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FEED THE FUTURE AGRICULTURE POLICY SUPPORT PROJECT

ANNUAL REPORT (OCTOBER 2014-SEPTEMBER 2015)
PROJECT YEAR 2, QUARTER 4

31 October 2015
This publication was produced for review by the United States Agency for International Development. It was prepared by Chemonics International Inc.

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Contract No. 641-C-14-00001

Cover Photo: APSP's public and private partners and staff attending a retreat to develop the project's FY2016 Annual Work Plan in Akosombo, Eastern Region of Ghana, in August 2015.

CONTENTS

ACRONYMS

ACAT	Advocacy Capacity Assessment Tool
ADVANCE II	Agricultural Development and Value Chain Enhancement Project II
Africa LEAD	Africa Leadership Training & Capacity Building Program
AGRA	Alliance for a Green Revolution in Africa
APPDF	Agriculture Public-Private Dialogue Forum
APSP	Agriculture Policy Support Project
ASWG	Agricultural Sector Working Group
ATTP	Agriculture Technology Transfer Project
CAPI	Computer-Assisted Personal Interviewing
CCC	Collaborative Circle of COPs
CEO	Chief Executive Officer
CEPA	Center for Policy Analysis
COP	Chief of Party
COR	Contract Officer's Representative
CSIR	Council for Scientific & Industrial Research
CSO	Civil Society Organization
DASA	District Agriculture Statistics Agent
DASO	District Agriculture Statistics Officer
DP	Development Partner
DUS	Distinctiveness, Uniformity and Stability
EG	Economic Growth
FAGE	Federation of Associations of Ghanaian Exporters
FAO	Food and Agriculture Organization
FASDEP II	Food and Agriculture Sector Development Policy II
FBO	Farmer Based Organization
FinGAP	Financing Ghanaian Agriculture Project
FTF	Feed the Future
FTFMS	Feed the Future Monitoring System
FY	Fiscal Year
GASIP	Ghana Agriculture Sector Investment Plan
GCAP	Ghana Commercial Agriculture Project
GGC	Ghana Grains Council
GIMPA	Ghana Institute for Management and Public Administration
GIPC	Ghana Investment Promotion Centre
GIZ	German Society for International Cooperation
GNADP	Ghana National Aquaculture Development Plan
GOG	Government of Ghana
ICFG	Integrated Coastal and Fisheries Governance
IFAD	International Fund for Agriculture Development
IFPRI	International Food Policy Research Institute

IM	Implementing Mechanism
IMCL	Integrated Management Consultancy Limited
IP	Implementing Partner
IR	Intermediate Result
ISU	Iowa State University
KRA	Key Result Area
M&E	Monitoring and Evaluation
METASIP	Medium Term Agriculture Sector Investment Plan
METSS	Monitoring, Evaluation, and Technical Support Services
MISO	Management Information Systems Officer
MoFA	Ministry of Food and Agriculture
MOU	Memorandum of Understanding
NARO	National Agriculture Research Organizations
NASTAG	National Seed Trade Association of Ghana
NSA	Non-State Actor
NSC	National Seed Council
OCAT	Organizational Capacity Assessment Tool
PEF	Private Enterprise Federation
PFAG	Peasant Farmers' Association of Ghana
PIRS	Performance Indicator Reference Sheets
PITT	Performance Indicator Tracking Table
PMP	Performance Management Plan
PPMED	Policy, Planning, Monitoring and Evaluation Directorate
ReSAKSS	Regional-SAKSS
RFA	Request for Application
RFP	Request for Proposal
SAKSS	Strategic Analysis and Knowledge Support System
SEEDPAG	Seed Producers Association of Ghana
SPRING	Strengthening Partnerships, Results & Innovations in Nutrition
STAR-Ghana	Strengthening Transparency Accountability and Responsiveness in Ghana
STTA	Short Term Technical Assistance
TA	Technical Assistance
TVRC	Technical Variety Release Committee
USAID	United States Agency for International Development
USG	United States Government
VCU	Value for Cultivation and Use
WACSI	West Africa Civil Society Institute
WIAD	Women in Agriculture Development
ZOI	Zone of Influence

Executive Summary

The USAID/Ghana FtF Agriculture Policy Support Project (APSP) is pleased to submit its Annual Report for Fiscal Year 2015, covering the period of October 2014 to September 2015. APSP was awarded on December 17, 2013 with the goal of improving the food security enabling environment for private sector investment in Ghana by increasing the capacity of Government of Ghana (GOG), the private sector, and civil society organizations to implement evidence-based policy formation and implementation, research, and advocacy, as well as perform rigorous monitoring and evaluation of agricultural programs implemented under the Medium Term Agriculture Sector Investment Plan (METASIP).

APSP's goals will be achieved through activities in three project components:

- Component 1: Policy Formation and Implementation. Activities under this component are aimed at improving Ghana's agricultural sector policy process for evidence-based decision making related to food security.
- Component 2: Policy Research. Component 2 activities seek to build capacity of stakeholders for rigorous policy analysis and evidence-based policy making.
- Component 3: Policy Advocacy. Activities under Component 3 aim to strengthen the institutional and technical capacities of private agribusiness organizations, civil society organizations, and the media to enable them increase their participation in the public policy process.

Major accomplishment and activities implemented in FY2015 to achieve project goals include the following:

Component 1: Policy Formation and Implementation. APSP has made significant progress under this component as demonstrated by the capacity building and training activities undertaken to benefit GoG units, other private stakeholders and CSOs, the set of policies/regulations/bills that have been analyzed and the research studies that have been completed in conjunction with other partners and subcontractors. Specific accomplishments include:

- APSP supported the development of actions plans for METASIP/SAKSS, which include support from the project to resume quarterly members' meetings, funding of priority research topics, and the establishment of a functioning Secretariat to enhance coordination and implementation of the METASIP/SAKSS.
- APSP, in partnership with subcontractor Ghana Institute for Management and Public Administration (GIMPA) developed 20 training modules for enhancing the capacity of METASIP/SAKSS implementing institutions and Ministry of Food and Agriculture (MoFA) staff.
- The project trained more than 600 public officers from MoFA and METASIP/SAKSS implementing institutions and 11 Government of Ghana (GoG) units in policy development, development planning, policy implementation, seeds regulatory frameworks, and law compliance.

- APSP supported the analysis of seven policies/regulations/administrative procedures and their corresponding discussions with GoG and public and private stakeholders, among them, the Seeds Regulations, National Quarantine Pest List, National Seed Development Plan, Animal Production and Animal Bills, Fertilizer Subsidy, Agriculture Extension Policy, and Plants and Fertilizer Act 803. Out of these seven, the projects has contributed to the drafting of four, the approval of one, and the implementation stage of another. (See Annex A4).
- The project, through a local subcontractor, initiated the development of a modern and up-to-date computer assisted personal interview system to assist SRID with its data management responsibilities.

Component 2: Policy Research. APSP has accomplished its targets in Component 2 for the fiscal year. Other than actually completing two research studies, the project has issued a tender to develop research studies on GOG priorities to further enhance the availability of empirical evidence for sound and effective policy-making. Specific accomplishments include:

- In partnership with GSSP/IFPRI, WAFP, AFAP, ILFSP/MSU and subcontractors ISU and GIMPA, completed and submitted three research/policy studies and one baseline survey on gender data to USAID for discussions with the GoG. (Topics included agricultural insurance in Ghana, an assessment of commodity trading mechanisms, and soil fertility management strategy).
- Based on its research tender, the project has shortlisted thirteen research proposals for potential award in fiscal year 2016.
- APSP completed an assessment of agriculture research capacity in 12 selected public and private universities and CSIR research institutions.

Component 3: Policy Advocacy. APSP has met the majority of our targets for Component 3 in FY2. APSP's activities have contributed to an increase in the participation of CSOs and other private sector stakeholders in the policy process. Specific accomplishments include:

- APSP implemented 15 district policy dialogue forums in six regions of Ghana, including the Northern, Upper, West, Volta, Eastern and Central regions.
- Close to 5,000 individuals (67% male, 33% female), attended the events sponsored by APSP, including agriculture policy trainings, community sensitization on legislative initiatives, policy advocacy campaigns, district-level public-private dialogue forums, and capacity building trainings, among others.
- The project trained more than 2,500 individuals on issues ranging from agriculture policy, data management, policy planning and program implementation, district program implementation, and compliance with Seeds Regulations, gender mainstreaming, and NSAs capacity building training.
- APSP trained 137 individuals drawn from 45 selected NSAs to improve their organization's performance and policy advocacy activities.
- The project provided training to more than 100 Ghanaian journalists in policy analysis, advocacy, agriculture reporting, gender mainstreaming, and agriculture feature article writing. Of the trainees, 47 received specific gender mainstreaming training to address the importance of reporting on women's rights in the context of the agriculture sector.

- The project has already made an impact on social media with the establishment of a platform dubbed "Agric Journalists Ghana" on Facebook to network journalists involved in agriculture reporting.
- APSP assisted 40 Non-state Actors (NSAs) to improve their operational and technical capacities, especially to strengthen their capacity to advocate for agriculture policy reform.
- The project issued four tenders and received more than 130 applications to support policy advocacy, NSAs' capacity building and training, policy dialogues, and agriculture policy research. Of these, APSP awarded 14 grants to NSAs to undertake policy advocacy, policy training, gender mainstreaming, and research activities.

As detailed in the following sections, APSP has made significant progress in Fiscal Year 2015 in meeting its contractual mandate, as shown in Annex A (Project Performance Statistics) and has laid strong foundations to continue building on these achievements over the remaining years of the project.

A. PROGRESS BY COMPONENT

A1. Component 1: Policy Formation and Implementation

Component 1 is aimed at improving Ghana's agricultural sector policy process for evidence-based decision making related to food security through four main pillars:

- Improve capacity for policy analysis and evaluation by core METASIP-institutions by standing up the Strategic Analysis and Knowledge Support System (SAKSS) node.
- Enhance implementation of improved policies/regulations/administrative procedures as outlined by Government of Ghana's (GOG)-endorsed policy documents and agreements between GOG, donors and private sector.
- Improve policies that enable private sector development, commercialization and use of improved agricultural inputs to increase smallholder productivity and incomes.
- Improve execution of the METASIP.

A1a. Progress to Date per Agreed-upon Workplan

KRA 1.1*: Improve Capacity for Policy Analysis and Evaluation by Core METASIP Implementing Institutions by Standing up the Strategic Analysis and Knowledge Support Systems (SAKSS) Node/Enhance Capacity in Policy Analysis and Evaluation*

COMPONENT 1: KEY ACHIEVEMENTS

- METASIP Secretariat established for better coordination and action plans developed for METASIP/SAKSS.
- APSP Policy Advisor embedded at MoFA's PPB.
- Training needs assessment for METASIP/SAKSS implementing agencies completed by GIMPA and 20 training modules developed.
- The 4 planned public education and sensitization programs on Act 803 completed and 263 seed industry stakeholders from MoFA, farmers, CSOs, security agencies, input dealers etc. trained on its content.
- Development of a computer-assisted personal interviewing (CAPI) system for agriculture data collection and analysis for SRID in progress.
- 2 Draft Bills on Animal Health and Livestock Production, aimed at reviving the livestock sub-sector, completed.
- Ghana's seed regulation harmonized with that of the ECOWAS protocol and Quarantine Pest List updated
- 30 seed experts, including members of National Seed Council and Technical and Variety Release Committee (TVRC), trained.
- 566 public officers and 11 government units trained.
- Study on sustainable soil fertility management completed.
- Study on status of agricultural insurance in Ghana completed.

Conduct Needs Assessment and Train METASIP/SAKSS Members. In FY2, after completing a training needs assessment of MoFA's Directorates and METASIP/SAKSS members, the Ghana Institute of Management and Public Administration (GIMPA) developed 20 training modules aimed at enhancing the skills of an estimated 156 personnel in policy formulation, implementation, and analysis. This training will positively influence the capacity of public servants in the agriculture sector, especially METASIP/SAKSS members, to improve their understanding of policy dynamics and hence enable them to conduct high quality policy analysis and priority setting. This activity contributes to Indicators 1, 2, and 5.

Develop Revitalization Plan for SAKSS. In FY2, APSP supported MoFA to organize two separate workshops for 59 SAKSS members and 25 METASIP members to develop action plans for METASIP/SAKSS, which includes training, support to

enable meeting regularly, and technical assistance. This assistance was critical as METASIP/SAKSS had no action plans yet, which was necessary to identify areas of support for standing-up the SAKSS Nodes. Through these workshops, participants identified two critical areas for support: capacity building of members and the reactivation of their quarterly meetings. APSP will begin addressing these needs in FY3. The staff of the newly established METASIP/SAKSS Secretariat have studied the action plans and developed specific interventions for FY3. Implementation of this activity contributed to Indicators 2, 5 and 14.

Embedding a Policy Advisor and Researcher within MOFA's Policy Planning Monitoring and Evaluation Directorate (PPMED). In FY2, APSP and CEPA successfully finalized the process of embedding [redacted] as the project Policy Advisor at MoFA within the Policy Planning and Budget (PPB) Directorate of the Ministry, formerly known as the Policy Planning Monitoring and Evaluation Directorate (PPMED).

METASIP Members Developing Action Plan at Workshop

The Policy Advisor is already making positive impacts in MoFA's policy process, supporting MoFA in a number of important priority areas including the development of an Agriculture Investment Guide to promote investments in the sector, and the Ghana Incentive-Based Risk Sharing System for Agriculture Lending (GIRSAL) to enhance farmers' access to credit. The Policy Advisor currently participates in MoFA's weekly management meetings, chaired by the Chief Director, where participants discuss important sector policy concerns, placing him in an influential policy position in the Ministry. The advisor provided an independent assessment on the presentation of the 2014 agriculture performance review (APR) at the 2015 joint sector review (JSR) and further provided technical assistance for the review of Ghana's agriculture sector in a 2-day workshop organized by the Parliament Select Committee for Food Agriculture and Cocoa Affairs in FY2 Q4. This activity contributes to Indicators 2, 3, 5 and 14.

Build WIAD Capacity in Gender Mainstreaming and Complete Baseline on Gender in Agriculture. The Baseline Survey on "Gender and Agriculture in Ghana", awarded to GIMPA in FY2, was completed and submitted to USAID in Q3. APSP will support WIAD in the dissemination of the baseline survey. WIAD will measure its Gender and Agriculture Development Strategy (GADS) effectiveness against the results of the baseline survey, resulting in valuable feedback to further policy analysis and evaluation. This policy tracking effort will contributes to Indicators #5 and #14. WIAD's staff will participate in the training of MoFA slated to commence in FY3. The training will enhance WIAD's capacity to undertake its core mandate of positioning gender issues in the agriculture policy process.

KRA 1.2*: Enhance Implementation of Improved Policies, Regulations and Administrative Procedures as Outlined by Government of Ghana (GoG)-endorsed Policy Documents and Agreements between GOG, Donors, and Private Sector.*

Support Implementation of 2014 Joint Sector Review (JSR) Policy Recommendations. Although APSP included a provision in FY2 work plan to support selected activities of the 2014 joint sector review (JSR) policy recommendations, MoFA did not make any specific demands on the project. However, APSP actively participated in the 2015 JSR with two specific activities. First, as indicated elsewhere in this report, the embedded Policy Advisor provided commentary on the presentation of the 2014 APR at the 2015 JSR and made recommendations on the structure and format of the document to make it more comprehensive and relevant for its purpose. MoFA has accepted the recommendations and already adopted a new format for the preparation of the 2015 APR. Second, the Senior Policy Advisor moderated a panel discussion of five experts to share their views on key issues affecting agriculture. This activities contribute to Indicator 4.

Drafting of Animal Health and Livestock Production Bills: Upon receiving requests from the Veterinary Services (VSD) and Animal Production Directorates (APD) of MoFA, in FY2 APSP supported the drafting of the Animal Health and Livestock Production Bills. The backdrop to this support is the conviction that a thriving livestock sub-sector would create derived demand for Feed the Future priority crops such as maize, rice, and soya as animal feed. These directorates asked APSP to assist with the re-drafting of the bills given that FAO's drafts did not receive the ministry's concurrence. The two re-drafted Bills have since been completed and forwarded to the Attorney General's Department (AGD) for legal drafting and submission to Parliament for passage, after which APSP support will cease. The passage and implementation of the two bills, supported with APSP assistance, will be critical for a long-term revival of Ghana's livestock sub-sector, which has experienced continuous decline over the years. The support for the two bills contribute to Indicators 4 and 14.

Review of the National Buffer Stock Company (NAFCO). APSP developed the draft terms of reference (TOR) for NAFCO review in FY2, in line with the demands from diverse sector stakeholders including the JSR, the Agriculture Sector Working Group (ASWG), and the private sector. APSP has completed drafting the ToR, after receiving input from the COR and FAO and will commission the assessment in FY3. This assessment is important because it will provide evidence-based policy and impact analysis of this public intervention policy in agriculture commodity markets and pricing. Completion of this assessment will contribute to Indicators 4 and 14.

Build Capacity of Parliament Select Committee on Food Agriculture and Cocoa Affairs. APSP held its first official meeting with the Parliament Select Committee on Food Agriculture and Cocoa Affairs in FY2 Q3 to present the project and explain its capacity building strategy. Sixteen out of twenty-one members of the Committee and four staffers attended the workshop, which resulted in the development of a joint action plan that provides a framework for building capacity of the Select

MPs and senior public officials listening to presentations

Committee members in FY3. In FY2 Q4, APSP provided technical and financial support to the Select Committee for a 2-day workshop for 44 participants, including the Ministers of Food and Agriculture and Fisheries and Aquaculture Development, to review the agriculture and fisheries sector performance for 2013 and 2014. The objective of the workshop was to assist the Select Committee to undertake the review and prepare a comprehensive sector report for Parliament's consideration and debate. The Committee's report to Parliament will assist the legislative branch in making evidence-based recommendations to the executive branch to adopt policies that will contribute to sector growth. Hence, APSP's support in this regard is an important component in the overall policy process. This activity contributes to Indicators 2, 5 and 14.

Agriculture Extension Policy Forum: Although MoFA acknowledges agriculture extension as a driver for sector growth, its last extension policy was developed fourteen years ago in 2001. In FY2, APSP and MEAS collaborated to organize a stakeholder forum—attended by 53 participants—geared to assess the relevance and effectiveness of such policy. Recommendations of the extension policy forum included continuous update of the extension policy to address emerging issues like decentralization and review of the FBO development strategy, which stakeholders requested APSP to support. FBOs are considered natural entry points for extension delivery. APSP has committed its support to review the FBO strategy in FY3. APSP's collaboration in this activity is rooted on the role that agriculture extension plays in improving the livelihoods of small farmers through the adoption of better farm practices and technological innovations. The full report of the forum is included in Annex C1. Implementation of this activity contributes to Indicators 4 and 14.

Enhance Momentum of New Alliance. The New Alliance is a G7 initiative for promoting food and nutrition security and increasing private sector investments in agriculture across Africa. In FY2, MoFA only made one specific request to APSP and that was for financial support to post advertisements in two national newspapers in commemoration of Africa Day for Food and Nutrition Security on October 30th, 2014. In FY2 Q4, MoFA and APSP restarted discussions on New Alliance issues and agreed to identify areas for potential support in FY3. Activity contributes to Indicator 4.

Support to MoFA for Organization of Decentralization Workshop. Upon approval by the COR, APSP collaborated with GIZ to support the organization of a workshop in January 2015, for 341 MoFA and Local Government Secretariat (LGS) staff across the country, to discuss MoFA's mandate within a decentralized governance structure. APSP assistance in supporting this workshop helped to identify the aspects that have hampered the proper functioning of the decentralization process. This activity contributes to Indicator 2.

KRA 1.3: ***Improve Policies that Enable the Private Sector to Develop, Commercialize, and use Improved Agricultural Inputs to Increase Smallholder Productivity and Incomes.***

Undertake a Feasibility Assessment of the Proposed Ghana Commodity Exchange (GCX). A first report on this assignment was completed in FY3 Q4. (See Annex C2) Upon submission of the report, USAID and the project convened a roundtable discussion to review the assessment and formulate additional and appropriate

recommendations for further evaluation of the commodity trading systems in place in Ghana, including the already launched GCX and the functioning WRS. Key USAID officials, FtF projects, GSSP/IFPRI, and the policy advisors at MoFA, MoTI and MoF attended the event. The final aim of the assessment is to identify building blocks that will lead to the sustainable functioning of agriculture commodity trading systems in the country and to advise USAID on potential interventions towards this objective. The consultant has since then submitted a draft and will submit the final assessment to APSP in FY3 Q1. This activity contributes to Indicator 4 and 6.

