

GHANA

Report on 2012 National Agricultural Innovation System Assessment



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Sponsored by



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Acronyms

ADB	Agricultural Development Bank
CACS	College of Agric & Consumer Sciences of University of Ghana
CSIR-CRI	CSIR-Crops Research Institute
CSIR-PGRRRI	CSIR-Plant Genetic Resources Research Institute
CSIR-SARI	CSIR-Savannah Agric Research Institute
CSIR-SRI	CSIR-Soil Research Institute
DAES	Directorate of Agricultural Extension Services
DEAMU	Dangme East Agricultural Multipurpose Farmers Cooperative Union
FAGE	Federation Association of Ghanaian Exporters
FOODSPAN	Food Security Advocacy Network
HRDMD	Human Resource Development & Management Directorate
NFFPP	New Frontier Farmers & Processors Programme
OCRFA	Osudoku Cooperative Rice Farmers Association
PEF	Private Enterprise Foundation
SEND-GHANA	SEND-GHANA

Sector Affiliation of Participating Organizations in NAIS 2012 Study in Ghana

Sectors	Number of Participating Organizations
Agric Extension (Public Funded)	2
Agric Extension (Independent Funded)	2
Agric Research (Public Funded)	3
Agric Research (Independent Funded)	
Agric Education/Training (Public Funded)	1
Agric Education/Training (Independent Funded)	
Civil Society	2
Agro-Business (Public Funded)	
Agro-Business (Independent Funded)	3
NGO/Non-profit	1
Policy (Public Funded)	1
Policy (Independent Funded)	
Total	15

Chart 1:

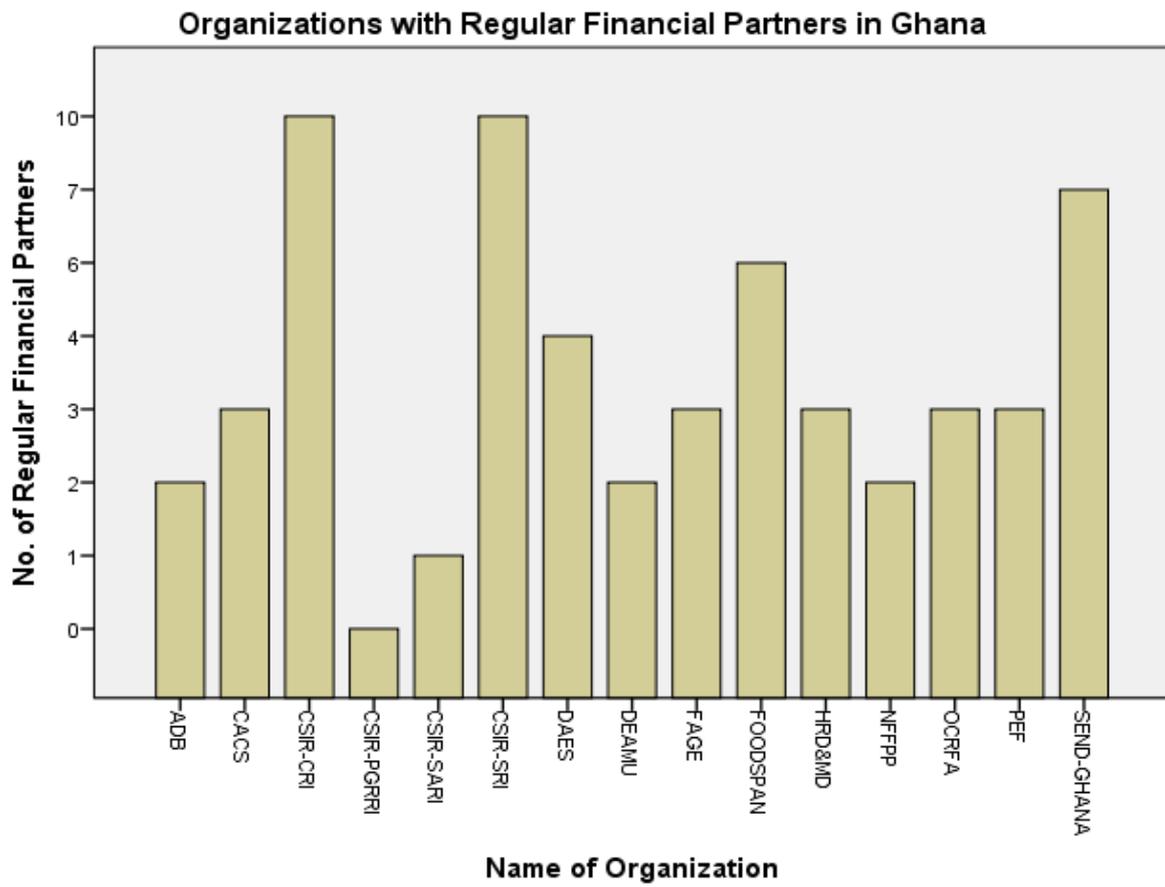


Chart 2:

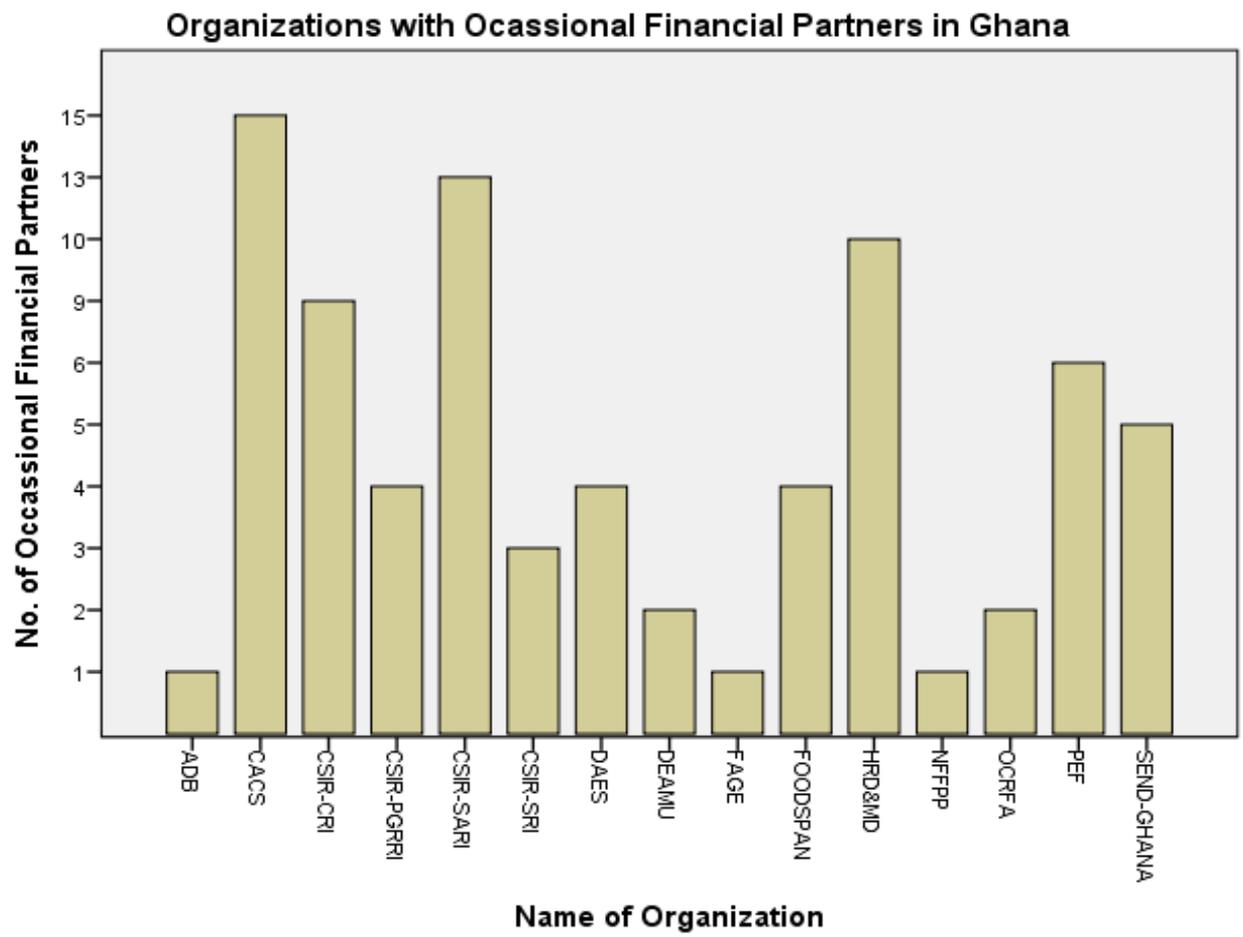


Chart 3:

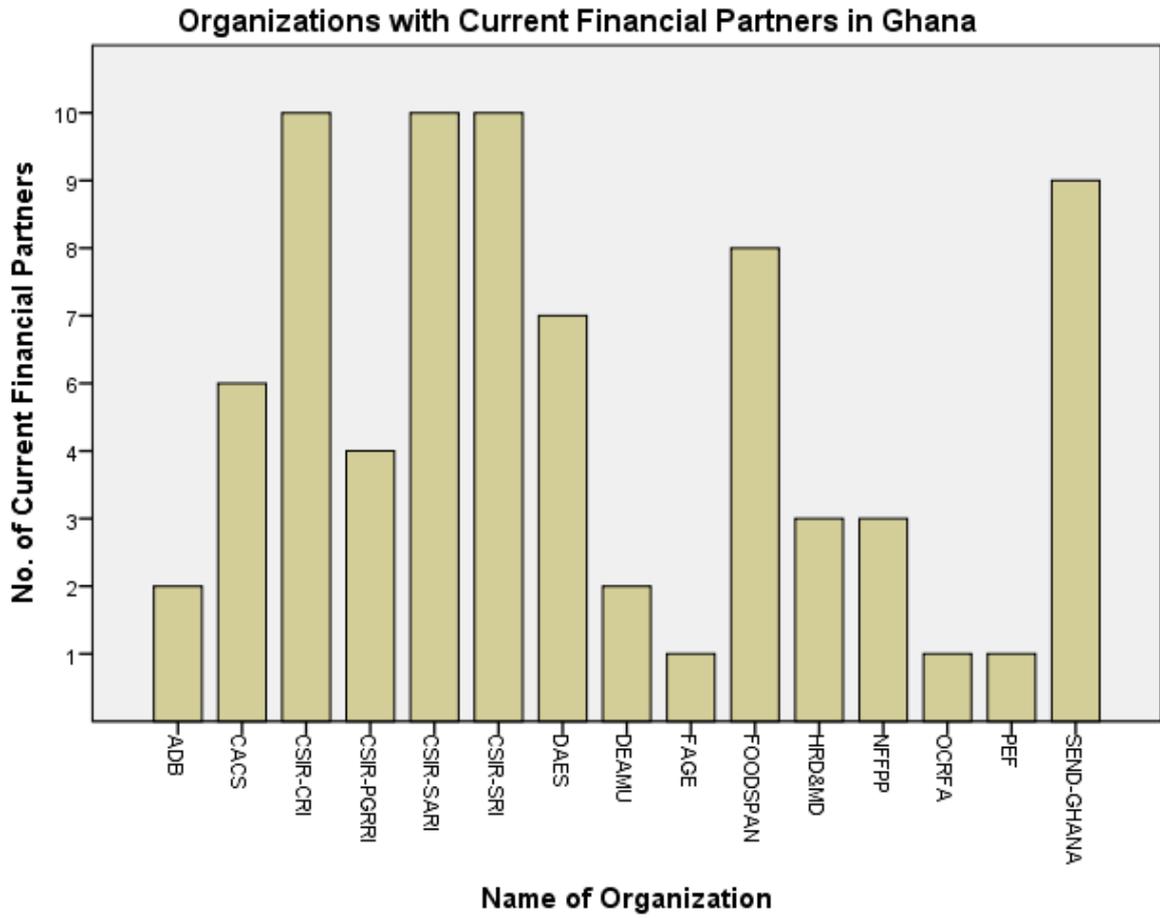


Chart 4:

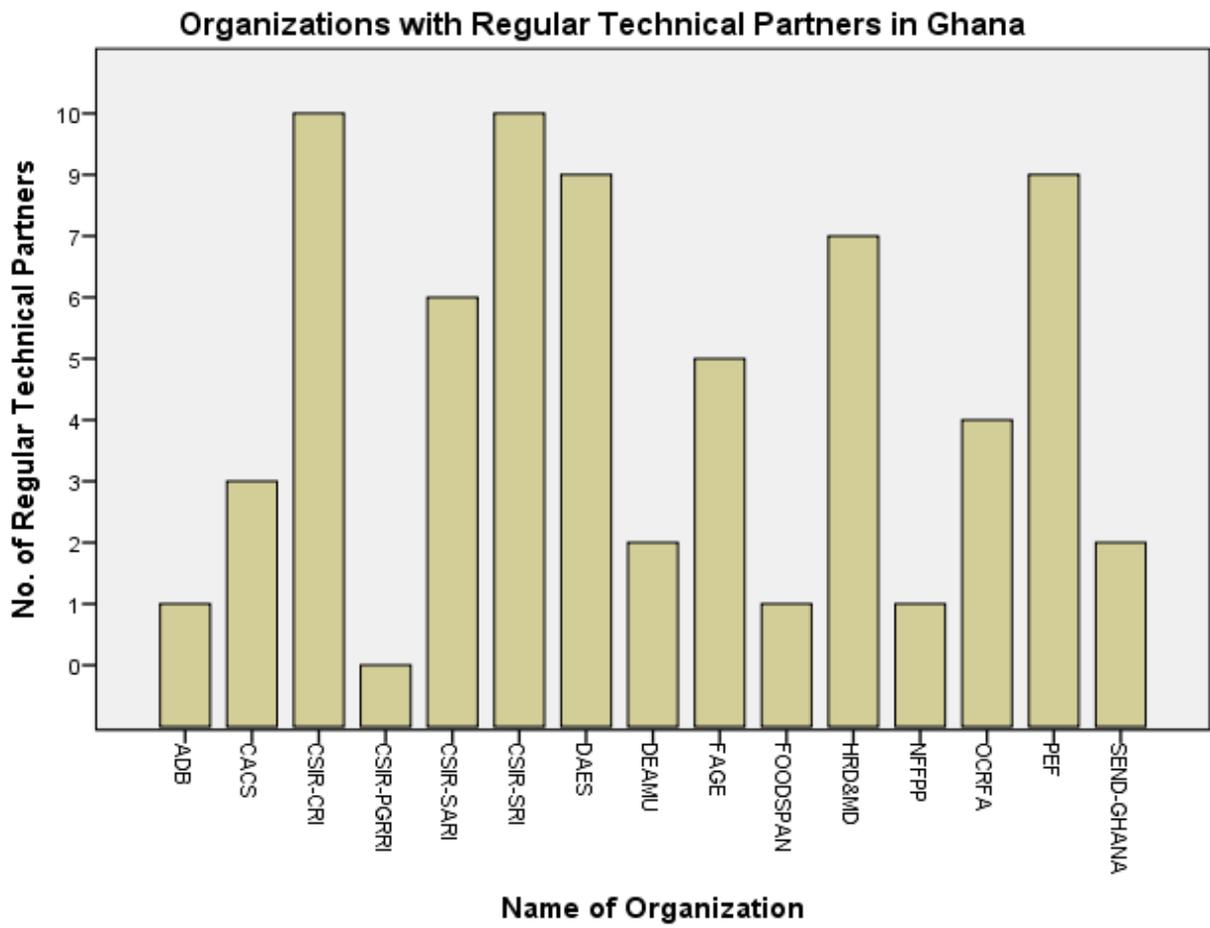


Chart 5:

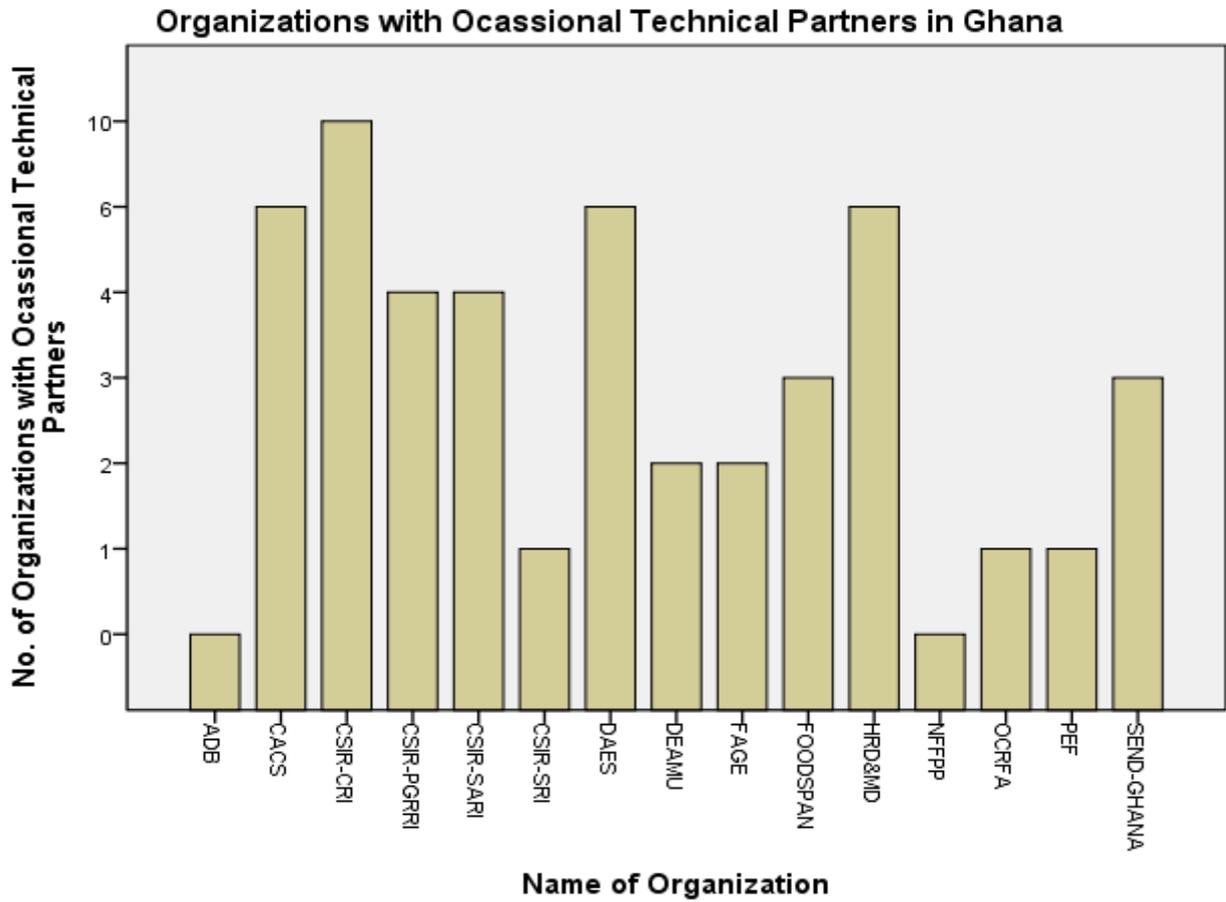
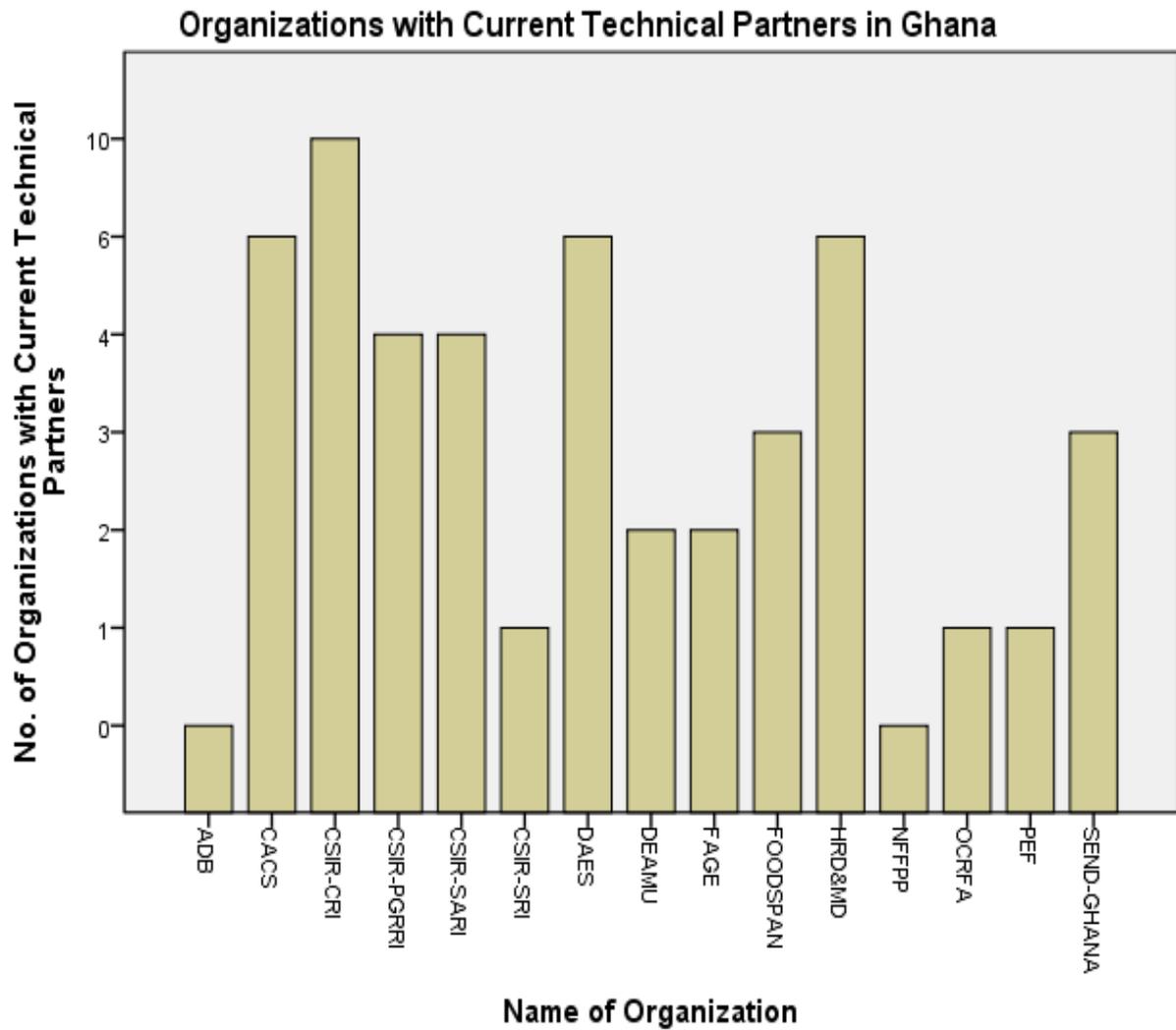
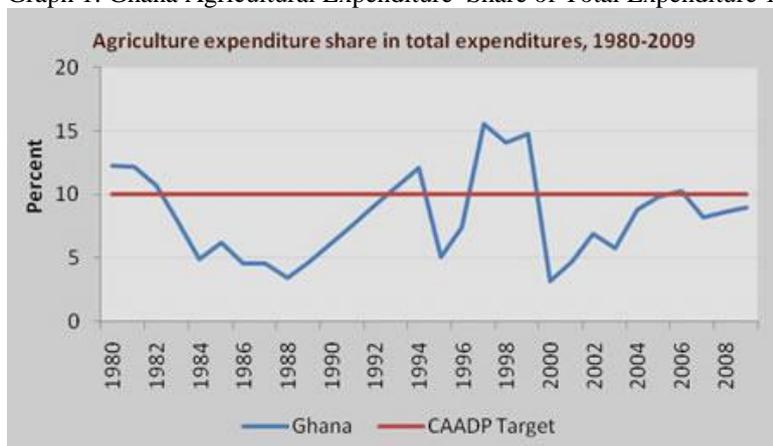


Chart 6:



Graph 1: Ghana Agricultural Expenditure Share of Total Expenditure 1980 - 2009



Source: ReSAKSS 2010.

1. National Agricultural Profile

Agriculture accounted for about 30% of Ghana's GDP in 2011, with export crops (cocoa, cashew nuts, timber and horticultural products) constituting about 66% of the economic worth of the agriculture sector, while cocoa is the main export crop.¹ In 2011-12, Ghana exported about one million metric tons of cocoa beans, the world's second biggest cocoa bean export after Cote d'Ivoire.² Ghana's agriculture sector has historically been strong and export-oriented, but data showing the contribution of agriculture to the GDP in recent years does not fairly reflect this strength, perhaps due to the fact that Ghana is now an export of light crude oil. Another export crop in Ghana is cashew nuts, although this is still on a relatively small but growing scale.

