to individual countries, coordination to designated Regional Economic Communities (RECs), and facilitation to the NEPAD Secretariat.

The successful application of these principles and the broad realisation of the targets require knowledge tools to encourage and support: (a) the move toward evidence-based and outcome-oriented programme design and implementation; (b) the practice of inclusive policy review and dialogue within and across countries; and (c) effective coordination and advocacy at the regional and continental levels.

REVIEW AND KNOWLEDGE PROCESSES FOR A SUCCESSFUL IMPLEMENTATION OF CAADP

Achieving the CAADP objective of broad-based agricultural sector growth across Africa cannot happen without greater efficiency and consistency in the planning and execution of sector policies and programmes, increased effectiveness in translating government expenditures into public goods and services, an adequate level of these expenditures to sustain an annual sector growth rate of 6%, and the expertise and mechanisms to regularly and transparently measure performance against targets and keep policies and programmes on track.

The review and dialogue processes under the CAADP agenda operate at three different levels:

1. **Mutual Review at the Continental Level:** There are two main mechanisms for review and dialogue at the continental level. The first is the African Partnership Forum (APF), which targets African leaders and their G8 partners and is supported by a technical secretariat at the Organisation for Economic Co-operation and Development (OECD). It is a forum for dialogue and review, at the highest level, with respect to programme performance and progress across the broad NEPAD agenda. The second mechanism, the CAADP Partnership Platform, focuses more specifically on the CAADP agenda. It brings together representatives of the leading RECs and other regional organisations dealing with agriculture, major bilateral and multilateral development agencies, and private sector and farmers' organisations.
2. **Peer Review at the Regional Level:** The leading RECs facilitate dialogue on and review of the CAADP implementation agenda through two distinct processes. The first regroups country representatives at the level of permanent secretaries and directors of planning. It focuses primarily on a collective review of implementation performance in individual countries and mutual learning to spread and accelerate progress toward CAADP goals and targets. The second process allows the leadership of the RECs and representatives from the private sector, farmers' organisations, and development agencies to track program progress and performance at the regional level and align development assistance and country policies and strategies with the CAADP targets and principles.

3. Progress Review at the National Level: Country-level implementation requires an inclusive dialogue and review process to ensure that policies and programmes, including budgetary policies and development assistance, are aligned with CAADP principles and are on track to meet CAADP objectives. The choice of mechanisms to facilitate this process depends on individual countries' institutional and technical realities, but each country must carry out a transparent, broad, and inclusive dialogue that ensures the effective participation of the agribusiness sector and farmers' organisations. The identification of the appropriate mechanisms takes place during the country roundtable process.

The review and dialogue processes described above add real value to current and future development outcomes to the extent that they are well informed and are supported through accurate and intelligent data derived from rigorous analysis of: (i) the strategic and operational challenges of implementing the CAADP agenda at the regional and country levels; (ii) the adequacy of the conception and execution of the programmes and policy measures adopted to address these challenges; and (iii) the outcome of such programmes as well as their impact in terms of realising the growth, poverty, and food-security objectives of CAADP. This requires human capacities, technical infrastructure, analytical tools, and communications instruments to gather the relevant data and information and analyse it to generate credible, high-quality knowledge products, which can be stored and accessed as needed to inform and guide the debate associated with the review and dialogue processes.

The above capacities, tools, and instruments are needed both at the regional and country level and can be acquired by building upon and strengthening existing institutions and expert networks. In addition, these institutions and networks can be linked within and across countries at the regional level to create the necessary critical masses and exploit technical complementarities. To this end, three Regional Strategy Analysis and Knowledge Support Systems (ReSAKSS) have been established. The following sections describe the operation and key tasks of the ReSAKSS and provide an outline of the country-level knowledge system to be established to support the implementation of the CAADP agenda in Ghana, as defined through the Food and Agriculture Sector Development Policy (FASDEP) under the Growth and Poverty Reduction Strategy and the draft Medium-Term Development Agenda (2010–2013).