Operationalize Inputs/Regulations Policies. In FY2, APSP provided extensive support for the implementation of the Plant and Fertilizer Act 2010 (Act 803) and implementation of the National Seed Development Plan. Specific project activities in FY3 within this objective include:

- *Community Sensitization of Act 803.* APSP collaborated with the USAID-funded West African Fertilizer Program (WAFP) to organize four sensitization programs on Act 803 across Ghana covering all ten regions. The objective of the sensitization program was twofold: educate stakeholders on the law to encourage compliance, and train core public/private sector officials to expand coverage of the educational program. This has resulted in the training of 263 seed industry stakeholders, drawn from MoFA, farmers, civil society organizations, the police, immigration and customs services, and input dealers, among others. In FY3, APSP will continue progressing in this activity by awarding grants to CSOs interested in implementing community sensitization activities on Act 803. The involvement of CSOs will educate more stakeholders across the country on the act and will promote more private-public dialogue forums aimed at improving the agriculture inputs sector in Ghana. This activity contributes to Indicator 2.

- *Training Seed Council/Support to the National Seed Development Plan.* In FY2 Q4, APSP and Iowa State University mounted four training programs to train seed experts as part of the project's commitment to support implementation of the National Seed Plan. These trainings—which resulted in the participation of 45 public and private sector representatives—and the strengthening process that ensues, will enhance the capacity of stakeholders to comply with the law, modernize the seed industry, improve operational efficiency of the seeds regulatory framework and guide, and promote private sector investments in the sector. The trainings contribute to Indicators 2, 5 and 14 and included:

  - Inception Seminar for National Seed Council (NSC) to provide members with a comprehensive view of the seed regulatory framework, develop their roles and responsibilities under Act 803, and improve their operational manual to guide for their work. Eight council members participated.
  - Inception Seminar for the Technical and Variety Release Committee to help members understand their

Members of the National Seed Council (NSC) at the APSP-ISU Training

roles and responsibilities and the importance of the Committee for the growth of the seed industry, as well as develop operational manual for its work. Fifteen members participated.
  - Crop Varieties Licensing Workshop to define and develop a licensing policy and to understand licensing contracts and their operationalization. Ten breeders from research/universities/private sector received training in this workshop.
  - Quality Management for Testing Crop Varieties Workshop to develop common procedures for evaluating and releasing crop varieties based on national and regional frameworks. Twelve seed breeders from research/universities/private sector received training.

- Support for Harmonization of Ghana's Seed Regulations/Update Quarantine Pest List. In FY2 APSP, through subcontractor ISU, provided technical advice and implemented workshops for MoFA to harmonize Ghana's seed regulation with the ECOWAS protocol and to update the National Quarantine Pest List. The latter has already been approved by MoFA. MoFA has submitted the Seeds Regulations to the Attorney General's Department (AGD) for constitutional review and final drafting and submission for Parliamentary approval. In FY3, APSP will engage relevant GoG authorities to mobilize political support for final Parliamentary passage of the Seeds Regulations. Once enacted, the harmonized Seed Regulations will assist Ghana in meeting its international obligations and will lay the foundation for the modernization and growth of the seed industry in the context of regional protocols. This activity contributes to Indicator 2 and 4.

- *Collaborative Efforts for Implementing Act 803 and Seed Plan.* In FY2, APSP led an initiative to mobilize the Business Advocacy Challenge (BUSAC) Fund and the USAID/Ghana FtF Agriculture Technology Transfer (ATT) to jointly support Ghana's seed industry. In this process, APSP has committed itself to facilitate the formation of an umbrella seed organization comprised of small and commercial seed producers and other stakeholders to advocate appropriate policy interventions for the growth of the seed industry.

- *Support Accreditation of National Seed Testing Laboratory (NSTL) to International Seed Testing Association (ISTA).* In FY2, APSP supported MoFA in paying the outstanding 2014 annual subscription fees to ISTA, thus forestalling NSTL cancellation of its membership and loss of benefits as a member of the international body. This assistance made it possible for the NSTL to continue with the process of accreditation from ISTA, which, when achieved, will allow the laboratory to become West Africa's first internationally accredited seed inspection unit.

Development of Business Plans for Aquaculture Investments. The Ministry of Fisheries and Aquaculture Development (MoFAD) has developed the Ghana National Aquaculture Development Plan (GNADP) to increase aquaculture production in response to declining marine and inland water fish stocks. In FY2, in response to a request from MoFAD, APSP agreed to provide technical assistance for the development of investment plans to provide guidelines for private sector investment in the fisheries sub-sector. APSP will initiate the activity in FY3 Q1 with technical support from ISU. APSP's assistance will attract private investments into the fisheries sub-sector, eventually leading to an increase in fish production and in consequence

supporting GoG's aquaculture development policy. Implementation of activity will contribute to Indicator #4.

Study on Soil Fertility Management. In FY2, APSP collaborated with five other USAID-funded programs, including the Ghana Strategy Support Program implemented by the International Food Policy Research Institute (IFPRI), the USAID/West African Fertilizer Program (WAFP), the African Fertilizer and Agribusiness Partnership (AFAP), and the Food Security Innovation Lab to produce a soil fertility management study for Ghana. (See Annex C4). The objective of the study was to provide policy and technical options for a sustainable strategy on soil fertilization for Ghana. The initial findings, inter alia, presented to 44 selected stakeholders in Q3 at a workshop chaired by the Deputy Minister of Food and Agriculture for Crops and later complemented with the recommendations stemming from the final report, is that soil fertility poses a challenge to Ghana's agriculture and that the blanket application of subsidized fertilizers may not address the problem. The study—submitted to USAID along this Annual Report—will provide MoFA with policy options to adopt a holistic strategy to improve soil fertility management in a more technical, cost effective and sustainable manner. This activity contributes to Indicators 4, 6 and 8.

Study on Agriculture Insurance. In FY2, APSP commissioned a study on the feasibility of agriculture insurance in Ghana, with technical assistance from Iowa State University (ISU). (See Annex C4). This critical study builds on a number of studies and interventions undertaken by other organizations in the past, geared at promoting sustainable insurance products for small farmers in Ghana. Results from the current APSP/ISU study on the subject indicate that agriculture insurance attempts have failed in Ghana for several reasons including: expensive premiums, lack of public awareness, insufficient commitment by insurance companies, lack of trust by farmers, poor infrastructure, and that agriculture insurance cannot thrive without government subsidies. This activity contributes to Indicator 4, 6 and 8.

Agriculture Policy Matrix. During FY2, APSP initiated action on this issue and worked with MoFA to develop an agriculture policy matrix aimed at improving the monitoring and evaluation of sector policies implementation. The draft policy matrix has been completed and submitted to MoFA management for feedback. APSP will follow up on this assignment in FY3 to obtain MoFA inputs to finalize the policy document. This activity contributes to Indicator 4.

Development of Policy Unit within MoFA. In FY2 Q2, APSP commissioned ISU to undertake an initial assessment on the feasibility of establishing a "Policy Unit" within MoFA to backstop the Ministry in its policy research and analysis initiatives. MoFA's initial response to the basic tenets of unit was positive. ISU's final report submitted to APSP in Q3 provides Ghanaian stakeholders' perception of the proposed policy unit and identifies critical issues for further clarification. Beginning in FY3, MoFA and APSP will develop a roadmap that should lead to the establishment of the "Policy Unit" by the end of FY3. The establishment of the unit is part of the three-tiered exit strategy for APSP, to create a cadre of highly trained professionals at MoFA whose core mandate would be to undertake evidence-based policy research and analysis to feed into the overall sector policy formulation and implementation process. This activity will contribute to Indicators 2, 5 and 14.

KRA 1.4: ***Improved Execution of METASIP Programs.***

Improve Agriculture Sector Data Collection, Analysis, Management, and Reporting. In FY2, APSP made progress improving sector data credibility for evidence-based policy formulation and implementation. Based on a competitive tender conducted in FY2, APSP contracted a local IT firm to design, develop and implement a computer-assisted personal interviewing (CAPI) data collection system in support of the Ghana Agriculture Production Surveys (GAPS) and the Market Surveys steered by MoFA's Statistics Research Information Directorate (SRID). The CAPI is currently being developed. This system will be a fully developed and reliable data collection system, and will generate accurate data for effective evidence-based policy analysis, decision-making and implementation. In FY3, APSP will support the completion of the system development, testing in 10 districts, the procurement of the hardware and software need to run the system, and build the capacity of about 290 MoFA employees in the ten selected districts. This activity contributes to Indicators 2, 5, and 14.

Improving Credibility of and Access to Agriculture Data and Information. Although credible data is a pre-requisite for improving sector policy process, Ghana's agriculture sector stakeholders have concerns over agriculture data. The project supported SRID to organize a workshop for 63 participants drawn from various Ministries, Departments, and Agencies (MDAs) to validate the 2013 agriculture data for the publication of its 2014 "Facts and Figures". APSP has also supported the printing of 1,500 copies of the document for distribution across the country. Improvements in the quality of the data will enhance stakeholder acceptance and confidence in the credibility of Ghana's agriculture data. This activity contributes to Indicators 2, 5 and 14.

Activation of METASIP/SAKSS Secretariat: In FY2, APSP collaborated with Re-SAKSS to make the METASIP Secretariat functional and operative to assist with improving METASIP implementation. In this sense, APSP undertook the rehabilitation of the appropriate office space at MoFA while Re-SAKSS took on the responsibility of financing the salaries of the two secretariat's technical resources, including a Technical Coordinator and a Research Assistant. The Secretariat has already completed a work plan for improving the coordination of METASIP activities and discussed with APSP potential areas for support, including supporting the regular meetings of the METASIP/SAKSS boards and funding for prioritized research studies. Because of its functional Secretariat, the overall coordination of METASIP/SAKSS activities is improving, unlike the immediate past where the competing responsibilities of MoFA staff in charge of this office, limited METASIP/SAKSS management. This activity is contributing to Indicators 4, 5 and 14.

Expand Ghana Agriculture Production (GAPS) Survey. APSP's support to SRID with the design and upcoming implementation of the CAPI, including the training of MoFA's national and decentralized staff in charge of conducting the surveys, will aid in the expansion of GAPS.

Coordination with Other Partners. The Table below provides details of partnership initiatives between APSP and others in all four key results areas under Component 1.

Mechanism	Members	Objective/Activity
KRA 1.1 – Improved Capacity for Policy Analysis and Evaluation by Core-METASIP Institutions by Standing-up SAKSS Node to Enhance Capacity for Policy Analysis and Evaluation.		
Partnership Agreement	GIMPA, CEPA, ISU	Conduct needs assessment and train METASIP/SAKSS implementing agencies to enhance their skills in agriculture policy formulation and implementation. Embed Policy Advisor within MoFA to provide technical backstopping in support for the overall improvement in agriculture sector policy process.
Coordination Agreement	APSP, AGRA'MIRA	Discuss and coordinate objectives and implementation strategies given that objectives of the Micro Reforms in Agriculture (MIRA) initiative overlap with that of APSP.
KRA 1.2 – Enhanced Implementation of Improved Policies, Regulations and Administrative Procedures as Endorsed by GoG Policy Documents and Agreement Between GOG, Donors and Private Sector		
Joint Sector Review	GOG, Development Partners (DPs), Private Sector Operators	Coordinate and harmonize sector policies and activities to enhance efficient and effective implementation of mutually agreed-upon priorities.
Coordination Agreement	APSP, FAO	Coordinate activities to draft Animal Health and Livestock Production Bills. To promote internal agriculture marketing efficiency through a possible re-structuring of NAFCO operations.
Coordination Agreement	GoG, APSP, MEAS	Review agriculture extension policy and make extension responsive to current challenges.
KRA 1.3 – Improved Policies that Enable Private Sector Development, Commercialization and Use of Improved Agriculture Inputs to Increase Smallholder Productivity and Incomes.		
Coordination Agreement.	GoG, APSP, IFPRI, FinGAP, DfID.	Coordinate to promote sustainable and effective agriculture commodity trading systems as mechanism for improving internal agriculture marketing.
Collaborative Circle of Feed the Future COPs	APSP, ATT, BUSAC	Coordinate support to promoting a more vibrant seed industry in Ghana.
Cooperation Agreement	APSP, WAFP	Collaborate in the national sensitization educational campaign of the Plant and Fertilizer Act 2010.
Cooperation Agreement	APSP, ISU, FAO's MAFAP	Coordinate to support MoFA to establish a "Policy Unit" to provide technical backstopping for sector policy analysis and evaluation. FAO's Monitoring and Analyzing Food and Agriculture Policies (MAFAP) will be requested to provide technical support to the PU
Partnership Agreement	APSP, MEAS	Jointly organize an Agriculture Extension Forum to assess extension effectiveness.
KRA 1.4 – Improved Execution of METASIP		
Partnership/Coordination Agreement	APSP, Re-SAKSS	Establish a functioning METASIP Secretariat to help improve METASIP execution.
Collaborative Circle of Feed the Future Chiefs of Party	USAID/Ghana "core" Feed the Future projects	Collaborate to enhance implementation of agriculture-related policy interventions, including training and coordination of grant schemes supporting private and public sector operations.
Cooperation Agreement	APSP, GSSP/IFPRI	Improve agriculture data collection and analysis and enhance credibility of sector data through scaling up of GAPS.

A1b. Identification of specific problems, recommendations for corrective action, and reasons why established targets were not met

Established PMP Targets/Work Plan Milestones for the Quarter	Specific Problem	Reasons for not Meeting Established Target/Milestone	Corrective Action
Commence training of	Activity delayed	GIMPA experienced delays in completing the	GIMPA has finished the development of the training

METASIP/SAKSS members in FY2		needs assessment because competing MoFA senior staff schedules.	modules and ISU is providing additional inputs to improve design and identify training areas that will carried out by the university itself. Training will start in FY3 Q1.
Support to JSR recommendations targeted to be a continuous activity	Requests from MoFA were not forthcoming	MoFA does not seem to have properly laid out plan for implementing JSR recommendations.	On-going discussions with MoFA M&E Director to improve support and reporting mechanisms.
Passage of 2 bills by end of calendar year 2015	Parliamentary passage of the 2 bills is delayed	Finalized bills sent to Attorney General's Department for constitutional review in FY2 Q3, same that has not taken place	APSP hired facilitator to follow up and to push for quicker action.
Assessment of NAFCO completed	Review has not been commissioned by end of FY2015	APSP's proposed ToR received inputs from other parties, delaying its completion	ToR completed and scheduled for commissioning FY3 Q1.
Commence capacity building activities of Parliament Select Committee for Food Agriculture and Cocoa Affairs in FY2	Capacity building activities started later in FY2	Project was unable to establish official contact with leadership of Select Committee, out of protocol concerns for engaging with the Parliament of Ghana	Framework for building capacity of Select Committee members in FY3 agreed on and the project and Committee staffers have already developed a joint action plan. Activities already commenced in FY Q3 and continued through Q4
Support to New Alliance activities targeted to be a continuous activity	Support activities delayed	Restructuring of MoFA in the course of FY2 affected implementation of NA activities.	APSP in discussions with Director of PPB at MoFA to upscale New Alliance activities.
Training of the members of all Act 803 Councils	Training started later in FY2, but including only members of the National Seeds Council	Lack of funding from MoFA to pay sitting fees to members, prevented the convening of the Councils	The Seed Council received first training in FY2 Q4 and training for all 3 Councils will commence and continue throughout FY3
Parliamentary Passage of Harmonized Seeds Regulations (SR) by end of 2015 calendar year	Although MoFA submitted to GAD the harmonized regulations for constitutional review, the latter has not made any progress on such review.	Respective heads at MoFA and GAD yet to commit for sending bill to Parliament.	The technical harmonization itself is completed and MoFa forwarded the proposed bill to AGD for constitutional review. In FY3, APSP will engage with relevant GoG to seek their commitment for sending the harmonized SR to Parliament for legislative action.
Completion of Comprehensive Inputs Policy Framework	Activity suspended	MoFA did not pursue this activity further	Put on hold indefinitely
Development of a Compendium of Economic and Business Indicators targeted to be achieved in FY1	Activity behind schedule	Clearance from MoFA Chief Director for a joint effort in this activity was not forthcoming.	APSP will continue to seek clearance from MoFA to implement the compendium.
Development of Business Plans for Aquaculture investments Targeted for completion in FY2	Activity behind schedule, but ToR for the assignment agreed on between APSP and ISU	Expert was not available in FY2 due to previous engagements	An expert identified at ISU is expected to arrive in FY3 Q1 for the assignment.
Development of the Agriculture Policy Matrix to be completed in FY2	Activity behind schedule, although APSP assisted MoFA with its drafting	The draft circulated among MoFA's Directors, with no results so far on its content and format	APSP will follow up during FY3 Q1 with the schedule officer to revive action on the document.

A1c. Outcomes of high level meetings

Activity	Outcome
APSP met with Hon. Minister for Food and Agriculture in FY2 Q1 and made a presentation of the project to him and his management team.	APSP received buy-in from the Ministry and paved the way for the systematic implementation of the projects.
Meetings with MoFA's Chief Director in FY2 Q1 followed to discuss technical details of APSP's objectives and activities.	This meeting resulted in the signing of a MoU between the Ministry and APSP, which is being implemented.
Meeting with the Hon. Minister for Food and Agriculture in FY3 to introduce the Embedded Technical Advisor	Initiative received the Hon. Minister's buy-in and the welcoming of the Technical Advisor into MoFA's technical and governance structures.
Participation in meetings of the Agriculture Sector Working Group (ASWG) and the Joint Sector Review (JSR) (quarterly and annually)	APSP provided technical assistance for 2014 Agriculture Performance Review at the 2015 JSR.
Initiated contact in FY2 Q2 for collaboration with Ministry of Lands and Natural Resources (MLNR) to work jointly on improving access to agriculture lands	APSP received proposals from MLNR and agreed to provide support for the development of a new Land Bill.
Initiated contact in FY2 Q3 with Ministry of Environment Science Technology and Innovations (MESTI) to work with jointly for the implementation of the Bio-Safety Act, passed in 2011.	APSP received proposals from MESTI and accepted to support specific areas of the Bio-Safety Communication Plan in FY3.
Regular meetings with the Technical Advisor to the Hon. Minister of Food and Agriculture to help improve access and working relations with the Minister	A healthy working relationship with the Advisor has been established and improved project staff access to the Hon. Minister.
Meeting with Leadership of Parliament in FY2 Q3 Select Committee for Food Agriculture and Cocoa Affairs.	A healthy working relationship established with leaders of the Committee, leading to implementation of activities already in FY2.
Meeting with Ghana Investment Promotion Council in Q3 (GIPC)	A GIPC official participated in the project's FY3 annual work planning session.
Meeting with the Director General of the Council for Scientific and Industrial Research in Q2 (CSIR)	A working relationship has been established with the Council; and in FY2 Q4, APSP and CSIR jointly organized training in Crop Varieties Licensing and Quality Management for Testing Crop Varieties. A number of researchers from within the CSIR family also applied for APSP research grants.
Meetings in Q2. Q3 and Q4 with ATT, BUSAC, WAFP and AGRA's MIRA to coordinate support for the seed industry.	Parties have agreed on targeted support to MoFA in the implementation of Act 803.

A1d. Assessment of the validity and efficacy of progress against the objectives and results.