Root and tuber crops (cassava, yams, potatoes etc) contribute about 50% of Ghana's agricultural GDP.³ In 2007, Ghana embarked upon a 10-year strategy to increase national production, productivity and economic efficiency of the root and tuber subsector, and also to achieve a competitive advantage in West Africa sub-region. To achieve the strategic objective, Ghana is one of the West African countries currently implementing a World Bank funded project, known as the West Africa Productivity Programme (WAAPP). The project was formulated by ECOWAS, and is coordinated sub-regionally by CORAF/WECARD. Under the WAAPP protocol, each West African country will focus on a single agreed crop subsector, thereby to build its national capacity and become a regional centre of excellence in the subsector.

A West Africa Seed Programme, WASP (sponsored by the USAID and also coordinated by CORAF/WECARD) was being implemented to develop a regional protocol on agricultural seed, in order to facilitate the diffusion of new seed varieties developed by the respective member countries under WAAPP.

Ghana is a unitary state composed of 10 regions. The country's agricultural research is centralized under the Council for Scientific and Industrial Research (CSIR), which has 12 research institutes of which 8 are directly focusing on various agriculture-related subsectors or themes. These include the Crops Research Institute (CSIR-CRI), Forestry Research Institute of Ghana (CSIR-FORIG), Food Research Institute (CSIR-FRI), Oil Palm Research Institute (CSIR-ORI), Plant Genetics Resources Research Institute (CSIR-PGRRRI), Savanna Agricultural Research Institute (CSIR-SARI), Soil Research Institute (CSIR-SRI) and Water Research Institute (CSIR-WRI).⁴ It has centralized organizations on agriculture policy on parliamentary system of government. Other agricultural research agencies in Ghana include institutes and faculties of agriculture under the various universities in the country.

¹ Ghana: Ministry of Food and Agriculture (MoFA), Facts & Figures - http://mofa.gov.gh/site/?page_id=6032

² USDA Report- http://gain.fas.usda.gov/Recent%20GAIN%20Publications/Cocoa%20Report%20Annual_Accra_Ghana_3-15-2012.pdf

³ According to Dr Stella Ama Ennin, Deputy Director of the Crops Research Institute (CRI), of the Council for Scientific and Industrial Research (CSIR) - <http://kma.ghanadistricts.gov.gh/?arrow=news&read=41596>

⁴ Source: The Council for Scientific & Industrial Research - <http://www.csir.org.gh/institutes.aspx>

Regional agricultural productivity programmes: Two major World Bank-funded regional agricultural productivity programmes (RAPPs) are currently being implemented in East Africa (EAAPP) and West Africa (WAAPP), under the coordination of FARA's sub-regional partner-organizations (ASARECA & CORAF-WECARD). Ghana is implementing a 10-year WAAPP intervention focusing on the development of its root and tuber crops subsector which currently contributes about 50% of the agricultural GDP of the country. WAAPP is envisaged to make Ghana the regional centre of excellence and regional innovation leader on root and tuber crops, while each of the other West Africa member countries are pursuing different designated subsectors considered suitable to their agro-ecological zones, historical cropping profiles, expertise and strategic objectives.

WAAPP could potentially reshape the trajectories of agricultural innovation in the participating countries on a permanent basis. The achievement of competitive advantage and leadership in designated subsectors by each member country is envisaged to place each country in a position to actively engage with other member countries in intra-regional agricultural trade, as well as achieve some of its national food security objectives. This is part of the expressed strategy of regional economic integration which African countries have struggled with for nearly four decades now, in the form of COMESA, ECECA, ECOWAS and SADC.

2. Policy

The Food and Agriculture Sector Development Policy (FASDEP) first launched in 1996, and re-launched as FASDEP II in 2002 to reflect a stronger emphasis on the sustainable use of natural resources, commercialization of selected subsectors, and the pursuit of private sector participation through the provision of incentives. FASDEP II also pursues a market-driven approach on the development of targeted crop value chains.

Ghana's agricultural extension approaches evolved from a focus on export crop production in the 1960s to food crop production in later years. A Unified Extension System (UES) was subsequently introduced, promoting a training and visit (T&V) model which soon became regarded as ineffective and too rigid (Okorley 2007). In 1997, the UES was decentralized in order to get the services to the people at the district levels.

Current extension approaches carried out by the public sector still include training and visits (T&V), but also farmer field schools (FFS) and the use of ICT in the delivery of essential messages and information. The public sector organizations involved in these approaches include the Directorate of Agricultural Extension Services (DAES), the Ministry of Environment Science and Technology (MEST), and the Ministry of Local Government and Rural Development (MLGRD).

Apart from government agencies, a number of firms in the private sector are involved in agricultural extension and advisory services in Ghana, especially in agro input production and supply to farmers through farmer associations and cooperatives in the export crops such as cocoa and cashew nuts. Non-governmental organizations and donors have also played their part either as capacity development resource organizations or as direct providers of advisory services. These include local community-based organizations (CBOs) and international organizations such as the Presbyterian Agricultural Services, HarvestPlus, Catholic Relief

Services (CRS), CARE International, Africare, ActionAid, and Care Gulf Agriculture and Natural Resources (CGANR). Farmer-based organizations (FBOs) are the frontline groups that have partnered with non-state resource organizations who seek to combine capacity building of local FBOs with direct extension and advisory services.

The agricultural seed system in Ghana is well-organized, with robust and effective monitoring and quality assurance systems to supervise the operations of private companies involved in the production of foundation and certified agricultural seed in various crops. Ghana has bought into the West Africa Seed Program (WASP) initiative sponsored by the United States Agency for International Development (USAID) to achieve a regional seed policy and harmonize respective national policies on agricultural seed, thereby enhancing regional trade in agricultural seed. This strategy, adopted by Ghana in addition to its objective under WAAPP of serving as the Regional Centre of Excellence on Root and Tuber Crops, illustrates Ghana's long-term strategy in agricultural innovation. However, the results and outcomes of this strategy will partly depend on the commitment and developments in the other ECOWAS countries under WAAPP.

3. Analysis of Responses in Ghana

The view of Ghana's Ministry of Agriculture (MoA) agricultural innovation is not limited to research and science but involves the application of all forms of existing knowledge through economic interactions in commerce and industry. This utilitarian view of innovation has a closer affinity to the practitioner's concept which involves the economic use of existing knowledge in novel ways or involving new interactions or in new places, with affordable and sustainable technologies.