The Regional Strategy Analysis and Knowledge Support Systems (ReSAKSS)

As part of the CAADP implementation process, three of the leading RECs—the Common Market of Eastern and Southern Africa (COMESA), the Economic Community of West African States (ECOWAS), and the Southern African Development Community (SADC)—have established the ReSAKSS in collaboration with the four Africa-based centres of the Consultative Group on International Agricultural Research (CGIAR): the International Institute of Tropical Agriculture (IITA) in Ibadan, Nigeria; the International Livestock Research Institute (ILRI), in Nairobi, Kenya; the International Crop Research Institute for the Semi-Arid Tropics (ICRISAT), in Bulawayo, Zimbabwe; and the International Water Management Institute (IWMI), in Pretoria, South Africa.

The objective of the three ReSAKSS nodes, which have been established in Ibadan, Nairobi, and Pretoria and are being coordinated by the International Food Policy Research Institute (IFPRI), is to facilitate access by the RECs and their member states to policy-relevant analyses of the highest quality in order to generate the necessary knowledge to improve policymaking, track progress, document success, and derive lessons that can feed into the review and learning processes associated with the implementation of the CAADP agenda. They operate under coordination and governance structures chaired by the RECs. Although facilitated by the CGIAR centres, the ReSAKSS are not research entities or projects within these centres. The main tasks of the ReSAKSS can be summarised as follows:

Knowledge Management: to mobilise existing networks and centres of expertise at the international, regional, and national levels to assemble the needed capacities and knowledge and provide first-rate analytical and advisory services to countries and RECs in the design, implementation, and evaluation of CAADP programs.

Building Country-Level Knowledge Management Capacity: to provide assistance to countries in the establishment of national knowledge system nodes, and to promote cooperation with respect to generating, disseminating, and accessing knowledge products to support CAADP implementation, particularly shared standards and protocols for the collection, storage, and exchange of data as well as cutting-edge methodologies for policy and strategy analysis.

Support to Review and Dialogue Processes: to work with the national nodes to provide relevant and timely information to guide mutual review at the continental level, peer review at the regional level, and progress review at the country level. The corresponding sup-

port forums are the African Partnership Forum and the CAADP Partnership Platform at the continental level, the REC-specific coordination and governance structures at the regional level, and the review and dialogue mechanisms to be established at the country level as part of the CAADP implementation process.

The ReSAKSS also provides assistance to country nodes and helps foster collaboration and exchange among the various nodes in the region.

In West Africa, the regional node (ReSAKSS WA) is hosted by IITA-Ibadan and operates under a coordination and governance structure chaired by ECOWAS which is implementing CAADP in its region in tandem with the Common Agricultural Policy of Economic Community of West African States (ECOWAP).

THE COUNTRY ANALYSIS AND KNOWLEDGE SUPPORT SYSTEM IN GHANA (GHANA-SAKSS)

At the national level, it is envisaged that ReSAKSS WA support the establishment of a national node aimed at adding value to the process of design and implementation of agricultural strategies and programs. It will ensure the mobilisation and coordination of knowledge generating and dissemination networks for the promotion of strategic analysis and global mechanism for review and dialogue in the context of CAADP implementation. This node will also play the role of a national focal team of ReSAKSS WA and promote information and experience exchange with the regional bodies and other countries in the region.

The ultimate goal of a national SAKSS node is to improve the quality of policy and strategy design and implementation through the facilitation of well-informed planning, review, and dialogue processes. When it is established and fully functional, its main functions will be to:

- i) Generate, compile, and share analyses and data relevant to agricultural and rural development in line with the national objectives;
- ii) Perform strategic investment analyses for the agricultural sector, especially for the different subsectors, providing practical policy and investment options;
- iii) Undertake monitoring and evaluation of the Agriculture Sector Plan programmes to facilitate evidence-based planning and implementation;
- iv) Produce knowledge products for dissemination and outreach through a combination of real (stakeholder

forums) and virtual (interactive multimedia services) mechanisms;

- v) Contribute to fostering constructive, cross-sectoral policy debates on future agricultural and rural development alternatives;
- vi) Encourage dialogue and the exchange of data and knowledge among the different stakeholders at national, regional, and international levels;
- vii) Facilitate access to a growing analytical and visualisation toolkit using information and communication technologies (ICTs); and
- viii) Strengthen local capacity to conduct objective, timely, and relevant policy research and analysis through a variety of short- and long-term training processes.