Objectives (*Annual Milestones as established in the Annual Work Plan*)	Efficacy of Progress against objectives and results
METASIP/SAKSS members trained in policy analysis and program monitoring	Activity behind schedule, although GIMPA has already developed 20 training modules and training will commence in FY3 Q1.
Policy Advisor embedded at MoFA	Completed in FY2 Q3
Long-term plan developed for METASIP/SAKSS revitalization.	Completed in FY2 Q2
SRID data collection and analysis improved	Activity has started with the on-going development by a local IT subcontractor of a computer-assisted personal interviewing (CAPI) to be used for SRID for the scaling-up of GADS and for other data collection purposes.
WIAD capacity in gender mainstreaming increased through training	Activity behind schedule, although WIAD's training needs have been incorporated into GIMPA's training modules to be implemented in FY3 Q1.
Feasibility study on commodity exchange completed	Completed in FY2 Q4.
ToR for the assessment of NAFCO completed	Completed in FY2 Q4. Assessment, to be

	commissioned in FY3 Q1.
3 Councils of Act 803 begin to meet regularly and their capacities enhanced	Behind schedule, although first training of the NSC took place in FY2 Q4 and support activities will continue into FY3, along with assistance to the other two Councils.
Stakeholders of Act 803 educated on opportunities for private sector investment in seed industry.	Completed as planned in F2 Q4
Support MoFA in drafting 3 Agriculture Bills/Policies	Activity completed in FY2. 1. Two draft bills on Animal Health and Livestock Production completed and forwarded by MoFA to Attorney General's Department (AGD) for constitutional review and submission to Parliament for legislative action in FY3. 2. Seeds Regulations harmonized. Parliamentary passage yet pending
Build capacity of Parliament Select Committee on Food Agriculture and Cocoa Affairs.	Activity initiated in FY2 Q3 and Q4. Support action plan developed and activities already initiated. They will continue in FY3.

A2. Component 2: Policy Research

Component 2 will increase the availability of rigorous policy analysis capacity for evidence-based policymaking through the following pillar:

- Enhancing the capacity for high quality policy research

A2a. Progress to date per agreed-upon work plan

KRA 2.1 *Enhance High Quality Policy Research Capacity*

The Policy Research component of the project will increase the availability of rigorous policy analysis capacity for evidence-based policymaking through competitively awarded grants. The research grants program supports creative and unconventional partnerships between the public, private, and/or civil society sectors at all levels to develop high quality research, thesis dissertations, and special policy studies. In addition—if requested by the applicants—the grants will include a capacity building component to assist grantees in improving their policy research capacity.

COMPONENT 2: KEY ACHIEVEMENTS

- A tender for receiving grants applications was issued in June 2015
- Received 63 research proposals from 13 universities, and other research institutions and private sector operators
- 3 special research studies completed and one TOR developed
- Completed an assessment of agriculture research capacity in 12 selected public and private universities and CSIR research institutions

Issue RFA for research-grants. In FY2 Q2, the project issued a tender—Request for Application 003 (RFA 003)—to "Develop Rigorous Policy Analysis, Research, and Graduate Thesis/Dissertations for Evidence-based Agriculture Policy-Development under METASIP and other GOG Priorities." Based on the responses received in FY2 Q4, research grants will be awarded to public and private academic and research institutions and to civil society organizations.

The project organized three pre-application meetings in Tamale, Kumasi and Accra to reach out to universities, research institutions, and civil society organizations to explain the categories of research that were being requested, to help them identify research projects, and to explain the

mechanics of the small grants program. Over 100 people participated in these pre-application meetings, ranging from academicians, researchers, graduate students, to CSOs representatives. As per the tender, research proposals must directly contribute to achieving APSP's expected results, namely Indicator 8, and must be measurable under the project's indicators for policy analysis, policy reform, advocacy, or public-private dialogue enhancement. Applicants responding to the tender were asked to demonstrate that they reached out to MOFA before they submitted their application, especially to the Secretariats of METASIP and the SAKSS or to farmer organizations in need of research. They were also asked to demonstrate how the research product will lead to potential reforms of existing policies, laws, regulations, and administrative procedures that will more effectively enhance private-sector investment in agriculture. The project also encouraged researchers to enter into institutional cooperation agreements with MoFA, METASIP implementing institutions, and with other civil society organizations. The linkage of the research community with the public and private sector is to ensure a bond that will be maintained after the project closes, and to establish sustainability in the process of identification of research/thesis dissertations/special studies to address the GoG's priorities.

In response to RFA 003, thirteen organizations submitted their respective "Program of Studies" comprising a total of 63 research proposals to APSP. Applicants include four public universities, two private universities, four public research institutions, one private-sector research organization and one civil society organization, as shown in the chart below.

Institution	Type of institution	Proposed Programs of Study		
		High quality research	Special studies	Thesis dissertations
1. University of Development Studies (UDS)	Public university	2	3	13
2. University of Cape Coast (UCC)		5	2	2
3. Kwame Nkrumah University of Science and Technology (KNUST)		1		
4. University of Ghana				5
5. Presbyterian University College, Ghana (PUCG)	Private university	4	1	
6. Methodist University College, Ghana (MUCH)			1	
7. CSIR-Forestry Research Institute (FORIG)	Public research organization	1		
8. CSIR—Science and Technology Policy Research Institute (STEPRI)		10		
9. CSIR—Food Research Institute (FRI)		1		
10. CSIR—Crop Research Institute (CRI)		3		
11. Farmers Organization Network in Ghana (FONG)	Civil society organization		1	
12. African Center for Economic Transformation (ACET)	Private research organization	1	6	
13. International Development and Research Consult Limited	Consultancy firm	1		
Total		**29**	**14**	**20**

The topic areas covered by the research proposals include: agriculture policy and program reviews, agricultural production, processing and marketing sustainable land management (SLM), climate change and environment, agricultural inputs, irrigation,

food security and food safety, gender in agriculture, nutrition and food safety, and science, technology innovation, technology transfer and post-harvest technologies.

Operationalize research grants. By the end of FY2, APSP finished its preliminary review of the 63 proposals, and has made recommendations to the Technical Evaluation Panel (TEC) comprised of three project staff, two representatives from MoFA, and a Ghanaian scholar. The TEC will complete the evaluations of proposals by November 2015 and awards are expected to begin in December 2015. The project expects to award up to 10 research proposals, including selected high quality research studies, thesis dissertations, and special studies. Completed research studies will contribute to Indicators 8 and 9.

Other Research Initiatives. In FY2, the project undertook three special research studies and a survey study on gender in agriculture and developed one term of reference for the assessment of NAFCO. These studies are expected to contribute to Indicators 8, 4, 11 and 12. The status of these studies and the expected results are indicated in the table below:

Study	Implementing Partners	Status	Expected Results/Impact
Towards a Soil Fertility Strategy in Ghana	Ghana Strategy Support Program/IFPRI, APSP, West Africa Fertilizer Program and African Fertilizer and Agribusiness Partnership	Study completed	Recommendations will be made to GOG to enhance evidence-based policy formation for managing soil fertility in Ghana. IFPRI and APSP are planning dissemination activities to share the study with other stakeholders and DPs in FY3.
Evaluation of the Ghana Commodity Exchange (GCX) and Warehouse Receipt System (WRS)	APSP and CEPA	First stage of assignment completed. Draft of follow-up assessment submitted to APSP	Assessments will assist USAID in identifying potential support for the establishment of sustainable and effective agriculture commodity training systems in Ghana,
Report on Agricultural Insurance in Ghana	Iowa State University under contract with APSP	Study completed	Recommendations will be made to GOG for evidence-based decision making and findings to be shared with other stakeholders and DPs for further research or action.
Baseline survey on gender in agriculture	GIMPA under contract with APSP	Completed and submitted to USAID	Survey to be printed in hard copy and digital formats for public dissemination and for WIAD's further policy-making.
Review of NAFCO policy	APSP-FAO's MAFAP, DFID	TOR finalized	In FY3, project will commission CEPA to conduct the assessment.

Building Capacity for Research among Research Institutions. The project administered a self-assessment tool to assess the research capacity of applicant universities, research institutions, and GoG units in order to gauge their capacity in areas of policy research in assisted research organizations and units. An analysis of the assessment results from twelve universities and research institutions that responded to the questionnaire produced a score of 1.75 out of 5. The interpretation of the baseline score in areas of policy research capacity in assisted research organizations and units is 35%. This score will guide the project to develop potential

technical assistance activities to improve the research capacities of these research institutions, contributing to Indicators 5, 9, and 14.

A2b. Identification of specific problems, recommendations for corrective action, and reasons why established targets not met

Established PMP Targets/Work Plan Milestones for the Quarter	Specific Problem	Reasons for not meeting Established Target/Milestones	Corrective Action
Issue RFP for METASIP priority topics and award grants for research studies to be undertaken.	RFA was not issued and the issuing of a tender to commission these studies is delayed	METASIP Steering Committee (SC) and the SAKSS Nodes were unable to submit to APSP their proposals because of two reasons: first, its members did not meet regularly to allow them to identify and agreed on priorities and hence, were unable to develop the specific ToR for APSP's commissioning.	In FY2, APSP identified individuals at the six thematic groups to develop the ToR and based on this action, 3 out of 5 ToRs were developed in FY2 Q3. Qnce the 5 ToR are developed, APSP will issue in FY3 Q2 a RFP to commission at least 3 priority studies
Improve the score of capacity of selected institutions for agriculture policy research	Although APSP has undertaken an assessment on the capacities of selected institutions, no specific capacity building activities to improve their capacities have taken place.	Given that research activities have not commenced as per RFA-003, nor applicants have requested capacity building assistance	ASPS will reach out to universities and CSIR to identify potential technical assistance activities to improve the capacity of selected institutions to undertake agriculture policy research.

A2c. Outcomes of high level meetings.

Activity	Outcome
Meetings with the Provosts and Deans of selected universities in FY2 Q3.	Project has received 63 proposals from six public and private universities
Meeting with the Director General, and other Directors, of the Council for Scientific and Industrial Research in FY Q3 (CSIR).	Four research institutes under the council have presented proposals for consideration for research grants.

A2d. Assessment of the validity and efficacy of progress against the objectives and results.

Objectives (*Annual Milestones as established in the Annual Work Plan*)	Efficacy of Progress against objectives and results
Publish 2 High Quality Studies	On Track: Studies completed and submitted to USAID for discussion with GoG and other stakeholders. 1. "Towards a Soil Fertility Strategy in Ghana" 2. "Status of Agricultural Insurance in Ghana"
Improve areas of policy research capacity in assisted research organizations and units.	Behind schedule, although assessment of improved areas of policy research capacity among universities and other research institutions was completed in FY2.

A3. Component 3: Policy Advocacy

Component 3 is focused on building the capacity of civil society and farmer-based organizations (FBOs) to develop and implement policy advocacy activities, amplifying their voice in the agriculture policy process to:

- Improve engagement of the private sector in food security policy reforms and implementation.
- Improve the capacity of the private sector to advocate for pro-business agriculture sector reforms.
- Provide civil society support for the policy efforts of other Ghana Feed the Future projects.

A3a. Progress to Date Per Agreed Upon Work Plan

KRA 3.1 *Improved Engagement of the Private Sector in Food Security Policy Reforms and Implementation*

Revitalize and Strengthen APPDF with Support of Private Enterprise Federation (PEF). In FY2, APSP worked with private sector stakeholders including the Private Enterprise Federation (PEF) to revive the agriculture public-private dialogue forum (APPDF) which has been dormant since 2011. In FY2 Q2, PEF with support from the USAID/Feed the Future Africa Lead Project, submitted a grant proposal to APSP for the revival of the dialogue. After considering that PEF would not address the project's concerns raised upon examining their application, in Q2, APSP engaged with the co-chairs of the forum to seek options to effectively carry out the revival of the dialogue initiative. Consequently, in July 2015, APSP supported a stakeholders' meeting convened by the Co-chairs, which was attended by 40 representatives from FBOs, CSOs, agribusiness associations, and other development partners. This meeting was significant because: i) participants renewed their commitment to revive the APPDF as a legitimate and valuable agriculture policy advocacy platform in Ghana; ii) agreed to establish an independent secretariat solely under the direct control of APPDF members, and; iii) agreed to establish an "*ad hoc*" committee to develop a new grant application for the revival of the APPDF and submit it to APSP. In FY3 Q1, the project will meet with the co-chairs to discuss the award process and will award the grant by the end of calendar year 2015. This activity contributes to Indicators 4, 6, 7, 10, 11, 12, 13, and 14.

COMPONENT 3: KEY ACHIEVEMENTS

- Received grant proposal application for the revival of APPDF
- 15 districts policy dialogue forums held in 6 regions
- 12 grantees undertook agriculture policy education and policy advocacy activities in 4 regions of Ghana
- 43 NSAs received USG assistance
- 137 individuals from NSAs were trained to improve their organizational performance and policy advocacy
- 105 journalist trained in policy analysis, advocacy, agriculture reporting, agriculture feature article writing etc.
- 1,413 agriculture sector stakeholders participated in policy dialogues at the district level in seven regions of the country
- More than 1,700 agriculture sector stakeholders received training in agriculture policy

Facilitate Establishment or Expansion of Public-Private Forums for Agriculture Policy Discussions in the Regions and Districts. Traditionally, private sector participation in Ghana's agriculture policy process at the regional and districts levels has been minimal. To bridge this gap, in FY2 APSP organized education and sensitization forums on the Food and Agriculture Sector Development Policy

(FASDEP II) and the Medium Term Agriculture Sector Investment Plan (METASIP) policy documents, in 15 districts across Ghana. These activities have contributed to Indicators 2, 4, 6, 7, 10, 11, 12, 13, and 14. In all, 1,413 public and private stakeholders participated in the forums, which had about a 24% female participation. The distribution of participants at the regional/district forums is detailed below:

Location- Town/Region	Date	Total Number of Individuals	Gender	
			Male	Female
1. Yendi & Mion (Northern Region)	11/8/2014	125	116	9
2. Dodowa (Greater Accra Region)	19/11/2014	84	63	21
3. Somanya (Eastern Region)	01/22/2015	163	132	31
4. Kpando & Anfoega (Volta Region)	02/24-25/2015	201	155	46
5. Tolon & Savelugu (Northern Region)	03/16-17/2015	203	161	42
6. Sawla, Jirapa, Wechiau (Upper West Region)	04/21-23/2015	282	187	95
7. Sandema, Kasenan Nankana, Zebilla, Fumbisi (Upper East Region)	03/23-26/2015	355	266	89
	Totals	**1,413**	**1,080**	**333**

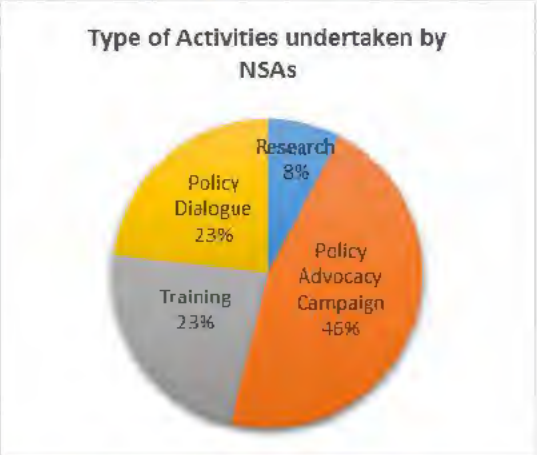
Among these participants were district level government officials including staff of the Department of Agriculture, district assembly members, farmers-based organization (FBO) representatives, CSOs, and private sector operators such as agro-input dealers, agribusinesses, etc. A majority of the districts had never seen such gathering of agriculture sector stakeholders at a single meeting in the districts, with the exception of the annual farmers' day event. These forums strengthened the agriculture policy process at the district level by providing the opportunity to educate on key agriculture policy documents. One immediate outcome of the forums was stakeholders' ability to voice their concerns, hence strengthening or initiating district-level policy making. As a direct result of these district dialogue forums, in FY2, a number of recommendations were agreed upon to catalyze private investment in agriculture in the districts. Among them were two that had not been considered previously; (i) the establishment of dedicated sub-committees for district agriculture development, and (ii) the development of agriculture development and investment plans to promote private investments in agriculture. This demonstrates the impact that project activities are having on district-level policy making.

Districts are stirring up the Agriculture Policy Agenda

- Agriculture subcommittees to be established at District Assemblies
- Districts Departments of Agriculture to facilitate formulation of agriculture development and investment plans.
- District Assemblies to develop by-laws to regulate uncontrolled grazing of cattle and to regulate perennial burning of bushes
- District Assemblies to develop land use "policy", with the support of traditional authorities, to guide uncontrolled acquisition of farm lands for real estate development.
- District Assemblies in the three northern regions will liaise with the traditional authorities to release fertile lands to women for agricultural purposes
- District Assemblies in the Upper West and East Regions to spearhead mass mobilization for tree planting
- District Departments of Agriculture will continue organizing public-private dialogue forums to interact with farmers and other stakeholders in agriculture on a regular basis.

The implementation of these recommendations will improve the enabling environment for private sector investments in agriculture at the district-level and will contribute particularly to attaining Indicator 12. It is expected that other districts will follow suit on developing their own sectorial agendas to fit their specific conditions. APSP will monitor the implementation of these recommendations in FY3 to accomplish Indicator 12, to assess the "percent of recommendations agreed upon during public-private dialogues that are implemented".

Issue Grants to Selected NSAs (Including Apex FBOs Etc.) for Implementation of Agriculture Policy Advocacy Programs. The project is contractually mandated to engage with Non State Actors (NSAs) to increase their capacity to participate in the policy formation process, and to advocate for agriculture policy reform. In FY2, APSP issued an Annual Program Statement (APS) to "Strengthen[ing] Mutual Accountability in the Agriculture Policy Process"; and a Request for Applications (RFA), to "Enhance Institutional Capacity for Agricultural Policy Support Initiatives." As a result of these two tenders, the project awarded 14 grants to 12 non-state actors (NSAs) to undertake policy advocacy, public-private policy dialogues focusing on particular needs of women, research, training of FBOs, and to develop policy communication materials. Of the 12 NSAs involved in APSP grant activities in FY2, 60% are based in the Northern Region—Feed the Future's Zone of Influence—while 40% are based in other regions of the country. Public-private policy dialogues and advocacy made up 69% of the grants activities, while training and research accounted for 31%, as shown in chart above.



APSP's grantees are undertaking policy advocacy campaigns, training of farmers on Ghana's agriculture policy documents, (METASIP and FASDEP) and policy research, and public-private policy dialogues at the district assembly level. As indicated below, NSAs grant activities resulted in 1,750 participants trained on Ghana's agriculture policy documents. The trainees were comprised of 1,206 males and 544 females, representing 69% and 31% of the total, respectively. The activities of grantees are contributing to increasing the understanding of stakeholders at the district level of Ghana's agriculture policy. This means that by engaging with local authorities in dialogue forums on policy, their concerns are now being heard and consequently, policy reforms will follow. Grants awarded for the aforementioned activities have contributed to Indicators 4, 6, 7, 10, 11, 12, 13, and 14.

GRANTEE	RESULTS / INDICATORS			
	Location of Grantee	Number of individuals Trained		
		Male	Female	Total
1. Urban Agriculture Network – URBANET	North	265	190	455
2. SIFA-Agro Trade Investment	North	-	-	-
3. Small Action For Enterprise - SAFE	South	59	13	72
4. Rural Media Network – RUMNET	North	-	-	-
5. Evangelical Presbyterian Development & Relief Agency – EPDRA	North	628	291	919
6. Pan-African Organization for Sustainable Development – POSDEV	South	27	25	52
7. FMSL (RITE 90.1 FM)	South	44	5	49
8. Savannah Integrated Rural Development Aid - SIRDA	North	-	-	-
9. Rural and Urban Women's Association - RUWA	North	-	-	-
10. Ghana Agricultural Associations Business & Information	North	183	20	203

Centre - GAABIC				
11. Northern Corridor Development – NORTHCODE	North	-	-	-
12. Centre for Rural Improvement Services – CRIS	North	-	-	-
Total		**1,206**	**544**	**1,750**

KRA 3.2 *Improve the Capacity of the Private Sector to Advocate for Pro-Business Agriculture Sector Reforms in Ghana*

Assessment of Advocacy Capacity of NSAs at National Level and SADA Zone. The project has the mandate to "*improve key areas of organizational capacity among direct and indirect local implementing partners*." This is aimed at improving the effective participation of NSAs in the agriculture policy making and advocacy processes. In FY2, APSP carried out a training needs assessment for 45 NSAs across Ghana, using the Organizational Capacity Assessment Tool (OCAT), which revealed the weaknesses in the institutional and policy analysis and advocacy capacity of the private sector and civil society organizations in Ghana. Based on the assessment, it showed that priority areas to be covered by the training were: management practices, financial management, operations and human resources management, coalition building, policy analysis and advocacy, and monitoring and evaluation. The average assessment score for the 45 NSAs was 2.5 (62.5%) out of a highest average score of 4.