The MoA has well thought-out policies and plans (e.g. FASDEP I and FASDEP II; METASIP; CARGS) which provide for multi-stakeholder investment and participation.

The research organizations in Ghana saw agricultural innovation in terms of new knowledge, ideas, machines, or technologies as drivers of improvements in the economic performance of the agricultural system. However all the respondents recognized the importance of private sector involvement and the role of policy in promoting and incentivizing private sector participation in agricultural research, extension, post-harvest processing, agro-allied industry, and linking this to the national and global economic systems.

4. Recommendations

- 4.1. It is recommended that FARA works with AFAAS in creating a forum for selected FBOs from Ghana to meet their counterparts from Kenya and Zambia, and thereby to synergize on how to increase their relevance in agricultural innovation.
- 4.2. It is important for some of the FBOs or other service providers to become self-financing. In Kenya, KENFAP has become a major provider of extension and advisory services, agro-input supply and distribution, and access to local and export produce markets which enable farmers to produce with certainty to sell. In

Zambia, ZATAC and a number of smaller freelance operators are providing similar services both in the cash crops and food crops subsectors. The key is for the service providers to carve a niche through alliances with reputable agro input producers or agro-based manufacturing firms that utilize produce from farmers, especially in commercialized crop subsectors such as cocoa and cashew in Ghana.

- 4.3. Graph 1 above indicates that Ghana's public expenditure on agriculture in recent years (since 2009) has neared 10% which is the continental benchmark under the Maputo Declaration. However, it is not clear how much of the national budget allocated to agriculture is used on recurrent expenditure and how much goes into supporting new research, extension, and innovation promotion. There is need for desegregated data on these important aspects.
- 4.4. It is recommended that FARA as part of its continental leadership in agricultural research should initiate exploratory studies on the possible future impact of the WAAPP interventions on issues such as subsistence farming which supports rural household food security, and the possibility of trade wars resulting from each country having supremacy over a designated crop subsector.
- 4.5. Furthermore, it is evident that post-colonial African countries have a stronger tradition of exporting agricultural produce to countries in other continents than within Africa. Hence the financial settlement mechanisms for intra-regional trade might need to be developed to accommodate the envisaged intra-regional trade. For example, under the DFID-funded RIU programme, a transaction in which Sierra Leone and Nigeria exchanged industry resources (poultry feed concentrates and training) encountered a six-month delay in the settlement of the financial terms due to the remittance being routed through a European bank which had never handled a payment transaction between two African countries. This points to the institutional innovations that need to occur before WAAPP could significantly contribute to economic integration in the region. Therefore, interventions to harmonise agricultural trade policies across the ECOWAS countries is hereby strongly recommended. The USAID for example, is funding the harmonization of policies on seed trade within West Africa through the WASP intervention.

SUMMARY VIEWS OF PARTICIPATING ORGANIZATIONS

NAIS 2012 STUDY – GHANA

	Agricultural Innovation Defined in terms of	Indicators of Agricultural Innovation	How to achieve envisaged Agric Innovation	How to achieve Private sector strong participation
MoA	<p>Agricultural Innovation is an interactive process involving various critical actors in the agricultural Value Chain working in a given socio-economic and cultural system to bring about improvements or advances in the production of goods and services. It is a dynamic process and it requires specific behaviours and performances, with obvious implications for outcomes.</p> <p>Agriculture innovation is neither research nor science and technology, but rather the application of knowledge (of all types) in production to achieve desired social or economic outcomes. This knowledge might be acquired through learning, research or experience, but until applied it cannot be considered innovation.</p>	<p>Increase yield of small holder farmers; Increased number of agricultural technologies developed; Increase in adoption of technologies along the agriculture value chain; New commercially viable products developed from stable, horticulture, livestock and fish products; Enabling environments for sustainable land management, application of biotechnology created and passed; Production of cultured fish; Reduced Post harvest losses along the commodity value chains; Mechanization centers established and functional in each administrative district; Increase production from bee keeping, mushroom and snail farming</p>	<p>The introductions of the RELC concept and the Competitive Agriculture Research Grant Scheme (CARGS) have proven to be effective ways of promoting demand driven research.</p> <p>Under FASDEP II and METASIP (2011 to 2015), the Government of Ghana seeks to improve the level of funding to agriculture research. The funds are targeted at key development areas (crops, livestock, fisheries and socio-economic research) through Competitive Grant Scheme (CGS).</p> <p>A list of broad and detailed activities has been laid out in the METASIP to be pursued in order to achieve the required agricultural innovation to lead the modernisation of the agricultural sector.</p>	<p>Building of stronger Farmer Based Organizations (FBOs); Improving access to information, knowledge and training; The NAIP (METASIP) needs to be dynamic and evolve so that it becomes increasingly relevant;</p> <p>Engagement and collaboration between stakeholders is an essential component that needs to build on existing links where participants are already working together, rather than creating completely new ones. Such engagement is a necessary and consultative process that can be time-consuming. It requires the creation of trust between stakeholders, a willingness to work together, raising awareness of the challenges faced and the creation of a common vision for the future. Joint activities help to build ownership and accountability between partners</p>

NARI-SRI	Low input technology that is environmentally friendly and sustainable with the tendency to improve the livelihood of the smallholder farmer	value addition, market driven, affordability, sustainability, low input	Have Innovations centres across the country where all information will be readily available (One stop information centre)	Annual Science-Policy Interface dialogue
NARI-PGRI	Introduction of new ideas and methods in Agricultural activities/ Adopting more effective processes which would increase agricultural productivity/Development of initiative targeted at solving an emerging problem or improving already existing practices in a bid to increase agricultural production	Use of biotechnology in agriculture such as use of improved crop varieties, promotion of mechanized agriculture and processing of agricultural produce/Increase in productivity in crops, livestock. Poultry, fisheries and reduction in post-harvest losses	Provision of adequate funds for agricultural research; training more personnel in modern agricultural methods and packaging agricultural research findings in a manner that farmers could adopt; Strengthening research-extension linkage organization of farmer field fora and introduction of mechanized farming; Investing in research, educating farmers, providing farmers with funds for agricultural implements	Getting the private sector well informed on research findings and benefits of research; educating them on the prospects of investment in the area of agricultural research and education; Exposure of research findings through well organized fora to enlighten private investors on new strides in agriculture & how it could improve agricultural productivity and maximize profit; Commercialization of research activities; Government in partnership with Private Sector
NARI-SARI	Any improved agricultural technology that enhances overall farm level productivity for improved farm-household livelihoods and national development	NIL	To consistently provide funds to support research and development efforts; To encourage teaching and study of agricultural science education in our school systems; To provide adequate remuneration to agricultural research scientists and agricultural science teachers	By simplifying agricultural research findings in forms that are easily understandable; By popularization of agricultural research findings through agricultural fairs; By making credit available and accessible to interested private sector investors; By giving such investors favourable tax incentives