The national SAKSS will build strongly upon existing resources and capacities at national, regional and international level in order to avoid duplication and ensure synergy. It will at least comprise:

- An analytical node bringing together National Agricultural Research Institutes, universities, statistics offices, the technical arms of professional organisations, and other relevant research entities;
- A framework for review, dialogue and advocacy coordinated at high level (Permanent Secretary of Director) including all stakeholders: government institutions, professional associations, civil society, technical and financial partners, etc.

The Country Strategy Analysis and Knowledge Support System in Ghana (Ghana-SAKSS)

The aim of the knowledge-management component of the CAADP agenda is to add value to the efforts of individual countries, where necessary, to ensure that they have an information and knowledge system that aids dialogue and evidence-based decision making. As a complement to and an extension of the ReSAKSS described above, Ghana will establish a Country Strategy Analysis and Knowledge Support System (Ghana-SAKSS) as a technical component of an inclusive review and dialogue mechanism to facilitate better policy design and implementation and thus ensure successful implementation of the FASDEP agenda.

The Need for a Ghana SAKSS Node under the FASDEP Agenda

At the moment, the development policy processes in Ghana are very dynamic and require a knowledge and information system that will support the ongoing debates and decisions that have to be made. Ghana is in the last

year of implementing poverty reduction strategies and taking off into the sectoral planning phase under the new national development programme. This will lead to the implementation of the Agriculture Sector Plan programmes under the FASDEP. This is the framework of the country's CAADP agenda. The establishment of a Ghana SAKSS node will provide a framework within which targeted knowledge products emanating from policy-relevant research, objective analysis, and high-quality local data can be made available and used during the policymaking processes related to the design and implementation of these programmes.

During the analytical phase of the roundtable process, strategy elements and options for agricultural growth, poverty reduction, and food security in Ghana have been defined. Although critical questions regarding the FASDEP agenda have been answered, it is certain that further gaps will be identified as the process moves toward the operational phase. The 2009–2015 timeframe of the Sector Plan is the first phase of the implementation of the FASDEP agenda. A host of design and execution questions will emerge that will require immediate answers in order to ensure steady and successful implementation of the programmes. A number of policy and strategy issues will also require attention. Leaving such questions and issues unaddressed, working with less-than satisfactory answers, or having to rely on time-consuming, ad hoc, and sporadic consultancy services to provide the necessary answers would significantly reduce the chances of success. Moreover, policy and strategy design and implementation are ongoing processes that require steady access to high-quality information.

Therefore, the establishment of a country node, combined with the large expertise network of the West Africa ReSAKSS, will be invaluable for policymakers and other actors within and outside of the government who are involved in the implementation of the FASDEP agenda. It will also help build institutional and technical capacities and foster collaboration among the various centres of expertise as well as other suppliers and users of the country's knowledge products.

Operation and Governance of the Ghana SAKSS Node

It is necessary to set up an inclusive steering committee or other oversight structure whose role will be to ensure that the agenda of the SAKSS node remains relevant to the planning and implementation of the FASDEP. A committee of the agencies reporting on the achievement of the Maputo Declaration of 10% government funding to the sector will be best placed to do this because it has a broad representation of the key stakeholders in agriculture and rural development in Ghana. The oversight structure will review both the outputs and the agenda of the SAKSS node. The activities of the node will be identified through an inclusive and dynamic process involving all major stakeholders in constant dialogue on FASDEP implementation.

A technical unit or secretariat will need to be created to carry out the day-to-day activities of the node. The unit will be of a limited size and will rely on a network of both users and suppliers of knowledge at the national and regional levels, particularly the ReSAKSS-WA node, the existing national centres of expertise, and the technical organs of existing professional organisations in the country. The most important operations to be carried out within the unit are: (i) the coordination of the collaborative and network framework to mobilise the available expertise in order to generate targeted knowledge products to support implementation of the FASDEP agenda as defined above; and (ii) the packaging, accessible storage, and dissemination of such products.

The Ghana SAKSS node will not operate in a vacuum. Several SAKSS-relevant initiatives are in their early stages in the country, all of them capable of contributing to review and dialogue mechanisms to support the successful implementation of the FASDEP agenda.