Facilitate Training of NSAs in Organizational Performance Management Including Coalition, Formation, Service Development and Delivery. Based on the results of the OCAT, APSP issued a tender to subcontract local firms to undertake NSAs training in FY2. Two local subcontractors, West Africa Civil Society Institute (WACSI) and Integrated Management Consultancy Limited (IMCL), were awarded contracts to implement APSP's first NSAs capacity building program. The chart below shows details of the training areas under the program and the number of participants.

Sub-contractor	Type of Performance Improvement Assistance	RESULTS			
		# of NSAs receiving USG Assistance	Number of Individuals Trained		
			M	F	Total
Integrated Management Consultancy Ltd. (IMCL)	Capacity Building Training Areas covered: • Administrative Management • Financial Management • Operations Management • Human Resources Management • Service Delivery System • Grant Proposal Writing • Technical Report Writing • Program Monitoring & Evaluation	41	77	21	98
West Africa Civil Society Institute (WACSI)	Capacity Building Training Areas covered: • Governance & Leadership • Membership Development • Fundraising • Agriculture Policy Analysis • Policy Advocacy	43	83	18	101

After verifying the data to avoid double counting of individuals attending the trainings, 137 individuals received training to assist their organizations in improving

their overall performance, conducting policy analysis, and leading policy advocacy. This training program would improve the capacity of NSAs to engage in fruitful dialogues with policy makers and effectively advocate for policy reforms for a pro-business agriculture sector in Ghana. This activity supports indicators 2, 6, 7, 11, 12, 13, and 14.

Train Media Organizations on Reporting and Communication on Agriculture Policy and Advocacy. In FY2, APSP conducted training on agriculture reporting and communication for media representatives from radio, newspapers, television, and online communication outlets in Accra and in the SADA zone. The main purpose of the training was to encourage and motivate journalists to expand coverage of agriculture policy issues in Ghanaian media. 105 media representatives were trained in FY2 comprising of 61 males and 44 females. The journalists received training in effective communication on agriculture policies, in-depth analysis of agriculture policies, agriculture reporting, gender mainstreaming reporting, advocacy skills, agriculture budgeting and public expenditure tracking, and feature-article writing. An outcome of gathering this group of journalists has been the construction of social media platform dubbed *"Agric Journalists Ghana"* on Facebook to network journalist in agriculture reporting. The page connects journalists who are interested in agriculture policy issues and are ready and willing to increase media coverage of agriculture across Ghana. Some of the trainees have already written reports and articles in national dailies and online news website, same which have contributed to project Indicator 6, measuring the number of agriculture policy communications produced for stakeholder consumption in FY2. It is expected that because of the training and the upsurge in new grants taking place in FY3, there will be an increase in the number of agriculture related publications in the Ghanaian media for public consumption. These activities contribute to Indicator 6.

KRA 3.3 ***Provide Civil Society Support for the Policy Efforts of the Other Ghana Feed the Future Projects***

Collaborate With Other USAID Ghana FTF Projects and Other Development Partners. The project collaborated with the USAID FtF Agriculture Development and Value Chain Enhancement (ADVANCE) II Project to organize agriculture education and sensitization forums in nine districts in three regions of the North. The project also collaborated with the USAID FtF Africa Lead Project to assist the co-chairs of APPDF to develop a proposal for a grant to revive the APPDF. The collaboration between APSP and other FtF IPs will continue in FY3 to strengthen FBO dialogue platforms to participate in the policy process at the district level.

A3b. Identification of Specific Problems and Recommendations for Corrective Action and Reasons Why Established Targets Not Met

Established PMP Targets/Work Plan Milestones for the Year	Specific Problem	Reasons for not meeting Established Target/Milestones	Corrective Action
One national agriculture public private dialogue forum (APPDF) established and functional	APPDF has not been revived	Inability of PEF as APPDF's secretariat to organize stakeholders meetings and to resubmit a new grant application to APSP	In FY2 Q2, APSP successfully initiated conversations with the co-chairs of the dormant APPDF to "re-group" the founding members, commit again to

			reviving the forum and finally, develop a new grant application for APSP's review.
Annual Target/Achieved: - No. of agriculture policy communications: 50/35 - Campaigns advocating on separate needs of women and men: 5/5 - Number of policy dialogues: 40/58 - CSOs receiving USG assistance: 20/43	Some of these targets have not been accomplished, because there is not a "critical mass" of grantees implementing advocacy activities, although two tenders were issued but final awards just reached a relatively small number of local NSAs.	Grant applications from NSAs have not met the necessary technical requirements nor have proponents demonstrated grant management capabilities. In consequence, APSP has been unable to expand the number of grants, which contribute to meet some of these targets.	With the implementation of the on-going grant activities, the new grants to be awarded in FY3 and the number of journalists already trained in FY2, it all will provide the basis for increasing the number of organizations and individuals developing communicational materials. A functioning APPDF will also contribute to increase agriculture communications.
Specific Targets (Annual Target/Achieved): Percentage of recommendations agreed upon during public private dialogue forums 60/0	APSP has not been able to follow-up on the implementation of these recommendations, because institutions in charge of implementing them were unable to take decisions and there is a gap between what is agree-upon and decision making capacity (political will?)	The delayed inauguration of district assemblies created limitations on the implementation of the recommendation arrived at the district dialogue forums.	With the inauguration of the district assemblies nationwide in October 2015, APSP will liaise with ADVANCE II to follow-up on the agreed recommendations Similarly, APSP will follow-up on the implementation of recommendations with the Departments of Agriculture.

A3c. Outcomes of High Level Meetings

Activity	Outcome
Met with USAID FtF ADVANCE II's Policy Advocacy Team in FY2 Q1 to plan and organize district agriculture policy forums.	APSP collaborated with ADVANCE II and organized 9 agriculture policy forums in the Northern, Upper West and Upper East Regions.
Met with co-chairs and vice chair of APPDF in FY Q2 to discuss the revival of the APPDF and the way forward for the Forum.	APPDF leadership, with support from APSP, organized a stakeholder's consultative meeting which resulted in the presentation of a new grant application to APSP for financial support to revive the Forum.
Met with the President and General Secretary of SEEDPAG and STAG President in FY2 Q4 to discuss support from APSP to form an umbrella organization to represent seed traders and other sector stakeholders	Representatives of STAG and SEEDPAG jointly presented a grant proposal to APSP to support the formation of NSTAG. APSP reviewed the application and recommended a stakeholder's meeting for broader participation in the umbrella organization.

A3d. Assessment of the Validity and Efficacy of Progress against Objectives and Results

Objectives (*Annual Milestones as established in the Annual Work Plan*)	Efficacy of Progress against objectives and results	
Develop 50 Agriculture policy communications developed and or written for stakeholder consumption.	Behind schedule	Training of journalist in policy analysis, agriculture reporting and feature article writing and capacity building of 43 NSAs in policy analysis and advocacy, will contribute to increase the number of communicational materials in FY3.

5 policy advocacy campaigns that focus on the separate needs of men and women smallholder farmers held.	On Track	New grants for policy advocacy that focus on the separate needs of women and men will continue contributing to this indicator
Implement 40 Public-private dialogues that focused on policy that supports private sector investment.	On Track	In FY2, APSP and grantees have implemented 58 public-private dialogues, exceeding the target.
5% of recommendations agreed upon during public-private dialogue forums that are implemented.	Behind schedule	Participants at the district-level dialogues sponsored by APSP agreed upon on over 50 recommendations. However, policy-making process at the district assemblies has been minimal as elections were delayed and no decisions were being taken. Inauguration of the assemblies in October 2015 will facilitate progress towards achieving this target. In FY3 APSP will review the implementation of these recommendations to address achieving this target.
20 food security private (for profit), producers organizations, agribusiness organizations receiving USG assistance.	On Track	APSP met and exceeded this target after the NSA training that was implemented at the end of FY2

C. PROGRESS ON GENDER AND ENVIRONMENTAL COMPLIANCE

C1. Gender

The project on-boarded a gender specialist in FY2 Q2. A number of gender activities have been implemented across all the major components of the project in FY2 in line with the project objective to make gender a top priority in its activities.

Activity	Outcome/Objective
Baseline Survey of Gender and Agricultural	To provide baseline data to support the Implementation of the Gender and Agricultural Development Strategy (GADS) developed by MoFA aimed at integrating and mainstreaming gender concerns into the ministry's programs.
Gender Training for Selected Media Staff	Two training programs to mainstream gender in agriculture reporting and communication for selected media staff in Accra and the SADA, implemented in Q2 and Q3, respectively. 47 Ghanaian journalists (38 men and 9 women) from radio, newspapers, television and online communication outlets at the national-level participated in the trainings.
Gender Training for Non State Actors	Two training events implemented in the Northern Region and in the southern area of Ghana in Q3 to build the capacity of NSAs on gender mainstreaming within their own institutional activities. 81 individuals (27 females and 54 males) participated in the training.
Assessment of Gender Mainstreaming at MoFA	APSP conducted a Gender Assessment of MoFA Directorates and other relevant GoG during the last quarter of FY2, in order to guide M&E reporting on gender activities and indicators. The gender gaps identified from the survey are expected to provide the basis for rolling gender indicators during the revision of the APSP gender strategy. It will further provide a baseline for evaluating performance on gender indicators at the project close out.
Gender Technical Support to APSP tenders	Gender integration considerations were incorporated in all APSP tenders. Tenders include a requirement for evaluating applications for grants and research based on gender sensitivity. Four grantees are focusing their activities solely on women: Rural Media Network (RUMNET); Rural and Urban Women's Association (RUWA); Savannah Integrated Rural Development Aid (SIRDA) and Coalition for Development of Western Corridor of Northern Region, Ghana (NORTHCODE).

C2. Environmental Compliance

As APSP is a policy development and research-focused program, project activities are not expected to negatively impact the environment. In FY2, project activities were primarily trainings, workshops, meetings and surveys as well as strategic planning sessions with different stakeholders. As in FY1, FY2 activities were not subjected to any environmental examination. During the implementation of its activities with GoG institutions, academic and research institutions and other NSAs, APSP will deliberately consider issues that are likely to generate any adverse environmental impacts and work with our partners to address them. The table below shows the activities excluded from initial environmental examination.

Activities under 22 CFR 216 Categorically Excluded	APSP Activities in FY 2 (illustrative)
• Activities involving education, training, technical assistance or training programs, except to the extent such programs include activities directly affecting the environment (constructions, etc.)	• Training of MoFA staff in policy and development planning • Training of CSOs/FBOs in organizational improvement & policy advocacy • Training of Media houses in agriculture reporting
• Activities involving analyses, studies, academic research or workshops and meetings	• Pre application meetings with Universities and research institutions on the submission of research proposals • Forum on Agricultural extension policy review

• Activities involving document and information transfers	• Development of CAPI software Application • Workshop presentation on Gender data in Agriculture
• Studies, projects or programs intended to develop the capability of recipient countries and organizations to engage in development planning	• Work Planning with METASIP/ SAKSS secretariat to develop annual work plans • Workshop to discuss establishment of "Policy Unit" at MoFA

D. MONITORING AND EVALUATION

There was progress in FY2 towards achieving indicator results outlined in APSP's PMP. Where progress towards achieving targets is delayed, as is the case for policy research indicators under Component 2, APSP has ramped up activities to accelerate awarding grants for 10 research proposals in FY3.

APSP participated in an M&E working group meetings organized by the Economic Growth Office for Feed the Future implementing partners, where an agreement was reached between IPs and the Economic Growth Office on the processes to modify and update M&E Plans and to set baselines and targets. It was also agreed that protocols be harmonized for collecting data for same indicators for reporting to the annual Feed the Future Monitoring system (FTFMS).

Details and analysis of the processes for achieving indicator results against targets are located in Annex A: APSP Indicator Data Table

E. FINANCE

E1. Finance

Project implementation was well under way in FY2, and the project ramped up grants, procurements, and subcontracts resulting in an increase in project spending. The home office Project Management Unit (PMU) worked closely with the field office finance manager and operations director, as well as the home office support divisions, to ensure that expenses were properly documented and booked in our accounting system for prompt invoicing.

ANNEX B: PROJECT SNAPSHOTS

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FROM THE AMERICAN PEOPLE

SNAPSHOT

Towards a Vibrant Seed Industry in Ghana: Enhancing Compliance with the Law

Bringing together seed players from public and private sector to build strong structures will lead to the establishment of a vibrant and sustainable agricultural inputs industry in Ghana

Participants at one of the workshops

"One problem confronting the private sector is seed production and seed trade. People need to produce and sell the seeds, but this has always been a problem. With these workshops, seed sector players now have an appreciable level of understanding on how to operate. I am particularly happy that we in the seed industry can now have a licensing policy to guide our activities,"

Cletus Achaab,
Seed Advisor, USAID/Feed the Future Agriculture Technology Transfer Project.

Telling Our Story
U.S. Agency for International Development
Washington, DC 20523-1000
http://www.usaid.gov/results-data/success-stories

The development of a vibrant and modern seed industry in Ghana supplying good quality seeds is tantamount to improving agriculture productivity and to raising the incomes of millions of smallholder farmers in the country. To this end, USAID is supporting the Government of Ghana to enhance the legal and technical frameworks to promote, regulate and monitor the exportation, importation and commercial transactions of seeds.

Specific activities sponsored by USAID include the implementation of four technical trainings as follows:

- *National Seed Council Workshop* to provide members of the council with a comprehensive view of the seed regulatory framework and to initiate the development of their internal operational rules as per the mandate emanating from Act 803.
- *Crop Variety Licensing Workshop* to define and develop a licensing policy and explain the language and format of licensing contracts between Ghanaian National Research Organizations (NAROs) and seed enterprises.
- *Technical and Variety Release Committee Workshop* to develop the Committee's operation rules by outlining its role, responsibilities and functions and to emphasize its importance for developing the seed industry in Ghana.
- *Quality Management for Testing Crop Varieties Workshop* to adjust and operationalize common procedures for the evaluation of crop varieties based on national, regional and international legal frameworks.

Thomas W. Havor, from the Seed Producers Association of Ghana and a member of the National Seed Council, expressed satisfaction with the workshops: "The trainings have been very useful to us. Even though the National Seed Council has been in place for some time now, we have never met to put anything into practice because of lack of financial support. Today, with USAID's assistance, the Council will now function. These workshops are helping us all to jointly identify the issues limiting the development of the industry, since for the seed sector to prosper in Ghana, researchers, government and the private sector must construct a common vision for the development of the seed industry in Ghana".

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SNAPSHOT

Building the Instituional and Organizational Capacities of Non-State Actors to enhance Policy Advocay

Building the capacities of private sector actors is a sure way to deepen their understanding of the agriculture policy process and to amplify their voices for them engage policy-makers and advocate for changes in the agriculture policy process.

Participants at one of the training sessions

"My organization has not been deeply involved in policy analysis and advocacy just for the reason that none of the staff including me have got the capacity to analyze policies and advocate for the needed change. All we knew was mobilizing the masses to demonstrate against government policies and laws. The training received from APSP was a blessing to me and my other three staff members. Now we have the needed tools and techniques to do policy analysis, identify advocacy issues, develop advocacy action plans, write policy briefs and confidently engage policy makers and duty bearers. Thanks to USAID APSP for this opportunity"

Kassavubu Mordzi, Executive Director
Common Action for Rural Development

Telling Our Story
U.S. Agency for International Development
Washington, DC 20523-1000
http://www.usaid.gov/results-data/success-stories

USAID has provided to over 40 Ghanaian organizations, intense training to enhance their advocacy capacity skills. A major challenge facing these organizations is their weak capacity to engage with government to push for policy changes and policy alternatives. This is why it is so important to enable the organizations to enhance their ability to make their voices heard, so their concerns and proposals for policy reform are listened to by policy makers.

To overcome such challenge, USAID is implementing a training program to equip the organizations with the knowledge and skills to actively participate in Ghana's agriculture policy making process. The training in policy advocacy is an investment in peoples' empowerment; that is, it provides them with the capacity to make inputs into policies and programs so these respond to real needs; hence, making public expenditures more than relevant. The training curricula of the program has covered topics such as governance, leadership, policy analysis, technical report writing, advocacy, among several others.

Hajia Alima Sagito-Saeed, Executive Director of the Savannah Integrated Rural Development Aid (SIRDA) an advocator for women's rights and participant in the training program, candidly says: "when we started our organization some years back, we had no knowledge of how policies are analyzed, formulated, implemented and monitored. Most of our activities are based on services delivery directly to beneficiaries with no attention to policy advocacy targeted at the authorities. Because of our limited capacity to even identify the issues, we had no knowledge on how to design a plan for a successful policy advocacy campaign". The trainings, Hajia continues, "have started changing the organization; management has reviewed our mission statement to include advocacy, revamped the advocacy unit, started the preparation of an advocacy plan and developed a policy brief on the situation of women farmers' access to agriculture extensions services".

ANNEX C: PROJECT SPONSORED-STUDIES/SPECIAL REPORTS

C1. MEAS-APSP Report: Agriculture Extension Policy Forum: Ghana

FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

AGRICULTURAL EXTENSION POLICY FORUM: GHANA

Report on the Policy Forum sponsored by

Ghana Directorate of Agricultural Extension Services, Ministry of Food and Agriculture;

Modernizing Extension and Advisory Services; and

Agriculture Policy Support Project

May 12-13, 2015

Accra, Ghana

June 2015

ILLINOIS
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MEAS
Modernizing Extension and Advisory Services

AGRICULTURAL EXTENSION POLICY FORUM: GHANA

Report on the Policy Forum sponsored by Ghana Directorate of Agricultural Extension Services, Ministry of Food and Agriculture; Modernizing Extension and Advisory Services; and Agriculture Policy Support Project

May 12-13, 2015

Report prepared by:

Dr. Vickie Sigman
Senior Agricultural Extension Policy Specialist, Modernizing Extension and Advisory Services Project

MEAS, Modernizing Extension and Advisory Services
www.meas-extension.org

Leader with Associates Cooperative Agreement No. AID-OAA-L-10-00003.

The report was made possible by the generous support of the American people through USAID. The contents are the responsibility of the authors and do not necessarily reflect the views of USAID or the United States government.

Table of Contents

ACRONYMS

AEAS	Agricultural Extension and Advisory Services
AFAAS	African Forum for Agricultural Advisory Services
APSP	Agriculture Policy Support Project – USAID Ghana
DAES	Directorate of Agricultural Extension Services
FASDEP II	Food and Agricultural Sector Development Policy II
FBO	Farmer-Based Organization
GFAASS	Forum for Agricultural Advisory Services and Support, Ghana
MEAS	Modernizing Extension and Advisory Services
METASIP	Medium Term Agriculture Sector Investment Plan
MOFA	Ministry of Food and Agriculture
NGO	Non-governmental Organization
RELC	Research Extension Linkage Committee
USAID	United States Agency for International Development

ACKNOWLEDGMENTS

The author would like to express her gratitude for the support throughout the development and implementation process of the Policy Forum received from the United States Agency for International Development (USAID)/Ghana, particularly from Mr. Samson Konlan, Food Security Specialist and Dr. Fenton Sands, Senior Food Security Officer, and from the Modernizing Extension and Advisory Services (MEAS) Project, particularly from Dr. Paul McNamara, Director. Also much appreciated is the support of Dr. Kwame Amezah, Director, Directorate of Agricultural Extension Services (DAES), Ministry of Food and Agriculture (MOFA) and the leadership and significant assistance—prior to, during, and following the Forum—of DAES staff, Mr. Gabriel Owusu, Deputy Director; Mr. Theophilus Osei Owusu, Deputy Director; and Mr. Emmanuel Odame, Deputy Director. While in Ghana, collaboration with the Agriculture Policy Support Project (APSP) was vital to ensuring the relevance of the Forum, attendance of stakeholders, and the smooth implementation of the Forum. Thanks are extended to Mr. Kwaku Owusu-Baah, APSP Senior Policy Advisor for steering this collaboration.

Various people played multiple roles in the design, development, and implementation of the Policy Forum. All receive heartfelt thanks. The following recognizes some of these people in some of their roles.