NARI-CRI	New approaches by stakeholders along a commodity value chain in the production, processing, development and marketing of the commodity using both existing and new knowledge.	Producing new technologies or knowledge; Strong linkages between stakeholders along the commodity value chain; Enabling environment for marketing the produce; Common platform for sharing of ideas between stakeholders	Improved funding for agricultural research in order to produce new technologies; Improvement in the macroeconomic conditions to create the enabling environment for the efficient utilization of such innovations; There should be good road infrastructure to enhance the efficiency of the marketing system; Enhance capacity of the value chain actors so they can appreciate new innovations; transmit and apply knowledge; There should be a good health system	An enabling policy framework with attractive fiscal incentives should be provided by the Government; In the area of plant breeding, an intellectual property regime should be in place to encourage the needed private investment.
CACS	It's something which is new and useful within the agricultural sector. Agricultural innovation arises when new agricultural products, new processes and new forms of socio-organizational arrangements together with informal and formal institutions and policies that influence these processes are brought into economic use. It emerges through interactions among actors in the agricultural sector.	Mainstream emerging concept of agricultural innovation which sees it as involving inter-twined elements of technological, socio-organizational and institutional (the players and the rules of the game) change; Activities towards: agricultural innovation assessed as requiring new patterns of co-ordination between people, technical devices & natural phenomena; agricultural innovation assessed as targeted at addressing opportunities constraints & challenges in value chain functions, service provisioning, & policy/institutional change at beyond	Multi-location, National dialogue & consensus-building on agricultural innovation; Systemized process of compilation of all national and regional study documents; National Innovation Platform for Agricultural Innovation (An Example is the Project Management Team of the Convergence of Sciences – Strengthening Innovation Systems (COS-SIS programme) which is already working in this direction. Institutionalization of emerging outlook on agricultural innovation in: curricula of relevant universities and colleges; in scientists work in all national agricultural research institutes and centres, as well as the programming in the Ministries of Food and Agriculture	Engage the private sector in making inputs into programme planning with win-win outcomes to make them contribute towards R&D; Develop and implement curriculum, teaching and learning experiences based on solving real world problems of private and public sector organizations as part of the process of facilitating agricultural innovation; Get students as young ambassadors in national and regional programmes; Build in a participatory M&E for learning strategy; Establish multiple opportunities for interactions among stakeholders & Provide transparent audit reports to all;

		<p>farm levels; Changes in practices & services of all actors at different levels of hierarchical levels, different points in time, & different domains of practices;</p> <p>Intermediary impact of activities in the form of system innovation and how different actors (especially smallholder) have expanded opportunity towards a more sustainable livelihoods outcome (income, food security etc); Value addition to agricultural produce; Integration of smallholder farmers & processors into the global market; Number of products or processes adopted or tried by an agricultural firm</p>	<p>in a “hands-on” handholding way; Leverage or provision of funding mechanism with management unit to support the process of change;</p> <p>Build in a participatory M&E for learning strategy; Establish multiple opportunities for stakeholders interactions for social learning and continual deepening of the process learning; Provision of key public infrastructures; Strengthening of farmer organizations and encouraging them to participate in agricultural innovations;</p> <p>Reforms in University curricula to lay more emphasis on multidisciplinary approaches to better prepare scientists for innovation; knowledge and information Institutional reforms in the public research and extension systems to change reward and incentive structures so that scientists and extension officers become more responsive to the needs of farmers</p>	<p>Provision of key public infrastructures;</p> <p>Strengthening farmer organizations;</p> <p>Creating an enabling policy environment for the private sector to flourish; encourage the private sector to participate in agricultural research and development in the country</p>
SEND GHANA	<p>A system and processes that facilitates accelerated & sustainable transformation of agriculture in support of poverty alleviation and income generation through collaborative development & application of agricultural modernization by the</p>	<p>Percentage of farmers access to agricultural inputs; Level of farmers utilization of mechanized agric methods/ equipments; Percentage of Large scale farmers; The number of farmers in agriculture against output</p>	<p>Improve the agriculture policy environment so as to facilitate the engagement between research, education and other knowledge organizations with actors in society and innovation processes, regulatory frameworks, the rule of law, fiscal frameworks, international trade agreements, etc.;</p>	<p>Strengthen agricultural related networks/associations/platforms in order to undertake effective research and advocacies; Improve information & communication, transport, storage, processing, market and financial infrastructure; Agricultural Lands must be made</p>

<p>public research organizations in partnership with the farmer's groups, private sector, civil society organizations and other stakeholders in the sector.</p> <p>Those processes that facilitate the commercialization and adoption of modern products, technologies, processes and/or services that will enhance economic growth, productivity and competitiveness of the Ghanaian agriculture, agri-food and agri-based products sector; and help the sector capture opportunities in domestic and global markets.</p>		<p>Track the implementation of the METASIP Policy</p> <p>Resource District Agriculture Development Units (DADU); Provide more extension officers and services to Smallholder Agric Farmers</p>	<p>available for Mechanised farming; Factories to add value to agric produce such as tomato, maize, cassava etc must be established and revived; Agricultural policy, institutional, economic, social, cultural and natural environment in which the innovations thrive must be strengthened; the capacity of the system to influence the environment through e.g. policy advocacy, lobbying, protest actions, raising gender awareness, etc. must be guaranteed</p>
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	Agricultural Innovation Defined in terms of	Indicators of Agricultural Innovation	How to achieve envisaged Agric Innovation	How to achieve Private sector strong participation	How to achieve Private sector participation in Extension & rural Advisory services
PEF	<p>Involves new and efficient high yielding seeds, best practices of production, storage, processing and packaging of agricultural commodities to promote national food security</p>	<p>Yield per acre; Maturity periods of crops; Resistance to pests and drought; Breeds of livestock</p> <p>Rate of post-harvest losses; Quantity of commodities processed; Timely harrowing, cultivating & harvesting: Level of</p>	<p>Use of high yielding & hybrid seeds; Crop resistance to pests & drought; Better breeds of animals; Efficient post-harvest storage system; Application of mechanization in farming; Agricultural insurance;</p>	<p>Critical business information; Better land tenure system; Agricultural insurance; Access to low cost long term funding; Availability of high yielding seeds; Availability of high yielding seeds;</p>	<p>For starters, cost sharing in the provision of agriculture extension and rural advisory services but have to be completely paid for by the user later on.</p>