Consultations will be carried out with various stakeholders and ReSAKSS-WA who will visit Ghana as part of the roundtable process to conclude on the institution that is best placed to host the SAKSS node. The criteria will be: first, autonomy so as to be outside of the government bureaucracy, thereby providing the necessary environment for the SAKSS node to carry out objective analyses; Second, placing the SAKSS node there should contribute to building the capacities of the Institute to be well positioned to serve national purposes.

CONCEPTUAL FRAMEWORK FOR FASDEP II AND AGRICULTURE SECTOR PLAN (DRAFT)

VISION: Modernized agriculture, structurally transformed economy, food security, employment and reduced poverty - People-centered rapid Commercialization of Ghana's Agriculture

MDGI: Eradicate extreme poverty and hunger

ECOWAP/CAADP: Eradicate hunger, reduce poverty and food and nutrition insecurity and increase export. Themes: Water Management, Farm development, Management of Shared Natural Resources, Development of Agriculture Value Chain, Management of food crisis and other natural disasters, institutional building,

GPRS II: Accelerating the growth of the economy so that Ghana can achieve middle-income status. Priority interventions include reform to land acquisition and property rights, provision of agric. Infrastructure, Access to credit and input for agric, Promotion selective crop and livestock development, access to mechanized Agric and Extension Services, provision of infrastructure for aquaculture and restoration of degraded environment.

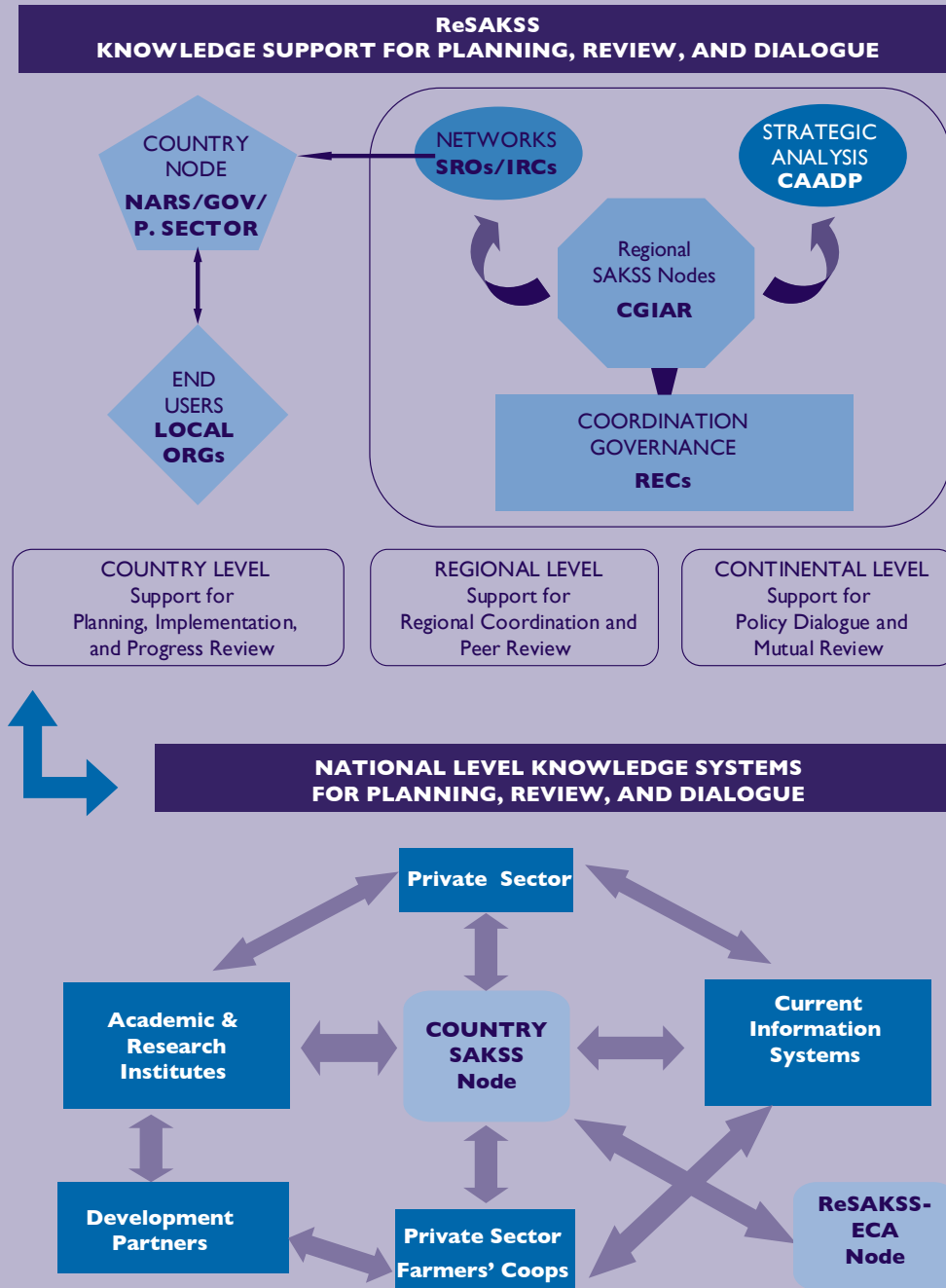
NLTDP: A modern economy based on the development of science and technology and opportunities for individual and social fulfillment to make Ghana a fast growing industrializing economy and achieve MGDs and more by 2015. Priority for agric- accelerated modernization and agro-based industrial development.