- For their considerable contributions to the design process prior to my arrival in Ghana, thanks go to Mr. Gabriel Owusu, DAES Deputy Director and to Dr. Austen Moore, Post-Doctoral Research Associate, and MEAS.
- To Ms. Abigail Kwashie, APSP Administrative Assistant, a special thank you for her diligent attention to logistical and other details in support of the Forum.
- Thanks go to the Forum Chair, Mr. Joseph Faalong, Regional Director of Agriculture, Upper West Region and to the Forum Master of Ceremonies, Mr. Theophilus Osei, DAES Deputy Director for providing useful commentary on Forum processes and for expedient guidance through these processes.
- The important role played by those who facilitated group work sessions during the Forum is noted and appreciated. Thank you to facilitators earlier mentioned Mr. Gabriel Owusu and Dr. Paul McNamara and also to Mr. Maxwell Agbenorhevi, Agricultural Economist, APSP; Ms. Hannah Nyamekye, Gender Specialist, APSP; and Mr. Oliver Ferguson, International Programs Coordinator, MEAS.

Finally, a very big thank you to all those who participated in the Forum. Your collective experiences, inputs, and expertise underpin the results of the Forum and give impetus to continuing the agricultural extension policy process in Ghana.

The author alone accepts responsibility for any shortcomings or factual errors in this report

EXECUTIVE SUMMARY AND RECOMMENDATIONS

BACKGROUND

Ghana's current Agricultural Extension Policy was written in 2001. Given the emphasis on agricultural extension in more recent Ghanaian policies, the need arose to review the existing extension policy and assess its implementation to determine if there are specific areas that may require further attention to ensure that policy aims are being met. Three partnering entities—the Directorate of Agricultural Extension Services, Ministry of Food and Agriculture, Ghana; Modernizing Extension and Advisory Services, University of Illinois; and the Agriculture Policy Support Project, USAID Ghana—collaborated in the design and delivery of a multi-stakeholder Agricultural Extension Policy Forum to address this need.

FORUM DETAILS

The Agricultural Extension Policy Forum was held the 12th and 13th of May 2015 in Accra, Ghana at the Best Western Premier Accra Airport Hotel. The overarching purpose of the Forum was to promote policy dialogue and conduct a stakeholder review of Ghana's existing agricultural extension policy and its implementation. Sixty-two people participated in the Forum with representatives from the public, private, and civil society sectors.

Several opening presentations set the dynamic tone of the Forum. This included a presentation on Liberia's National Policy for Agricultural Extension and Advisory Services, a presentation which identified elements of effective extension policies, one which looked at policy from farmers' perspectives, and one which informed participants about continental and Ghanaian agricultural extension apex organizations.

SMALL GROUP WORK

The main work of the Forum was carried-out by participants who concentrated on five themes embodied in the current extension policy and carried-out three exercises in their review of the extension policy. Through small group work, participants summarized the theme. They analyzed progress made relative to the theme, identifying constraints to further progress, and they identified gaps in the policy theme as well as possible changes to the policy theme. To complete their tasks, groups developed recommendations to address the constraints, gaps, and changes they had identified.

RECOMMENDATIONS

The recommendations resulting from small group work are reported below by policy theme. Groups selected their highest priority recommendation from among these themed recommendations. Priority recommendations are also reported below.

POLICY THEME I: FARMER DEMAND-DRIVEN EXTENSION RECOMMENDATIONS

- Review and update the farmer-based organization (FBO) development policy and strategy at the Directorate of Agricultural Extension Services and facilitate its implementation by all stakeholders

- Establish a multi-stakeholder planning and implementation platform for agriculture development at the district-level

POLICY THEME II: MANAGEMENT AND OPERATIONS OF EXTENSION – PART B RECOMMENDATIONS

- Promote the use of volunteers and lead farmers in extension programs
- Target program resources to women extension service providers and beneficiaries
- Utilize private sector providers and non-governmental organizations (NGO) to increase the number of women extension workers
- Strengthen women-based FBOs
- Strengthen social mobilization and technical capacities of FBOS to obtain services they require
- Support an Agricultural Extension Development Fund to promote and coordinate private sector and Metropolitan, Municipal, and District Assemblies participation in extension services delivery
- Add a sentence to the policy emphasizing the Ministry of Food and Agriculture's (MOFA) provision of an enabling environment and support of pluralistic public, private, and NGO sector extension

POLICY THEME III: MANAGEMENT AND OPERATIONS OF EXTENSION – PART B RECOMMENDATIONS

- Ensure adequate budgetary provision for agricultural and extension services from District Internally Generated Funds and the District Assemblies Common Fund
- Mandate the establishment of an agriculture sub-committee as part of District Assemblies
- Establish a participatory M&E system at all levels
- Utilize alternative methods to deliver extension services such as E-extension, radio, and television
- Develop a performance-based assessment system to monitor extension performance

POLICY THEME IV: CAPACITY BUILDING FOR EXTENSION RECOMMENDATIONS

- Clarify how capacity building is to be funded identifying possible funding sources such as the District Development Facility, District Assemblies Common Fund, Public Private Partnerships, Internally Generated Funds, Government of Ghana, etc. As possible funding sources
- Harmonize capacity building activities of all stakeholders within the extension services sector (e.g., training institutions, non-state actors, MOFA)
- Provide frequent demand-driven training which is gender-sensitive and responsive to farmer needs
- Support the development of a clearly defined capacity development plan for frontline staff
- Encourage capacity development collaboration between public and private sectors
- Ensure the policy is understood by all stakeholders

POLICY THEME V: INCORPORATING EMERGING ISSUES RECOMMENDATIONS

- Update the policy continuously on emerging issues and ensure staff are trained to respond to emerging issues
- Develop linkages with relevant institutions to address emerging issues such as nutrition, gender, and health
- Utilize resources jointly among relevant institutions for cross-cutting issues
- Mainstream emerging issues in MOFA's agenda and in the agenda of collaborating organizations

PRIORITY RECOMMENDATIONS

- Review and update the FBO development policy and strategy at the Directorate of Agricultural Extension Services and facilitate its implementation by all stakeholders
- Target program resources to women extension service providers and beneficiaries
- Ensure adequate budgetary provision for agricultural and extension services from District Internally Generated Funds and the District Assemblies Common Fund
- Clarify how capacity building is to be funded identifying the District Development Facility, District Assemblies Common Fund, Public Private Partnerships, Internally Generated Funds, Government of Ghana, etc. As possible funding sources
- Update the policy continuously on emerging issues and ensure staff are trained to respond to emerging issues

NEXT STEPS

Next steps to move the policy process forward were discussed at the Forum. These included updating the policy and developing a financed implementation plan to support doing so. Two volunteer groups were organized to move Forum recommendations and other extension policy processes forward. These are the Extension Policy Standing Committee and the Policy Champions. The Agriculture Policy Support Project also anticipates collaborating in implementing next steps.

I. CONTEXT

A. BACKGROUND

Effective agricultural extension systems that provide quality and timely services to farmers are commonly considered essential to growth and development in the agricultural sector. Extension has also been linked to the promotion of food security, poverty reduction, and economic growth.

In recognition of these connections, several of Ghana's recent national policies have emphasized agricultural extension's role in supporting agricultural development. The Food and Agricultural Sector Development Policy (FASDEP II) lists enhancing extension services as a specific policy strategy.[1] Similarly, the Medium Term Agriculture Sector Investment Plan (METASIP) 2011-2015 identifies poor extension services as a basic problem of the agriculture sector. The Plan explicitly calls for improvements to extension services to mitigate against and address the risk to METASIP successes that farmers may not accept improved crop and livestock technologies.[2]

Ghana currently has an Agricultural Extension Policy, written in 2001.[3] Given the emphasis on agricultural extension in more recent Ghanaian policies, the need arose to review the existing extension policy and assess its implementation to determine if there are specific areas that may require further attention to ensure that policy aims are being met. This need was addressed by three

[1] MOFA. (2007). *Food and Agriculture Sector Development Policy (FASDEP II)*. Accra: Republic of Ghana.

[2] MOFA. (2010). *Medium Term Agriculture Sector investment Plan (METASIP) 2011-2015.* Accra: Government of Ghana.

[3] DAES. (2001). *Agricultural Extension Policy (Final Draft) April 2001*. Accra: MOFA.

collaborating entities: Directorate of Agricultural Extension Services (DAES), Ministry of Food and Agriculture (MOFA), Ghana; Modernizing Extension and Advisory Services (MEAS), University of Illinois; and the Agriculture Policy Support Project – USAID Ghana (APSP).

B. COLLABORATING ENTITIES

The three partnering entities—DAES, MEAS, and APSP—collaborated in the design and delivery of a multi-stakeholder Agricultural Extension Policy Forum for reviewing the existing extension policy.

Within MOFA, DAES is the central agency providing public extension and advisory services in Ghana. DAES is responsible for policy formulation and planning as well as the implementation of policy through the coordination of extension activities and provision of direct technical support to Ghanaian farmers. DAES actively partners with other service providers to establish an efficient, demand-driven, and decentralized extension system in Ghana.

The MEAS project is operated from the University of Illinois at Urbana-Champaign in the United States with funding from USAID. The objective of MEAS is to improve and modernize rural extension and advisory service systems for the purpose of promoting agricultural development and enhancing the livelihoods of the rural poor. Among its initiatives, the MEAS project has been approved for a multi-part work plan to assist agricultural development and serve farmers in areas of northern Ghana in which USAID/Ghana Feed the Future activities are implemented.[4] To complement the extension policy review process, MEAS conducted a comprehensive review of relevant policy documents and research and held key informant interviews with key extension policy stakeholders to identify relevant and emerging extension policy issues of concern.

The APSP project of USAID aims to increase the capacity of the government public sector, the private sector, and civil society organizations to implement evidence-based policy formation, implementation, research, and advocacy and perform rigorous monitoring and evaluation of agricultural programs implemented under Ghana's METASIP.

C. GHANA'S EXISTING AGRICULTURAL EXTENSION POLICY

As earlier mentioned, Ghana currently has an Agricultural Extension Policy which was written in 2001. There are several other versions of the policy document, produced at later dates. An analysis of the similarities and differences among the documents was carried-out to determine which document should be reviewed at the Policy Forum. Based on the analysis (Appendix A) DAES advised that the most recent document, and the appropriate document to use for purposes of the May 2015 Agricultural Extension Policy Forum, is the MOFA/DAES document entitled: *Agricultural Extension Policy (Abridged Version)*, December 2005. A copy of this document is attached as Appendix B.

[4] Feed the Future is the U.S. government's global food security initiative which addresses global hunger and food insecurity. In Ghana, Feed the Future activities are focused in the north.

II. FORUM DETAILS

A. LOCATION, DATES, AND AGENDA

The Agricultural Extension Policy Forum was held in Accra, Ghana at the Best Western Premier Accra Airport Hotel for one and one-half days on the 12th and 13th of May 2015.

The purpose of the Forum was to promote policy dialogue and conduct a stakeholder review of Ghana's existing agricultural extension policy and its implementation. Its objectives were to:

- Create awareness of extension policy issues in other countries,
- Summarize and analyze key themes in the existing agricultural extension policy framework,
- Assess policy implementation progress,
- Develop prioritized recommendations for implementation and policy framework improvements, and
- Establish an Extension Policy Standing Committee to advocate for extension policy.

As detailed in the Agenda (Appendix C) the Forum provided the platform for participants to express their expectations of the Forum; for presentations on extension policy issues; and for small group engagement in examination and discussion of the existing agricultural extension policy and also in related critical gap and change analysis as well as in key recommendations development. Plenary discussions offered space for the group as a whole to discuss deliberations of small group work.

B. PARTICIPANTS

A total of 62 people, 14 female and 48 male, participated in the Forum. Participants came from an array of public, private, and civil society sector organizations and institutions. Particular emphasis was given to inviting participants from northern District Assemblies, including from the Departments of Agriculture, because the primary focus of USAID Feed the Future activity is in the north. The List of Forum Participants (Appendix D) shows representation from non-governmental organizations (NGOs), research, academe, USAID projects, farmer associations, Liberia's Ministry of Agriculture, international and African extension organizations, District Assemblies, DAES, and MOFA. Regional Directors, or their representatives, from Northern, Upper East, Upper West, and Greater Accra participated in the Forum as did a number of Municipal and District Directors from the North.

The Forum was supported by a DAES/APSP Secretariat. Several journalists from national and local newspapers and television stations covered and reported on the event.[5]

III. FOCUSING THE FORUM AND SETTING THE TONE

A. INTRODUCTION

Heads of the collaborating partners opened the Forum with the Acting Chief Director, MOFA providing the Keynote Address. This was followed by participant introductions and by Mr. Gabriel Owusu's,

[5] See http://thebftonline.com/business/agribusiness/14164/Agric-extension-policy-framework-under-review.html for coverage by Ghana's Business and Financial Times, May 15, 2015

DAES Deputy Director presentation of the working definitions of policy and other introductory issues (Appendix E). The working definitions of policy used at the Forum are:

- A policy is a formal statement of a principle or rule that members of an organization must follow. Policies address issues important to the organization's mission or operations.
- A policy is a definite course or method of action selected from among alternatives and in light of given conditions to guide and determine present and future decisions.

Participants were asked to note their expectations (Appendix F) for the Forum. Various expectations were then listed and discussed in plenary session. Participant expectations ranged from learning more about agricultural extension policy processes, to producing actionable recommendations to guide the policy development process, to having the opportunity for open dialogue about policy issues, to understanding how District Assemblies and District Departments of Agriculture will work together to positively impact local and district economies and communities. At the beginning of the program, some participants expected that the Forum would produce a revised policy. This expectation was clarified during the program. The Forum would produce recommendations to guide revision but was not designed to produce a revised policy document.

B. PRESENTATIONS

Presentations on various aspects of extension policy set the dynamic tone of the Forum. Highlights of presentations follow.

Formulation Process and Implementation Status of Liberia's National Policy for Agricultural Extension and Advisory Services (AEAS) (Appendix G). In his presentation, Dr. Zinnah, Ministry of Agriculture, Liberia described the processes through which Liberia moved to formulate its first National Policy for Agricultural Extension and Advisory Services and he discussed policy implementation constraints. He noted the Liberia Policy promotes a pluralistic, demand-driven, market-oriented system that is responsive to cross-cutting issues. Dr. Zinnah identified various constraints to policy implementation including the devastating effect of the Ebola virus outbreak, weak public-sector capacity to coordinate a pluralistic system, and, excluding the highly-commercial sectors (e.g., rubber and oil palm) the limited number of private-sector extension providers. He shared lessons learned from the Liberia experience, among them: the importance of resources to obtain stakeholder input to the policy process, the need for an explicit plan to move through all stages of the process from problem definition to evaluation, and the value of having a permanent extension policy advisory board.

Elements of Effective Extension Policies: Lessons from Recent MEAS Experience (Appendix H). Dr. Paul McNamara, MEAS, made the case for investing in extension for development based on data indicating growth originating from agriculture is more effective at reducing poverty than growth from other sectors. This he connected to statements in the Gates Letter 2015 which emphasize agricultural innovation and assert that investing in extension is the only way to reap the full benefit of innovations.[6] He identified and discussed several key policy issues including extension approaches,

[6] Gates, B. & Gates, M. (2015). *2015 Gates Annual Letter.* Available at http://www.gatesnotes.com/2015-annual-letter

coordination of extension, extension financing, and targeting of client groups. Relevant policy lessons from other countries that were emphasized included the importance of a capable public administration at all levels to drive policy processes and the fundamental requirement of political commitment to promote them.

Preliminary Findings from the Field: Farmer Perspectives (Appendix I). In her presentation, Dr. Vickie Sigman reported on her recent field work with four farmer groups in northern Ghana. She stressed that words for concepts such as policy and demand-driven extension do not exist in local languages and need careful translation. She found that farmers in general view Assembly Members and Chiefs as the people who make policy. Farmers do not believe they have very much voice in policy making. A possible policy implication of this finding is to design (or strengthen) and support a system to fully-engage farmers in policy processes. Farmers also do not believe they can "demand" or tell their Agricultural Extension Agent what type of training they need. A possible policy implication of this finding is that farmers need facilitation, from extension agents and/or others, to articulate their extension needs through to government.

Establishing and Strengthening National Multi-Stakeholder Platform - Country Forum: The Experience of AFAAS and GFAASS (Appendix J). Mr. Gabriel Owusu, DAES, familiarized participants with the African Forum for Agricultural Advisory Services (AFAAS). AFAAS is the umbrella organization for agricultural extension and advisory services in Africa. It aims to create linkages and partnerships among extension service providers in order to improve service delivery to farmers. At the country level, AFAAS seeks to establish Country Forums which bring together extension providers for information exchange and sharing of lessons learned. Mr. Owusu explained that Ghana has a Country Forum, known by the acronym GFAASS (Forum for Agricultural Advisory Services and Support, Ghana). He called for participants to volunteer to form an Extension Policy Standing Committee to operate under the umbrella of the Country Forum. The roles of the Standing Committee are to advocate for extension policy, serve as contact point for extension policy issues, and assist in moving Forum recommendations and other extension policy processes forward.

Overview of Ghana's Agricultural Extension Policy. Participants received a copy of Ghana's existing DAES *Agricultural Extension Policy (Abridged Version) December 2005* along with their invitation to the Policy Forum. To facilitate a deep understanding of the existing policy, Mr. Gabriel Owusu, on behalf of DAES provided an overview (Appendix K) of the policy, its themes, and principles. A summary follows:

The impetus for development of the policy came about in part due to the need to engage the private sector including farmer-based organizations (FBOs) in extension delivery, to consider decentralization in extension programming, and to incorporate emerging issues such as HIV/AIDS, farmer empowerment, environmental degradation, and poverty reduction in the extension agenda. Beginning in 2001, MOFA led the policy formulation process with an abridged version of the policy published in 2005.

The existing policy mission statement stresses working with regional and district administrations to address farmer needs, ensure that farmers adopt sustainable methods, raise agricultural productivity, and create an enabling environment for private sector participation in extension funding and delivery. The policy has various guiding principles which frame the policy overall. The policy can be categorized

into five themes, with related principles, which Mr. Owusu reviewed with participants. The themes are:

I. Farmer Demand-Driven Extension
II. Management and Operations of Extension Part A: Finance, approach, targeting, and private sector.
III. Management and Operations of Extension Part B: Decentralization and Monitoring and Evaluation (M&E)
IV. Capacity Building for Extension
V. Incorporating Emerging Issues

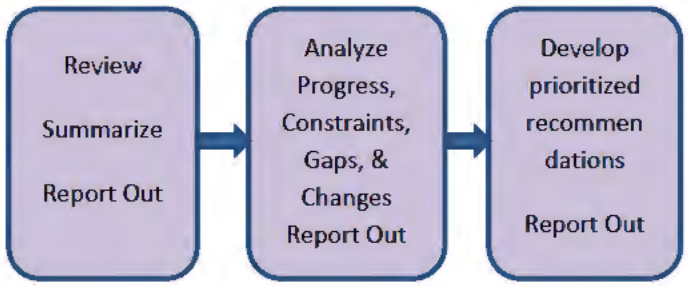
IV. SMALL GROUP WORK

A. ORGANIZATION AND EXERCISES

The overarching purpose of Small Group Work was to engage participants in reviewing the existing DAES *Agricultural Extension Policy (Abridged Version) December 2005*. There were five working groups, each organized around one of the five above policy themes. The design of the Forum called for groups of participants to engage in three specific exercises. During Forum registration and prior to the opening, participants were provided a hand-out explaining the organization of groups and the policy themes, objectives, and principles around which each group would focus (Appendix L). Participants were asked to select a group to join and were requested to continue with that group throughout the Forum. This information was reviewed during the Forum and as well, an explanation of group exercises was provided (Appendix M).

Each group had three exercises to carry-out. Exercises, shown in Diagram 1, were hierarchical in that they built on and utilized information and activities accomplished in the previous exercises.

Diagram 1. Group Exercises by Policy Theme



The first exercise was to review the policy theme (including related principles), summarize this and report to the plenary session. The purpose of this exercise was to give participants time to discuss and develop understanding of the theme and then report out to the plenary session so they would also understand the theme. ***The second exercise*** focused on analysis. The group was asked to analyze the progress that had been made relative to the theme, identify constraints to further progress, identify gaps (what is missing) in the theme, propose changes that may be needed, and finally to report results to the plenary session. The purpose of this exercise was to analyze the theme in-depth and share results of group deliberations relative to theme progress, constraints, gaps, and changes. ***The third exercise*** involved participants in developing a prioritized set of recommendations addressing theme constraints, gaps, and changes, and report to the Plenary. The group was tasked with selecting the top priority recommendation among those they had identified. The purpose of this exercise was to

produce recommendations and most particularly a list of priority recommendations that would provide direction for further action on agricultural extension policy in Ghana.