		protection of farmers against losses	Efficient & extensive irrigation application	Availability of modern technology; Access to irrigation facilities; Availability of off-takers	
FAGE	To achieve self-sufficiency and sustainable production for exports in the agriculture sector using innovation, local solutions to resolve challenges & limitations in land acquisition, funding & energy	Small holders & large scale farmers producing side by side in commercial quantities satisfying international certification requirements	For agriculture to be put as the most important in the list of priorities politically, Socially and economically by government, private sector and civil society.	Government should invest in infrastructure and provide loans at low interest rates; Public and private institutions should provide data, statistics & information.	Private sector Association should be empowered to provide these services; Individual companies will not be motivated to provide these services unless there are clear indications of a good profit margin

	DAES	CACS	FOODSPAN
Agricultural Innovation Defined in terms of	Any new ideas that contribute to improvements in the Agricultural Sector	something which is new and useful within the agricultural sector. It arises when new agricultural products, new processes and new forms of socio-organizational arrangements together with informal and formal institutions and policies that influence these processes are brought into economic use.	It is a process of creating and putting into use combination of knowledge and experiences from different services to facilitate sustainable development, economic growth and modernization of the agriculture sector
Indicators of Agricultural Innovation	Improved yields and incomes; Ease of work Conservation/ preservation of the environment; Ease of dissemination of technologies; Employment generation; Protection of the	Value addition to agricultural produce; Integration of smallholder farmers and processors into the global market; Number of product or process innovation adopted or tried by agricultural firms; Mainstreaming the emerging concept of agricultural innovation which involves technological, socio-organizational and institutional change; Activities towards agricultural innovation	Readily access to data for stakeholders; Demand-driven agricultural Research; Increased food security

	health of technology users; Improved marketing/market access.	assessed as requiring new patterns of co-ordination between people, technical devices and natural phenomena.	
How to achieve envisaged Agric Innovation	Introduce high yielding crop varieties, livestock breeds; Dissemination of GAPs; Capacity building in Extension Service delivery; Fabrication and introduction of less labour-demanding equipment; Capacity building of clients, including GAPs.	Multi-location and National dialogue and consensus-building on agricultural innovation Systemised process of compilation of all national and regional study documents and the emerging outlook on agricultural innovation	Develop, innovative ways for agricultural financing; Increase access to land for investment
Core vision of Organization	To be a technical directorate of MoFA overseeing and coordinating effective, efficient and demand-driven extension/advisory service delivery to uplift agricultural productivity to enhance the incomes and livelihoods of its clients.	Being an internationally acclaimed African Institution for scientific innovations in sustainable agriculture and human development to meet national and global challenges	Ensure food security for all
Core Mission	To work with regional and district administrations to ensure that extension services contribute in an effective and efficient way towards the social and economic development of Ghana.	To provide a world class academic environment through quality teaching, research and extension, integrating system-wide innovation to realize tangible results	Pursue policy advocacy for food security based on the conviction that the right to food is a fundamental human right
Primary clients	The primary clients of DAES are farmers and FBOs, fishers, processors, agricultural input dealers and agricultural marketers	Students; All stakeholders in agricultural and agriculture-related sectors	Small holder farmers; Women in Agriculture; Entire citizenry
Primarily accountable to	The Government of Ghana and Development Partners which fund some of the programmes/ activities of the DAES	The Ghana Government through the National Council for Tertiary Education	International Food Security Network Network Members
Achievement extent	The DAES: through the RELCs, ensuring that farmer challenges are taken on board in planning	Nil	Inclusion of the right to Food in Ghana's constitution (under consideration); Reduce land

	extension activities; continually facilitating the formation & development of FBOs; facilitating the Ghana Chapter of the African Forum for Agric Advisory services (AFAAS) to coordinate and improve extension advisory service delivery		grabbing incidences through advocacy
Organizational strengths	Extension staff exist in all districts & regions of the country; Well trained extension staff; Most extension staff are mobile; Relatively strong collaboration with relevant stakeholders	Highly competent & experienced staff; National and international repute; Ability to attract quality students and faculty	Evidenced based advocacy; Information/knowledge generation and sharing
Organizational weakness	Inadequate extension staff numbers, especially females; Some staff are not mobile	Inadequate funds for more innovative research, infrastructure and not so modern laboratory equipment	Consistency and persistency during advocacy periods
Capability to deliver	Increase the number of Agric Extension Agents , especially women; Provide means of transport for all extension staff; Government to provide timely and adequate funding for extension activities; Introduction of technologies to improve upon technology dissemination e.g. e-extension.	Increase funding for agricultural research and dissemination of findings to private sector; Provide modern infrastructure for teaching, learning and needs of the College; Provide more funds for acquisition of modern scientific equipment and machinery; Scholarship to train more postgraduate students to augment teaching staff; More professional development training programs should be organized for staff of College	Increase access to information; Financial support to engage in evidence-based advocacy
Relevance of Organization in Agric Innovation	The DAES is of utmost relevance to the envisaged agricultural innovation in Ghana since it is the public institution mandated to oversee and co-ordinate agricultural extension service delivery in the country	The College is expected to play more key role in the envisaged agricultural innovation processes through the provision of agriculture training and research as well as: championing the organization of multi-location and national dialogue and consensus-building on agricultural innovation; actively participating in the systemized process of compilation of all national and regional study documents and the emerging outlook on agricultural innovation	Carrying out the views of CSOs during innovation process Advocacy and information

<p>Partnering Private sector</p>	<p>The DAES is already in the process of partnering the private sector in extension/advisory service delivery through the creation of a platform (African Forum for Agricultural Advisory Services) launched in 2012.</p>	<p>By encouraging the private sector to fund demand-driven research; By disseminating our research findings and recommendations through organizations of open fora / seminars / workshops / conferences; Another strategy is to form public-private partnerships with the private sector in conducting researches and implementing the results; Establishment of a dedicated “Research Into Use” office to interface the College and the private sector</p>	<p>Develop projects within the context of public-private partnership or development public private partnerships</p>
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