FASDEP Objectives	Food security, & emergency preparedness	Improved growth in incomes and reduced income variability	Increased competitiveness and enhanced integration into domestic and international markets	Sustainable management of land and environment	Science and technology applied in food and agriculture development	Institutional Coordination Enhanced
Implementing Units	Productivity improvement, Support to improved nutrition, Diversification of livelihood options, Storage and distribution, Early warning and emergency preparedness, irrigation and water management, mechanization services	Selected commodities for income in all ecological zones, new products, pilot value chains, FBOs and out-grower schemes, Rural infrastructure, Urban and Peri-urban Agriculture	Increased market output of small-holder; increased export, functional grading and standardization system	Adoption and upscaling of SLM practices, rules and regulations	Adoption of improved technologies, increase in research funding, coordinating research	Strengthen intra and inter ministerial coordination, PPPs, Donor Coordination
Ongoing Interventions	Inland Valley Rice, SSIDP, NERICA, Tsetse proj., LDP, Afram Plains Dev. Project, MOAP/GTZ, Block Farming, Fertilizer subsidy, CIFS	RTIMP, Cashew, Inland Valley Rice, SSIDP, NERICA, EMQAP, Tsetse, LDP, Afram Plains Dev., MOAP/GTZ, Block Farming, Fertilizer subsidy, SSIDP, Perinial crops OGS, Lowland rice	RTIMP, EMQAP, MOAP/GTZ, Cashew Devt, Nerica, Lowland rice,	Tsetse proj., SSIDP, CBRDP, Lowland rice,	RTIMP, MOAP/GTZ, research component of most commodity projects, LDP, Perinial crops OGS,	MOAP/GTZ, SSIDP, Perinial crops OGS, CBRDP, FBO devt., TA services, Surveillance,
Sector Plan, 2009-2015	National PPRSD, CSD, DAES, CSIR, GIDA, AESD, MORT, SRID, WIAD, Meteo. Services, GRATIS & ITTU	DAES, CSD, AESD, CSIR, VSD, APD, FISHERIES, WIAD, MOTI, MORT	CSD, VSD, PPRSD, MOTI, FISHERIES, SRID, GSB	CSD, CSIR, MLF&M, LOCAL GOVT, EPA,	CSIR, CSD, VSD, FISHERIES, APD, DAES,	PPMED, HRDM, F&A, DPs, Dirs., MOFEP, NDPC

Decentralized level

- Regional Directors and regional agriculture officers in various agriculture subject matter areas;
- District Directors and district agriculture officers in various agriculture subject matter areas and Extension agents working in operational areas;
- Livestock stations, demonstration homes, crops stations etc
- Rural institutions – FBOs, Rural Banks, NGOs, Micro credit, Traditional Rulers

Figure 1 – System for coordination, monitoring and evaluation of ECOWAP/CAADP at the national and regional level



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