B. RESULTS

Overall, results of group work indicate important progress has been made in implementing various parts of the agricultural extension policy and also that significant constraints to further progress remain to be addressed. Results suggest there are various gaps in the current policy and as well, some changes are called for.

Further details of selected results of small group work are presented below. The theme, as identified directly from the policy document, is shown first followed by highlights of results of small group deliberations. The author's intention in reporting result highlights is to summarize results while utilizing the language of group reports, rephrasing for purposes of clarity. It should be noted that time at the Forum was limited; group discussions were interesting, energetic, and sometimes lengthy; and thus not all group exercises were completed. For specifics of group work, the reader is referred to the appendices for each theme and group. These appendices contain the material presented by groups at the Forum.

THEME I, GROUP 1: FARMER DEMAND-DRIVEN EXTENSION (APPENDIX N)

Table A. Theme I from 2005 Agricultural Extension Policy Document

THEME	*POLICY OBJECTIVE*	*FRAMED BY POLICY GUIDING PRINCIPLES*
I. FARMER DEMAND-DRIVEN EXTENSION	To promote farmer driven extension and research to ensure that services provided are relevant to farmers.	Services will be more demand-driven and client-focused.
	To empower farmers through the formation and development of FBOs in the areas of marketing and agro-processing in collaboration with the Department of Co-operatives (DOC).	Services will pro-actively develop farmers' business and marketing skills.
	To promote best agricultural practices.	

Exercise: Summary of Theme I. Farmers should play a leading role in defining, through a bottom-up approach, the type of services they need. A rationale for this is to increase farmers' voice, leadership, and ownership in solving their problems including research and production-related problems. The theme includes building strong FBOs for a collective voice to ensure farmer participation in decision-making, advocacy, and access to relevant information. The promotion of best agricultural practices supports farmer demand-driven extension and encompasses the management of existing and generation of new technologies using participatory methods.

Exercise: Identification of Progress, Constraints, Gaps, and Changes. Areas of progress and constraints to further progress identified by the group are shown below.

Table B. Theme 1 Results of Small Group Work

Policy Objective	*Progress*	*Constraint*
To promote farmer demand-driven extension	▪ Research Extension Linkage Committees (RELCs) are established ▪ Bottom-up planning processes are instituted	▪ Inadequate funding to promote RELCs
To empower farmers through formation and development of FBOs	▪ Private and public stakeholders support the formation of FBOs ▪ Capacity building of farmers, agricultural extension agents (AEAs) occurs	▪ Lack of coordination among different extension service providers at all levels ▪ Lack of implementation strategy for FBOs at all levels ▪ Low capacity of service providers in FBO development
To promote best agricultural practices	▪ An Information and Resource Center is in place ▪ AEAs are in all districts ▪ Externally funded projects promote best agriculture practices ▪ Research releases improved varieties	▪ Lack of knowledge management strategy and central depository for agricultural innovations ▪ Lack of strategies and mechanisms for identification and implementation of innovations ▪ Limited resources for extension delivery

Exercise: Development of Recommendations. The group framed their recommendations to address the gaps they identified in the overarching policy aim of promoting farmer demand-driven extension. The gaps to be addressed are:

- Lack of coordination among different extension service providers at all levels
- Lack of coordination among the various FBOs and lack of implementation strategy for FBOs at all levels
- Low capacity of extension services providers in FBO development
- No district-level multi-stakeholder planning and implementation platform at the district level in relation to RELC activity

The recommendations to address these gaps include:

- To review and update the FBO development policy and strategy at DAES and facilitate its implementation by all stakeholders
- To establish a multi-stakeholder planning and implementation platform for agriculture development at the district-level

THEME II, GROUP 2: MANAGEMENT AND OPERATIONS OF EXTENSION - PART A (APPENDIX O)

Table C. Theme II from 2005 Agricultural Extension Policy Document

THEME	*POLICY OBJECTIVE*	*FRAMED BY POLICY GUIDING PRINCIPLES*
II. MANAGEMENT AND OPERATIONS OF EXTENSION: PART A	MOFA will increase the efficiency and cost effectiveness of publicly funded extension services.	▪ National system will ensure services to small-scale and poorly resourced farmers, with special attention to women, youth, and the physically challenged. ▪ Public sector funding of services will aim toward financial sustainability. ▪ Extension will be open to new funding mechanisms. ▪ Private sector financing and engagement in service delivery will be encouraged.
	To broaden extension services delivery to include other extension approaches.	▪ Services will be pluralistic, flexible, and responsive.

Exercise: Summary of Theme II. The policy intends to promote efficient and effective management and operation of agricultural extension. It seeks to increase MOFA's efficiency in terms of costs and services and suggests some methodologies for doing so. These include developing innovative funding mechanisms for services. Extension services are to meet the needs of District plans and the research agenda should be demand-driven. The policy seeks to broaden extension services delivery by encouraging pluralism and through utilizing various extension approaches. For the latter, different approaches should be piloted in order to select and scale-up the most effective approaches.

Exercise: Identification of Progress, Constraints, Gaps, and Changes. Implementation progress and gaps in various aspects of the policy the group identified by the group are tabled below.

Table D. Theme II Results of Small Group Work

Policy Aspect	*Progress*	*Gap*
Define target beneficiaries	▪ Beneficiaries are clearly defined with emphasis on smallholders	▪ Inadequate targeting of women farmers ▪ Insufficient ,underfunded AEAs to reach all target groups ▪ Opportunity for improved coordination to improve reaching targets
Emphasize working with farmer groups	▪ Training on farmer groups is given ▪ A handbook on farmer group organization is available ▪ There are extension offices in charge of FBOs at national and regional levels	▪ Inequities exist within FBOs for women farmers ▪ Existing women's groups need capacity development ▪ There is competition across FBO umbrella groups at the national level
Encourage private sector participation in extension delivery and funding	▪ NGOs mobilize funding for extension delivery ▪ Private sector extension exists in commercial sectors (e.g., cocoa) ▪ Input suppliers involved in extension delivery	▪ Inadequate coordination among stakeholders at the district-level ▪ No incentive for private sector participation in extension
Set up Agricultural Extension Development	▪ Government of Ghana initiated the Fund with World Bank assistance	▪ Lack of political will to sustain the Fund

Policy Aspect	*Progress*	*Gap*
Fund to promote private sector participation		
Establish district-level planning and implementation of plans	▪ Some progress being made in planning through composite budgeting	▪ Funds are not received at district-level to finance plans developed
Develop research agenda in a participatory manner	▪ Farmer resources and constraints are identified through district and regional planning sessions ▪ Government supports research through projects and programs	▪ Inadequate funding to support the research agenda

Exercise: Development of Recommendations. Group recommendations put forward to address gaps in policy aspects related to targeting, gender, FBOs, financing, and participatory research as follows:

- Promote the use of volunteers and lead farmers in extension programs
- Target program resources to women extension service providers and beneficiaries
- Utilize private sector providers and NGOs to increase the number of women extension workers
- Strengthen women-based FBOs
- Strengthen social mobilization and technical capacities of FBOS to obtain services they require
- Support an Agricultural Extension Development Fund to promote and coordinate private sector and Metropolitan, Municipal, and District Assemblies participation in extension services delivery
- Add a sentence to the policy emphasizing MOFA's provision of an enabling environment and support of pluralistic public, private, and NGO sector extension (see Appendix O for details)

THEME III, GROUP 3: MANAGEMENT AND OPERATIONS OF EXTENSION - PART B (APPENDIX P)

Table E. Theme III from 2005 Agricultural Extension Policy Document

THEME	*POLICY OBJECTIVE*	*FRAMED BY POLICY GUIDING PRINCIPLES*
III. MANAGE-MENT AND OPERATIONS OF EXTENSION: PART B	To ensure that appropriate institutional structures and capacity are developed at all implementation levels to operate the new Agricultural Extension Policy MOFA will operationalize the roles and responsibilities of the various levels of governance (national, regional and district) as defined under the decentralization process.	Nature and level of publicly-funded services will be determined by District Assemblies in consultation with farmers and other stakeholders.
	To design and implement an effective monitoring and evaluation system.	Monitoring of services will be carried-out by District Assemblies along with MOFA and farmers.

Exercise: Summary of Theme III. The policy promotes the facilitation of institutional reforms to implement collaborative extension services that integrate operations at the relevant governance levels and it calls for the design of an institutional framework for monitoring and evaluation of extension services at all levels.

Exercise: Identification of Progress, Constraints, Gaps, and Changes. Results of group deliberations are shown below.

Table F. Theme III Results of Small Group Work

Progress	*Constraints*	*Gaps*	*Change Analysis*
▪ Extension Units are present at all levels	▪ Lack of knowledge ▪ Insufficient accountability ▪ Low budgetary allocation at all levels ▪ Lack of clear understanding of roles and responsibilities ▪ Insufficient number of AEAs	▪ Few extension service delivery activities in district plans and budgets ▪ Lack of Agricultural Sub-Committees in District Assemblies	▪ Policy should include accountability in terms of extension monitoring
▪ There are M&E Units at the Ministry and Regional Offices	▪ Limited capacity in M&E	▪ Limited functioning of M&E Units	▪ Policy should promote E-extension (including radio) and evidenced-based extension

Exercise: Development of Recommendations. The group developed and ranked their recommendations. Recommendations follow beginning with the highest priority recommendation.

- Ensure adequate budgetary provision for agricultural and extension services from District Internally Generated Funds and the District Assemblies Common Fund
- Mandate the establishment of an agriculture sub-committee as part of District Assemblies
- Establish a participatory M&E system at all levels
- Utilize alternative methods to deliver extension services such as E-extension, radio, and television
- Develop a performance-based assessment system to monitor extension performance

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THEME IV, GROUP 4: CAPACITY BUILDING FOR EXTENSION (APPENDIX Q)

Table G. Theme IV from 2005 Agricultural Extension Policy Document

THEME	*POLICY OBJECTIVE*	*FRAMED BY POLICY GUIDING PRINCIPLES*
IV. CAPACITY BUILDING FOR EXTENSION	To attain a broad based human resource development program by ensuring continuous capacity building of agricultural development workers.	Human resource development will be a continuous and intensified process

Exercise: Summary of Theme IV. The policy supports imparting knowledge and skills to frontline extension staff in the public and private sectors, as well as farmers, and agriculture education institutions. For frontline staff, technical and management skills are to be developed to ensure staff are able to achieve career advancement and keep up with production and processing techniques. The

policy outlines some of the essential information farmers ought to receive from public and private extension service providers. This would include, for example, training on gender issues and group formation. For educational institutions, capacity is to be developed in consultation with stakeholders to design educational curricula to address the changing needs of the sector, such as those related to agriculture finance, administration, marketing, and health.

Exercise: Identification of Progress, Constraints, Gaps, and Changes. Results of group deliberations are shown below.

Table H. Theme IV Results of Small Group Work

Progress	*Constraints*	*Gaps*	*Change Analysis*
▪ Most training is demand driven based on needs determined on the ground ▪ Data is increasingly being used to determine training needs ▪ NGOs are heavily involved in financing and providing in-service training for front line staff	▪ MOFA unable to provide monthly training for staff due to lack of resources ▪ Difficult to obtain current and accurate data to determine farmer needs ▪ Current freeze on hiring new or replacing retiring staff places stress on the public system ▪ Due to large numbers of service providers, training in some subjects is duplicated and sometimes confusing for farmers ▪ Private sector providers also face inconsistent financing	▪ Inadequate consultation with stakeholders in curriculum development ▪ Uncertainty as to which level (district, region, central) is responsible for financing, delivering, and monitoring training in decentralization process	▪ Policy should support - broader consultation with training institutions and stakeholders on curriculum design - clear definition of roles and structure under decentralization - source of funding for agriculture development - informal continuing education for farmers in areas such as literacy, numeracy and use of ICT - stakeholders formally introducing themselves to district/regional bodies

Exercise: Development of Recommendations. The recommendations developed by the group follow.

The policy should:

- Clarify how capacity building is to be funded identifying possible funding sources such as the District Development Facility, District Assemblies Common Fund, Public Private Partnerships, Internally Generated Funds, Government of Ghana, etc. As possible funding sources
- Harmonize capacity building activities of all stakeholders within the extension services sector (e.g., training institutions, non-state actors, MOFA)
- Provide for frequent demand-driven training which is gender-sensitive and responsive to farmer needs
- Support the development of a clearly defined capacity development plan for frontline staff
- Encourage capacity development collaboration between public and private sectors
- Ensure the policy is understood by all stakeholders

THEME V, GROUP 5: INCORPORATING EMERGING ISSUES (APPENDIX R)

Table I. Theme V from 2005 Agricultural Extension Policy Document

THEME	*POLICY OBJECTIVE*
V. INCORPORATING EMERGENCY ISSUES	To respond to the emerging issues of HIV/AIDS pandemic, environmental degradation and poverty reduction. Extension efforts will also focus on the areas of gender, equity and client empowerment as they relate to sustainable agricultural production.

Exercise: Summary of Theme V. Emerging issues are contemporary issues that have a direct and indirect impact on agriculture.

Exercise: Identification of Progress, Constraints, Gaps, and Changes. The group identified these elements for two major emerging issues: those related to health (HIV/AIDS) and those related to environmental degradation. Results of are shown below.

Table J. Theme V Results of Small Group Work

Progress	*Constraints*	*Gaps*	*Change Analysis*
▪ Multi-stakeholder government HIV/AIDS program at ministry level established ▪ Designated HIV/AIDS Unit in MOFA ▪ For environmental degradation issues, designated unit in MOFA in collaboration with Environmental Protection Agency	▪ Slow behavioral change of population ▪ Inadequate personnel in Units ▪ Inadequate funding	▪ Policy does not address: - Climate Change & Climate Smart Agriculture Issues - Child Labor - Food Safety and Nutrition - Youth in Agriculture - Urban Agriculture - Natural Resources Management and Associated Causes	• Detailed implementation strategy and action plan needed to measure how policy addresses emerging issues

Exercise: Development of Recommendations. Group recommendations follow.

- Update the policy continuously on emerging issues and ensure staff are trained to respond to emerging issues
- Develop linkages with relevant institutions to address emerging issues such as nutrition, gender, and health.
- Utilize resources jointly among relevant institutions for cross-cutting issues
- Mainstream emerging issues in MOFA's agenda and in the agenda of collaborating organizations

V. PLENARY DISCUSSION OF ADDITIONAL CONTRAINTS, GAPS, AND CHANGES

A plenary discussion resulted in identifying several additional constraints to policy implementation that were not identified by small groups and several gaps in the current policy. These are:

- Ways to address the constraint of limited female extension agents
- Limited availability of reliable gender disaggregated data
- Disconnect between private sector support and extension delivery funding
- Utilizing women input dealers to support extension delivery
- Distinguishing between implementing and monitoring agencies at the district level

VI. PRIORITY RECOMMENDATIONS

Each group selected their highest priority recommendation from the recommendations they developed. These priority recommendations aim to improve extension service delivery and thus extension service response to farmer needs. They address specific issues related to gender, financing of extension services, financing of extension capacity building, emerging issues, and farmer groups.

Four recommendations focus specifically on the Agricultural Extension Policy and recommend that within the policy the following be reflected:

- Targeting program resources to women extension service providers and beneficiaries
- Ensuring adequate budgetary provision for agricultural and extension services from district internally generated funds and the district assemblies common fund
- Clarifying how capacity building is to be funded identifying the district development facility, district assemblies common fund, public private partnerships, internally generated funds, government of ghana, etc. As possible funding sources
- Updating the policy continuously on emerging issues and ensuring staff are trained to respond to emerging issues

A fifth priority recommendation focuses on a separate yet related policy: the DAES FBO development policy which guides all stakeholders in the development of FBOs. The recommendation is to review and update the DAES FBO development policy and strategy and facilitate its implementation by all stakeholders.

VII. THE WAY FORWARD

A. NEXT STEPS: WHAT

During plenary discussion, participants discussed what can and should be done to move the Agricultural Extension Policy forward and who could assist in doing so. While some actions would require significant time, the point was made there are actions that can be pursued in the near-term. For example, a report of the Policy Forum itself is to be sent to participants in the near-term. Those interested in assisting to move the policy process forward, further discussed below, can meet in the near-term to discuss ways to proceed.

Other specific steps identified to move the policy process forward include: It was noted that much has changed since the policy was originally written in 2001 and the policy itself needs to be updated. It was suggested the policy be aligned with international and continental frameworks and recommendations regarding agricultural development and extension such as those embodied in the Comprehensive Africa Agriculture Development Program and the Malabo Declaration. Following-up on synergies between the Agricultural Extension Policy and the Gender and Agricultural Development Strategy II, being developed by MOFA Women in Agricultural Development Directorate, was mentioned. Reflecting an agricultural innovations perspective in the revised policy was also proposed. The practical realities of refining the policy were underscored by the submission that an implementation plan with a budget and a time-line would be needed to support the revision process. As well, a detailed complementary plan to implement the policy was called for. Finally, it was proposed that a revised policy should be submitted by MOFA through the legal system for formal adoption by the Parliament.

B. NEXT STEPS: WHO

The key pivotal role of MOFA, and most specifically DAES, in leading action on Forum recommendations and overall moving the extension policy process forward was stressed during the Forum. MOFA's commitment to the process is considered critical and DAES responded reaffirming that commitment. The need for political will to support the way forward was underscored. At the Forum, various participants advocated for strong linkages (particularly at district and regional levels) with the Ministry of Local Government and Rural Development and the Metropolitan, Municipal, and District Assemblies to engage in both policy updating and policy implementation. Private sector actors including FBOS along with civil society actors should all be involved in policy updating and implementation. Participants suggested MOFA and USAID meet to review Forum recommendations and develop forward plans and APSP confirmed their interest in supporting the process.

To support moving Forum recommendations and the policy process forward, two volunteer groups were organized during the Forum: Extension Policy Champions and an Extension Policy Standing Committee. The Policy Champions are an ad-hoc group of champion volunteer organizations interested in and concerned with extension policy. The Extension Policy Standing Committee, earlier discussed in this report, is a part of the national institution: the Forum for Agricultural Advisory Support and Services, Ghana. Members of these groups are shown below.

Table K. Extension Policy Champion Organizations

Action Aid
Peasant Farmers Association of Ghana
Association of Church-Based Development NGOs
Ghana National Association of Farmers and Fisherman
Forum for Agricultural Advisory Support and Services, Ghana
Trax Ghana

Table L. Extension Policy Standing Committee Members (contact details in Appendix S)

Ms. Victoria Adongo, Program Manager	Peasant Farmers Association of Ghana
Mr. Seth Ashiamah, Executive Member	AFAAS-Ghana Chapter
Mr. Mahama Alhassan Seidu, Lead Farmer	Savelugu-Nanton District – Northern Region
Ms. Queronica Quartey, Representative	Action Aid
Mr. Malex Alebikiya, Executive Director	Association of Church-Based Development NGOs
Mr. Vesper Suglo, Agricultural Consultant	Private Sector
Mr. Maxwell Agbenorhevi, Agricultural Economist	Agricultural Policy Support Project-USAID Ghana
Mr. Joseph Yeng Faalong, Regional Director	Upper West Region

The roles of the two groups are to move Forum recommendations and other extension policy processes forward, advocate for extension policy, and serve as contact point for extension policy issues. Group members held their first meeting following the close of the Forum.

VIII. CLOSING REMARKS

Dr. McNamara, MEAS; Mr. Nunez-Rodriguez, APSP, and Dr. Fenton Sands, USAID gave closing remarks commending participants on accomplishing the work of the Forum. Dr. McNamara noted that Ghana is one of the few African nations having a written agricultural extension policy and thanked participants for their committed engagement during the Forum. Mr. Nunez-Rodriquez advised the APSP project will continue in Ghana for the next several years and he anticipates APSP will collaborate in supporting further action to move the extension policy process forward. Dr. Sands commented on the re-emergence of the importance of agricultural extension following the 2007-2008 food crisis and mentioned that legacy questions regarding the efficacy of extension still remain. He stressed that decentralization in Ghana has created changes in the agricultural development landscape and the role of agricultural extension within this new context is unfolding. He indicated USAID's interest in agricultural extension. He advised USAID will look to government to articulate its concern not only for acting on Forum recommendations but also for moving the extension policy process forward and for strengthening Ghana's agricultural extension system.

IX. FORUM EVALUATION

Participants were asked to complete a Forum Evaluation Form (Appendix T). They were requested to respond to a set of statements by giving their level of agreement or disagreement with the statement. The evaluation sought to determine participant's level of agreement or disagreement with statements that examined the extent to which the Forum:

- Met its goal of developing shared understanding of the existing Agricultural Extension Policy;
- Achieved the three primary tasks of the Forum (exercises summarizing the existing policy; assessing policy implementation progress and constraints and identifying policy gaps and needed changes; and developing recommendations to address constraints, gaps, and changes),

- Was sufficiently participatory, and
- Produced high quality work.

Forty participants completed the Forum evaluation. As shown in Appendix U, the large majority of 87% either 'mostly agreed' or 'completely agreed' with all the evaluation statements. Responses suggest that overall the Forum did reach its goal, did achieve its tasks, was participatory, and did achieve high-quality work. There were variations in responses with the most variation in levels of agreement around whether the Forum fostered shared understanding of the policy, assessed policy progress and constraints, and identified ways to move forward with recommendations.

Close to 50% of responding participants offered comments on the Forum (Appendix U). The most comments focused on the limited time available for group discussions. Also on the policy itself and moving the process forward. The former indicates additional time was needed at the Forum to cover and discuss the material in-depth and the latter suggests the Policy Standing Committee and Policy Champions will have important roles to play in moving the policy process forward.

APPENDICES

A. COMPARISON OF GHANA'S AGRICULTURAL EXTENSION POLICY DOCUMENTS:

SIMILARITIES AND SUBSTANTIVE DIFFERENCES

Vickie Sigman, Sr. Agricultural Extension Policy Specialist

Modernizing Extension and Advisory Services

April 2015

NOTE: Following the analysis outlined below, a fourth document, *Agricultural Extension Policy (Abridged Version), December 2005, surfaced. The fourth document was a word version of the November 2005 (Abridged Version) and was typed with some errors from the November 2005 version. The errors were corrected. DAES advised that the most recent document, and the appropriate document to use for purposes of the May 2015 Agricultural Extension Policy Forum is the fourth document: Ghana Agricultural Extension Policy (Abridged Version), December 2005.*

PURPOSE OF THE ANALYSIS

The purpose of the analysis is to determine the similarities and differences among Ghana's three Agricultural Extension Policy documents in order to select the best document on which to base a policy review. The three documents compared are:

1. Ministry of Food and Agriculture (MOFA), Directorate of Agricultural Extension Services (DAES), *Agricultural Extension Policy*, Final Draft, April 2001.
2. MOFA, DAES, *Agricultural Extension Policy (Abridged Version)*, October 2003 (Design & Print, Klymass Ventures).
3. MOFA, DAES, *Agricultural Extension Policy (Abridged Version)*, November 2005 (Designed and Printed by ISU/DAES/MOFA – Accra). NOTE: The cover of this document is dated November 2005. However, the first page is dated December 2005. In this analysis, the document is referred to as November 2005.

The 2001 document is the full version of the policy, is in final draft form, and is considered the base document. While there may be a later version of the 2001 full policy version, it is not available from MOFA and further search for such a document proves futile. The 2003 and 2005 documents are abridged versions of the 2001 document. Based on comparisons, any later version of the full policy will likely be very similar to the 2001 final draft because the 2003 and 2005 versions substantively mirror the 2001 final draft with the exceptions noted below. Both the 2003 and 2005 versions, in their respective *Introduction*, state: "In June 2003, the Directorate of Agricultural Extension Services (DAES) finalized the preparation of an agricultural extension policy document and circulated it to a wide range of stakeholders. This document is an abridged version of the policy document. It is meant to be a quick reference to the major issues contained in the policy document."

Comparisons focus on similarities (Table 1) and substantive differences (Table 2) among the versions. The 2001 document, as the full version of the policy, provides more detail than either of the abridged versions. These details are not noted in the comparison tables below.

CONCLUSIONS

As shown in Table 1, the three documents are much more similar than different, with the few exceptions noted in Table 2. The 2003 and 2005 documents, aside from some formatting changes are virtually the same—and in most instances exactly the same—with the few exceptions noted in Table 2. The 2005 document, as the latest document which reflects the 2003 and 2001 documents in large part, is considered the most appropriate document on which to base an agricultural extension policy review.

Table 1. Basic Similarities among the *Agricultural Extension Policy* Documents.

***Agricultural Extension Policy*, Final Draft, April 2001.**	***Agricultural Extension Policy (Abridged Version)*, October 2003.**	***Agricultural Extension Policy (Abridged Version)*, November 2005.**
Discussion of the Public Extension System, Research Extension Linkage, COCOBOD-MOFA, Decentralization, Role of the Private Sector/NGOs in Extension Delivery.	Very similar text as 2001 but abridged.	Same text as 2003 with exception regarding cocoa noted in Table 2.
Need for a New Agricultural Extension Policy.	Very similar text as 2001 but abridged.	Same text as 2003.
Vision	Very similar text as 2001 but abridged with exception noted below in Table 2.	Same text as 2003.
Mission Statement	Same text as 2001.	Same text as 2003.
Guiding Principles: Articulates 13 principles.	Articulates 10 Principles, 9 same as 2001 (see Table 3 for comparison).	Same text as 2003.
Objectives and Strategies: Document states 7 objectives; 8 written in the document.	Articulates 9 objectives. Basically same as 2001 objectives plus an M&E objective (see Table 4 for comparison).	Same text as 2003 with minor exception noted in Table 4.

Table 2. Substantive Differences among the Agricultural Extension Policy Documents.

***Agricultural Extension Policy*, Final Draft, April 2001.**	***Agricultural Extension Policy (Abridged Version)*, October 2003.**	***Agricultural Extension Policy (Abridged Version)*, November 2005.**
No Foreword.	p. iv, Foreword signed by Hon. Major Courage Quashigah (Rtd) Minister for Food & Agriculture	p. 5, Foreword by Kwame Amezah (Dr) Acting Director Agric. Extension Services
***CCOBOD-MOFA** Extension Services Merger* p. 7 included in *Introduction*. Section describes movement of cocoa extension from the Cocoa Board (COCOBOD) to MOFA; no specific policy discussed.	p. 6, similar text as 2001 included under heading *Cocoa Extension*.	Does not include a section on *CCOBOD-MOFA Extension Services Merger* nor on *Cocoa Extension.*
Vision, p. 10 discusses establishment of Agricultural Extension Development Fund (AEDF) and Farmer-Based Organisations Development Fund (FBODF).	AEDF not discussed under Vision but included under management and operations, p. 8. FBODF not included.	Same as 2003 (p. 13)
Guiding Principles, pp. 10-11: Articulates 13 principles.	Articulates 10 Principles, 3 removed from 2001 list (see Table 3 for comparison).	Same as 2003.
Objectives and Strategies, pp. 11-13m Articulates 8 objectives.	Adds an M&E objective (see Table 4 for comparison).	Adds 2 strategies to objective existing in 2001-2003; coverage of these 2 strategies implied under other existing objectives (see Table 4 for comparison).
Institutional and Financial Implications, pp. 14-15.	Section not included. Although not specifically stated, coverage of some similar issues inferred via objectives.	Same as 2003.
Appendices	No appendices.	Same as 2003.

Table 3. Comparison of Guiding Principles among the Agricultural Extension Policy Documents.

Agricultural Extension Policy, Final Draft, April 2001.	*Agricultural Extension Policy (Abridged Version)*, October 2003.	*Agricultural Extension Policy (Abridged Version)*, November 2005.
1. Extension services will be more demand-driven and client focused.	1. Same	1. Same
2. The agricultural extension services in Ghana will be pluralistic, flexible and responsive to the changing socio-economic environment of the rural sector.	2. Same	2. Same
3. The national agricultural extension system will ensure the provision of adequate extension service to small-scale resource poor farmers with special attention to women, the youth and the physically challenged.	3. Same	3. Same
4. Extension services delivery to small-scale resource poor farmers will be funded by government.	Not in 2003	Not in 2005
5. Public sector funding of extension services will aim at establishing a high degree of financial sustainability through enhanced planning and prioritization of commitments.	4. Same	4. Same
6. Agricultural extension should be open to new funding mechanisms.	5. Same	5. Same
7. With the decentralization of government functions to the District Assemblies, the ultimate responsibility for decisions about the nature and level of publicly funded extension services will be determined by the District Assemblies in consultation with MOFA, farmers, and other stakeholders.	6. Same	6. Same
8. Representative perspectives about the requirements of the farming community will be obtained by involving the community in problem identification, planning implementation and evaluation of extension services.	Not in 2003; implied under 2003 objectives.	Not in 2005; implied under 2005 objectives.
9. The private sector would be encouraged to finance and engage in agricultural extension services delivery.	7. Same	7. Same
10. Agricultural extension (both public and private) will be cost effective and ensure accountability to beneficiaries and other stakeholders.	Not in 2003; implied under 2003 objectives.	Not in 2005; implied under 2005 objectives.
11. Extension services would be more pro-active in developing business and marketing skills of farmers.	8. Same	8. Same
12. Extension service delivery will be monitored by the District Assemblies in conjunction with MOFA and farmers to ensure high quality of services provided by the private sector.	9. Same except sentence ends at...of services.	9. Same except sentence ends at...of services.
13. Human resource development should be continuous and intensified at all levels.	10. Same	10. Same

Table 4. Comparison of Objectives and Strategies among the Agricultural Extension Policy Documents.*

Agricultural Extension Policy, Final Draft, April 2001.	Corresponding Objective/Strategy: Agricultural Extension Policy (Abridged Version), October 2003.	Corresponding Objective/ Strategy: Agricultural Extension Policy (Abridged Version), November 200S.
(i) MOFA will promote best farmers practices.	3. Objectives/Strategies same	3. Same as 2003.
(ii) MOFA will support the development and use of different approaches to extension delivery.	5. Objective/Strategies same.	5. Same as 2003.
(iii) MOFA will empower farmers thought the formation of FBOs and marketing co-operatives in collaboration with the Department of Co-operatives (DOC).	2. Objective same. 2003 adds Strategy: Establishing the institutional framework for FBO Development.	2. Same as 2003.
(iv) MOFA will operationalize the roles and responsibilities of the various levels of governance (national, regional and District) as defined under the decentralization process.	6. Objective basically the same. 2003 adds 2 strategies: Ensure that all service providers are well informed on the provision of the new extension policy. Encourage formation and operationalization of stakeholder fora...	6. Same as 2003.
(v) MOFA will increase the efficiency and cost effectiveness of publicly funded extension services.	4. Objective/Strategies same.	4. Same as 2003 except 2005 adds 2 strategies: District level planning/ implementing plans. Setting research agenda in participatory manner.
(vi) MOFA will ensure relevance of service.	1. Objective basically same. Strategies same.	1. Same as 2003.
(vii) Extension will contribute to responding to HIV/AIDS, environmental degradation, poverty reduction, gender, equity and client empowerment.	9. Objective same. 2003 deletes 2 2001 strategies which are implied under other 2003 objectives: Encourage farmers to undertake activities that would help them improve their food supply and income situations. Promote the growth and development of FBOs as a means of empowering farmers.	9. Same as 2003.
(viii) Government will undertake a broad based human resource development programme.	8. Objective/Strategies same.	8. Same as 2003.

Agricultural Extension Policy, Final Draft, April 2001.	Corresponding Objective/Strategy: Agricultural Extension Policy (Abridged Version), October 2003.	Corresponding Objective/ Strategy: Agricultural Extension Policy (Abridged Version), November 200S.
2001 does not have this objective.	7. Adds the new objective: To design and implement an effective monitoring and evaluation system for agricultural extension services. Also adds related Strategies.	7. Same as 2003.

* Some objectives are abridged. Strategies are not listed unless there are differences in Strategies among the documents.

MINISTRY OF FOOD AND AGRICULTURE

DIRECTORATE OF AGRICULTURAL EXTENSION SERVICES

AGRICULTURAL EXTENSION POLICY (ABRIDGED VERSION)

DECEMBER 2005

TABLE OF CONTENTS

LIST OF ACRONYMS

AAGDS	-	Accelerated Agricultural Growth and Development
AEA	-	Agricultural Extension Agent
AgSSIP-		Agricultural Services Sub-Sector Investment Project
AEDF	-	Agricultural Extension Development Fund
AIDS	-	Acquired Immune Deficiency Syndrome
CBO	-	Community Based Organisation
CSIR	-	Council for Scientific and Industrial Research
DADU	-	District Agricultural Development Unit
DAES	-	Directorate of Agricultural Extension Services
DDA	-	District Director of Agriculture
DDO	-	District Development Officer
DFID	-	Department for International Development
DOC	-	Department of Co-operatives
FAO	-	Food and Agriculture Organisation
FADSEP	-	Food and Agriculture Sector Development Programme
FBO	-	Farmer Based Organisation
FFS	-	Farmer Field Schools
GDF	-	Gross Domestic Product
GoG	-	Government of Ghana
GTZ	-	German Technical Co-operation
HIV	-	Human Immune-Deficiency Virus
M&E	-	Monitoring and Evaluation
MoFA	-	Ministry of Food and Agriculture

MTEF	-	Medium Term Expenditure Framework
NAEP	-	National Agricultural Extension Project
NARP	-	National Agricultural Research Project
NGO	-	Non-Government Organisation
PTD&E-		Participatory Technology Development and Extension
RDA	-	Regional Director of Agriculture
RDO	-	Regional Development Officer
RELC	-	Research Extension Linkage Officer
SAP	-	Structural Adjustment Programme
TOT	-	Transfer of Technology
T&V	-	Training and Visits
UAES	-	Unified Agricultural Extension Services

ACKNOWLEDGEMENT

The Directorate of Agricultural Extension Services (DAES) is grateful to the Agricultural Policy Services Support Project

(APSSP) of the GTZ for the financial support in printing this document.

FOREWORD

Agricultural Extension Services in Ghana has gone through various things over the year. In the 1980s and 1990s the Ministry of Food and Agriculture (MOFA) adopted the Training and Visit System of agricultural extension. The concept of Transfer of Technology (TOT) by Agricultural Extension Agents (AEA) was limited to reaching farmers with only information. The Ministry also gave up its other function of inputs supply and distribution to farmers. Above all, the removal of subsidies on agricultural inputs took away some of the incentives the traditional extension service depended upon to attract farmers to adopt available technology. Under the current Food and Agricultural Sector Development Policy (FASDEP) the limited access to appropriate technology at all levels in the crop livestock and fisheries sub-sector is recognized as one of the major obstacles to agricultural development. In addition to all these, the decentralization of MoFA activities in 1997 has also brought its value changes in the structure and management of the agricultural extension delivery service.

MoFA therefore needs to initiate strategies to respond to these challenges and ensure that the effectiveness of the extension system is not only maintained but also improved upon. Financing of agricultural extension services delivery need to be diversified in the face of dwindling public funding. Private sector operators such as Farmer Based Organisation and organized farmers and fishermen association need to be encouraged to contribute more to the provision of extension services and also to participate in the delivery process through farmer to farmer exchange of information and experiences.

This raises the need to provide a policy framework to guide demand-driven pluralistic system within a liberalized and decentralized political economy. Whilst the decentralization process will assist to make extension more participatory and demand-driven to respond to the specific need of the various districts, the private sector needs to be encouraged to fund and deliver services to farmers and fishermen.

It is in response to these demands that MoFA with support from development partners, notable German Technical Co-operation (GTZ) and the British Government Department for International Development (DFID), initiated discussions on a new framework for an agricultural extension policy in Ghana. The discussions were held at all levels, district, regional and national with the involvement of major stakeholders including farmers, fishermen, researchers, extensionists, non-governmental organisations, private sector operators and politicians. This document therefore reflects the expectations and aspirations of a cross-section of stakeholders in the agricultural sector of Ghana.

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

KWAME AMEZAH (DR)

ACTING DIRECTOR

AGRIC. EXTENSION SERVICES

5

1.0 INTRODUCTION

In June, 2003, the Directorate of Agricultural Extension Services (DAES) finalized the preparation of an agricultural extension policy document and circulated it to a wide range of stakeholders. This document is an abridged version of the policy document. It is meant to be a quick reference to the major issues contained in the policy document.

1.1 The Public Extension System – A Historical Perspective

Agricultural extension activities were initiated in Ghana in the nineteenth century by the early missionaries and foreign owned companies involved in the production of export crops such as coffee, cocoa and rubber. After independence, Ghana tried various approaches including extension under the farmers' co-operative movement and several donor-assisted projects. In the 1970s and 80s all the departments of the Ministry of Food and Agriculture, (MOFA) undertook separate extension services. Agricultural extension was therefore fragmented among the various departments within the ministry. In 1987 however, MOFA established the Directorate of Agricultural Extension Services (DAES) to bring all splinter MOFA extension services under the umbrella.

Since the beginning of the 1990s, DAES adopted the Training and Visit (T&V) extension system nationwide. This extension initiative was supported with World Bank funding through the National Agricultural Extension Project (NAEP), which was implemented between 1992 and 1999. This project was set up and implemented to help (a) improve the efficiency in the management and delivery of extension services (b) improve the relevance of technology available to farmers and (c) strengthen the technical department of MOFA.

Ministry of Food and Agriculture is also experimenting with various alternative extension approaches such as Participatory

Technology Development and Extension (PTD&E) and Farmer Field Schools (FFS) among others, in collaboration with development agencies like the German Technical Co-operation (GTZ) and the Food and Agriculture Organisation (FAO). The role of the Agricultural Extension Agent (AEA) under these approaches is one of facilitating learning among farmers instead of only transferring technology. The results of the experimental projects have indicated enhanced knowledge and skills among farmers. This has been attributed to the fact that farmers have become part of the decision making process. MOFA is therefore encouraged to continue with such initiatives in order to empower farmers to make better judgment of their own performance.

1.2 Research-Extension Linkage

Most of the agricultural research done in Ghana is under the supervision of the Council for Scientific and Industrial Research (CSIR) which is under the Ministry of Environment, Science and Technology (MEST) while extension is carried out by MOFA. In 1991, the Research Extension Linkage Committees (RELCs) were formed in the five (5) ecological zones to forge a close working relationship between research, extension and farmers. The responsibility of these RELCs is to assess the adoption of technologies by farmers, review research and extension programmes. Assess their relevance to agricultural development in the various zones and make appropriate recommendations.

The RELCs have played a significant role in staff training and have influenced the quality of research and extension programmes by promoting technologies that are relevant to the needs of farmers. However, a major shortcoming of the RELC, which currently based on the five agro-ecological zones, is their inability to respond to the specific needs of the regions and districts.

1.3 Decentralization

Ghana inherited a highly centralized system of government from colonial administration. This has been criticized for its inefficiency and inability to respond to location-specific needs of the populace. The 1992 constitution therefore made provision for the decentralization of the government machinery. The aim was to (a) create a conducive environment within which people could participate in their own development and (b) encourage self-help, local responsibility and ownership of development programmes.

In line with government policy, the decentralization of MOFA started in 1997. This has resulted in the transfer of responsibilities including administration and the provision of services to the District Assemblies while at the regional and the national levels, attention has focused on policy planning, co-ordination, technical backstopping, monitoring and evaluation.

1.4 The Role of the Private Sector in Extension Delivery

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

There has also been an increase in the involvement of Non-Government Organisation (NGOs) in the funding and delivery of extension services in Ghana. Their services generally address the needs of specific client groups and are often community focused in most cases, the NGOs complement the activities of the public services and work in partnership with the publicly funded extension agents. One of their strategies is to provide commodity- specific inputs such as seedlings and credit.

2.0 THE EXTENSION POLICY

2.1 The Need for a New Agricultural Extension Policy

Agricultural extension services in Ghana have undergone considerable changes in the past four decades Changes in the political economy of the country, particularly the liberalization of the economy, increased private sector participation in service provision, decentralization of governance and the focus on poverty reduction calls for a review of our agricultural development efforts.

In line with government's new objectives, agricultural extension needs to focus on:

- Ensuring equity in the distribution of the benefits from development
- Improving rural livelihood and
- Reducing poverty especially among rural women, the youth and the physically challenged.

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

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

2.2 A Vision for the Future of Agricultural Extension Services.

In the short to medium term (2-10 years), an efficient and demand-driven extension service in a decentralized system would be established through partnership between the government and the private sector. It is envisaged that clients (farmers and other users of services) would participate in

extension programme formulation, implementation, monitoring and evaluation to ensure that their needs are met.

The extension delivery system will not only be concerned with technological issues, but will also deal with general livelihood issues of importance to farming communities including marketing, health (HIV/AIDS), Guinea-worm etc., equity in services delivery and poverty.

2.3 Mission Statement

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

- Addressing the specific needs of farmers, especially the rural poor in the effort to reduce poverty.
- Ensuring that farmers adopt environmentally sustainable methods
- Raising agricultural productivity and
- Creating an enabling environment for private sector participation in the funding and delivery of extension services.

2.4 Guiding Principles

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

1. Extension Services will be more demand-driven and client-focused
2. Agricultural extension services in Ghana will be pluralistic, flexible and responsive to the changing socio-economic environment of the rural sector.
3. The national agricultural extension system will ensure the provision of adequate extension services to small-scale and poorly resourced farmers, with special attention to women, the youth and the physical challenged.

4. Public sector funding of extension services will aim at establishing a high degree of financial sustainability through enhance planning and prioritization of commitments.
5. Agricultural extension will be open to new funding mechanisms.
6. With the devolution of government functions to the District Assemblies, the ultimate responsibility has decisions on the nature of publicly funded extension services will be determined by the District Assemblies in consultation with MOFA farmers and other stakeholders.
7. The private sector will be encouraged to finance and engage in agricultural extension services delivery to a greater extent.
8. Extension services will be made more pro-active in developing business and marketing skills of farmers.
9. Delivery of extension services will be monitored by the District Assemblies in conjunction with MOFA and farmers to ensure high quality service.
10. Human resource development will be made a continuous process and will be intensified at all levels.

2.5.0 Policy Objectives and Strategies

The new extension policy is based on nine objectives. These policy objectives have been grouped under four main categories as follows:

- Promoting farmer demand-driven extension
- Promoting efficient and effective management and operations of agricultural extension
- Promoting capacity building for extension
- Incorporating emerging topical issues into agricultural extension.

2.5.1 Promoting Farmer Demand-Driven Extension

Objective 1

To promote farmer driven extension and research to ensure that services provided are relevant to farmers. Strategies to be adopted are;

- Strengthening linkages among farmers, extension workers and researchers.
- Involving clients in planning and evaluation of extension activities.
- Establishing functional RELCs at the zonal and regional levels.
- Encouraging the RELCS to source funds from the private sector including farmers, farmer organisations and other institutions to support research activities.

Objective 2

To empower farmers through the formation and development of FBOs in the areas of marketing and agro-processing in collaboration with the Department of Cooperatives (DOC). This objective will be supported by MOFA through:

- Establishing the institutional framework for FBO Development
- Collaborating with other agencies in facilitating the formation, sustenance and management of new FBOs,
- Strengthening the capacities of all FBOs particularly in leadership and managerial skills.
- Providing appropriate information on credit land acquisition and marketing among others.

Objective 3

To promote best agricultural practices. Strategies to be used are:

- Collating, documenting and assessing, existing technologies (from research institutions and indigenous practices)
- Ensuring strong research-extension farmer linkages.

- Ensuring the participation of all stakeholders in technology generation, adaptation and dissemination
- Ensuring human resource development at all levels.

2.5.2 Promoting Efficient and Effective Management and Operations of Agricultural Extension

Objective 4

Ministry of Food and Agriculture (MOFA) will increase the efficiency and cost effectiveness of publicly funded extension services. Options for improving the effectiveness and efficiency will include:

- Providing a clear definition of target beneficiaries, types of publicly funded extension they should expect to receive and the cost of providing hose services.
- Placing more emphasis on working with farmer groups
- Encouraging private sector participation in extension delivery and funding.
- Exporting the possibility of cost sharing (where a proportion of the cost of services is charged to the users of that services)
- Supporting the setting up of an Agricultural Extension Development Fund to promote private sector participation in extension
- District level planning/implementing plans
- Setting Research Agenda in participatory manner

Objective 5

To broaden extension services delivery to include other extension approaches. Strategies to be adopted to achieve this shall include:

- Reviewing various extension approaches with the view to assessing their suitability
- Developing and maintaining links with local and international organisations to identify the most appropriate approaches.

- Supporting the development and piloting of various approaches in collaboration with private sector providers.
- Encouraging a range of organisations/agencies including NGOs, private sector companies and public organisations to provide extension service
- Elaborating extension indicators and quality standards to service providers
- Ensuring that activities of all service providers are coordinated and monitored to ensure effectiveness of service
- Training all staff (including other service providers) in the use of alternative extension approaches.
- Disseminating information on appropriate approaches to all extension services providers.

Objective 6

To ensure that appropriate institutional structures and capacity are developed at all implementation levels to operate the new Agricultural Extension Policy. Ministry of Food and Agriculture will operationalize the roles and responsibilities of the various levels of governance (national, regional and district) as defined under the decentralization process. To achieve this objective Ministry of Food and Agriculture will:

- Revise its decentralization handbook to ensure all categories of staff are clear about their roles and responsibilities.
- Enhance human resource capacity at the district level
- Monitor extension activities at the district level to ensure conformity with national extension policy
- Ensure that financial decentralization becomes operational
- Ensure that all service providers are well informed on the provisions of the new extension policy.
- Encourage the formation of operationalization of stakeholder fora at the regional and district levels to ensure the participation of all agricultural service providers in the planning implementation, monitoring and evaluation of extension.

Objective 7

To design and implement an effective monitoring and evaluation system for agricultural extension services.

Strategies include:

- Develop and implement an extension M&E system based on the MTEF framework by involving major stakeholders in planning, monitoring and evaluation of activities.
- Link M&E systems of the different levels (national, regional and district).
- Undertake baseline survey of present performance of the Agricultural Extension System.
- Develop capacity of staff in M&E activities.

2.5.3 Promoting Capacity Building for Extension

Objective 8

To attain a broad based human resource development programme by ensuring continuous capacity building of agricultural development workers. This objective will be achieved by:

- Enhancing career development through in-service training professional skills upgrading and managerial skills development.
- Training of agricultural extension workers (public and private) in areas of group formation and dynamics, gender issues, programme planning and alternative extension approaches to enable them work more effectively with farmer groups.
- Re-orientating the curricula of Agricultural Training Colleges and Universities to take into account the development of skills for the private sector NGOs, FBOs and CBOs who will be engaged in extension service delivery. Areas to be considered will include group formation, principles of financing credit administration and marketing. The curricula will also address emerging topical issues such as health, gender in agriculture and the environment.

2.5.4. Incorporating Emerging Issues into Agricultural Extension

Objective 9

To respond to the emerging issues of HIV/AIDS pandemic, environmental degradation and poverty reduction. Extension efforts will also focus on the areas of gender, equity and client empowerment as they relate to sustainable agricultural production. To achieve this objective, Ministry of Food and Agriculture will:

- Develop and implement activities that would respond to the national poverty efforts.
- Collaborating with relevant MDAs (e.g. Health, Education, Social Welfare) to fight the HIV/AIDS pandemic.
- Develop extension activities to focus on the relationship between natural resource management, poverty reduction, increased food supply and income.
- Ensure equity in agricultural services delivery by improving access to vulnerable groups, including women, the youth and the physically challenged.
- Promote environmentally friendly agricultural production activities.

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C. Forum Agenda

AGRICULTURAL EXTENSION POLICY FORUM

Tuesday and Wednesday, May 12 and 13, 2015

11:00 am – 5:00 pm, May 12

8:30 am – 5:15 pm, May 13

Best Western Accra Airport Hotel, Accra, Ghana

TUESDAY, MAY 12, 2015 ***Session Chair: Joseph Faalong, Regional Director of Agriculture, Regional Coordinating Council, Upper West Region, Wa***		
Time	***Activity***	***Responsible***
11:00 am – 12:50 pm	Registration	APSP
11:30 am – 12:30 pm	Hosted Lunch	APSP
1:00 pm – 1:25 pm	Welcome & Opening Remarks • Prayer • Modernizing Extension and Advisory Services (MEAS) • Agriculture Policy Support Project (APSP) • MOFA	Participant Dr. Paul McNamara, Director, MEAS Mr. Walter Nunez-Rodriguez, COP, APSP Dr. Kwame Amezah, Acting Chief Director, MOFA
1:25 pm – 1:45 pm	Introductions	Master of Ceremonies (MC): Mr. Theophilus Osei Owusu, Deputy Director, DAES
1:45 pm – 2:00 pm	Working Definition of Policy Purpose/Objectives of Forum, Agenda Overview, Housekeeping	Mr. Gabriel Owusu, Deputy Director, DAES
2:00 pm – 2:15 pm	Participant Expectations	Mr. Emmanuel Odame, Deputy Director, DAES
2:15 pm – 2:35 pm	Liberia's National Agricultural Extension Policy	Dr. Moses Zinnah, Director, Programme Management Unit, Ministry of Agriculture, Liberia
2:35 pm – 2:55 pm	Agricultural Extension Policy Issues	Dr. Paul McNamara, MEAS
2:55 pm – 3:15pm	Agricultural Extension Policy: Preliminary Findings from the Field	Dr. Vickie Sigman, MEAS
3:15 pm – 3:30 pm	Tea Break	
3:30 pm – 3:45 pm	African Forum for Agricultural Advisory Services (AFAAS) & Policy Standing Committee	Mr. Gabriel Owusu, DAES
3:45 pm – 4:00 pm	Ghana Policy: Overview, Themes, & Principles	Mr. Gabriel Owusu, DAES
4:00 pm – 4:15 pm	Organizing Groups by Theme	Dr. Vickie Sigman, MEAS
4:15 pm – 4:55 pm	Group Review of Policy, Discussion, & Summary Preparation by Theme	Groups/Group Facilitators
4:55 pm – 5:00 pm	Tomorrow's Activities & Close	Chair/MC

WEDNESDAY, MAY 13, 2015 ***Session Chair: Joseph Faalong, Regional Director of Agriculture, Regional Coordinating Council, Upper West Region, Wa***		
Time	***Activity***	***Responsible***
8:30 am – 8:45 am	Registration	APSP
8:45 am – 9:00 am	Opening Prayer Welcome, Review of Yesterday and Today's Activities, Announcements	Participant Chair/MC
9:00 am – 10:15 am	Group Reports: Review of Policy by Theme	Groups/Rapporteurs
10:15 am – 10:30 am	Tea Break	
10:30 am – 11:20 am	*Group Work: Progress & Constraints and Gap & Change Analyses by Theme*	Groups/Group Facilitators
11:20 am – 12:00 noon	*Group 1 & 2 Reports: Progress & Constraints and Gap & Change Analyses*	Groups/Rapporteurs
Noon – 12:05 pm	Explanation: Policy Standing Committee Sign-Up	Mr. Gabriel Owusu, DAES
12:05 pm – 1:00 pm	Hosted Lunch	
1:00 pm – 2:00 pm	*Group 3, 4, & 5 Reports: Progress & Constraints and Gap & Change Analysis*	Groups/Rapporteurs
2:00 pm – 2:15 pm	Plenary Additional Progress & Constraints and Gaps & Changes	Ms. Hannah Nyamekye, APSP
2:15 pm – 2:45 pm	Group Development of Prioritized Recommendations by Theme	Groups/Group Facilitators
2:45 pm – 3:15 pm	Groups 1 & 2 Reports: Recommendations	Groups/Rapporteurs
3:15 pm – 3:30 pm	Tea Break	
3:30 pm – 4:15 pm	Group 3, 4, & 5 Reports: Recommendations	Groups/Rapporteurs
4:15 pm – 4:40	Plenary Acting on Priority Recommendations: The Way Forward	Mr. Maxwell Agbenorhevi, Agricultural Economist, APSP
4:40 pm – 4:50 pm	Evaluation	MEAS/APSP
4:50 pm – 5:15 pm	Closing Remarks	Dr. Fenton Sands, Senior Food Security Officer, USAID/Ghana Chair

D. List of Participants

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E. INTRODUCTION TO THE AGRICULTURAL EXTENSION POLICY FORUM

APPENDIX E.
INTRODUCTION TO THE AGRICULTURAL EXTENSION POLICY FORUM

by
GABRIEL OWUSU
(DEPUTY DIRECTOR, DAES)

MINISTRY OF FOOD & AGRICULTURE
REPUBLIC OF GHANA

PRESENTATION OUTLINE

- Working Definition of Policy
- Purpose/Objectives of Forum
- Agenda Overview
- Housekeeping

MINISTRY OF FOOD & AGRICULTURE

Working Definition of Policy

- A policy is a formal statement of a principle or rule that members of an organization must follow. Policies address issues important to the organization's mission or operations.
- A definite course or method of action selected from among alternatives and in light of given conditions to guide and determine present and future decisions.

MINISTRY OF FOOD & AGRICULTURE

Purpose of the Forum

Promote policy dialogue and conduct a stakeholder review of Ghana's existing agricultural extension policy and its implementation.

MINISTRY OF FOOD & AGRICULTURE

Objectives of the Forum

1. Share other country agricultural extension policy experiences.
2. Develop shared understanding among forum participants of Ghana's existing national extension policy (abridged version 2005).
3. Assess policy implementation progress and constraints and gaps and possible changes in the existing policy.

MINISTRY OF FOOD & AGRICULTURE

Objectives of the Forum..... Cont'd

4. Develop prioritized recommendations for implementation and policy framework improvements based on review and analysis.
5. Organize a Standing Committee on Agricultural Extension Policy.

MINISTRY OF FOOD & AGRICULTURE

Agenda Overview

Housekeeping

- Ground Rules
- Location of tea/lunch/ bathroom facilities
- Accommodation
- Travel & Transportation

THANK YOU
FOR YOUR ATTENTION

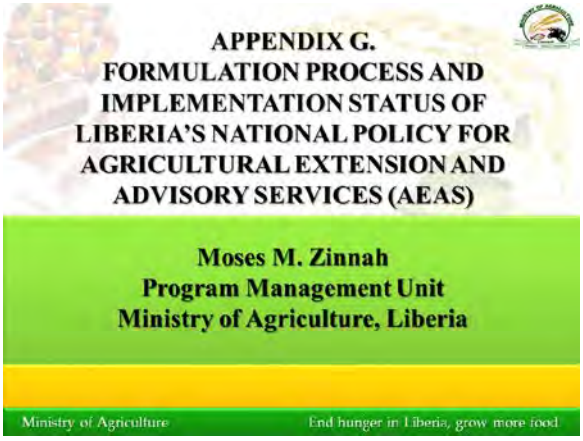
F. PARTICIPANT EXPECTATIONS

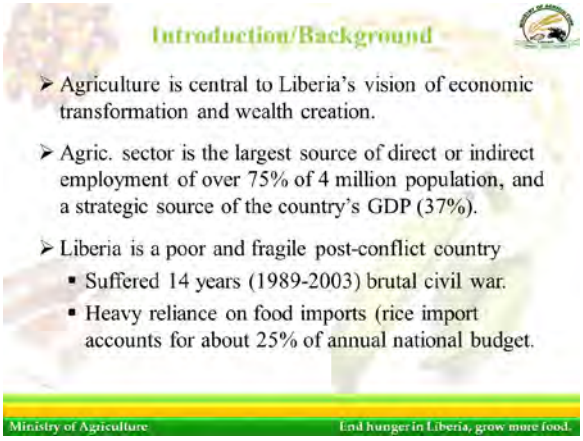
(Note: Some paraphrasing for purposes of clarity.)

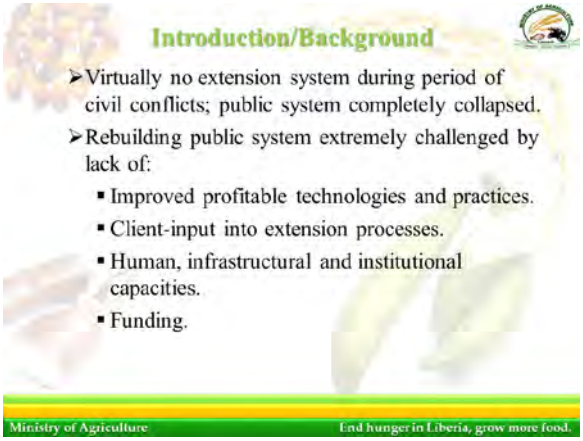
1. Proposals for the development of an Extension Policy elaborated.
2. Sharing of rich experiences to enhance Ghana's agricultural extension policy to ensure gender equity and improve multinational status of all in Ghana.
3. Expect Forum to come out with actionable and focused recommendations.
4. I expect to know how extension agriculture activities are well coordinated and executed with minimal cost. And that agricultural extension officers will be supported to give of their best in the district to improve food security.
5. The Policy Forum should empower the private sector to extend services to the farmers in rural areas.
6. Identify appropriate/best approaches in delivering agricultural extension in Ghana.
7. I expect that we shall have a policy that will guide the District Assemblies to offer agricultural extension and the needed support to achieve their full human resource development to promote improved agricultural extension delivery in Ghana.
8. At the end of the programme, MOFA will have a workable policy on agricultural extension.
9. Understand the agriculture extension policy of Ghana. Learn from other African countries agricultural extension policies.
10. Current state of extension policy in Ghana and identify gaps.
11. To better understand the existing policy. Be exposed to the experiences of those from diverse organisations. Then how the MOFA intends to continue the process.
12. To learn from the policy process of Ghana so as to share with other African countries.
13. My expectation is that this Forum will produce an honest and open discussion of agricultural extension policy and implementation issues.
14. To learn about the policy development process as it relates to the national agricultural extension policy.
15. That creative and innovative approaches to the delivery of extension services are discussed in support of MOFA's agricultural extension policy.
16. This workshop will come out with a working policy that would address Ghana's extension sector. The outcome of this workshop would contribute towards the development of the agricultural sector in Ghana.
17. Open dialogue to solicit opinions to shape a workable agricultural extension policy for Ghana.
18. Demand-drive a client-focus extension and advisory services in Ghana will define productivity and commercialization.
19. To get a good understanding of the agricultural extension policy and how it will work for the good of farmers.
20. To see a framework of agricultural extension policy in place.
    To get information on Government of Ghana – USAID modalities for pro-poor extension for poverty reduction, if any. To learn and share about alternative extension delivery methodologies.
21. Farmer quality of life and incomes would be improved. Empowerment of extension staff. Timely and adequate release of funds.
22. That as part of the national policy on agriculture, the District Assemblies will be mandated to come out with various policies to guide and support the development of agriculture in the district.
23. An innovative extension that is adaptive and gender responsive.
24. A policy that will push for incentives for extension agents.
25. Better understanding of the extension policy. Challenges in extension policy implementation and the way forward.
26. Build extension agent capacity to facilitate the development of farmers.
27. At the end of the programme I expect that we will come out with a very good agricultural extension policy which will ensure food security
28. Recommendation addressing pricing of extension services.
29. I hope to learn new ideas from other extension policy documents elsewhere.
30. To listen and understand about the different agricultural extension policies from other countries.
31. There will be an updated agricultural extension policy to meet the needs and aspirations of Ghana's farmers.

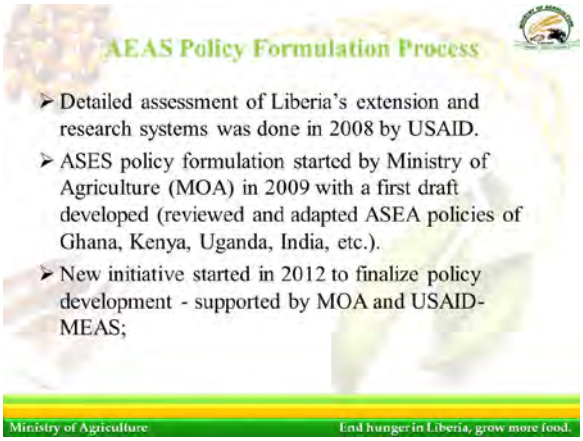
32. Fine-tune and further develop a national agricultural extension policy that will address the concerns of all the actors in the agricultural value chain.
33. To learn more about the agricultural extension policy.
34. Learn from other participants. Emergence of new ideas in extension. Comprehensive draft extension policy.
35. To come up with guidelines for implementation of Ghana's extension policy: source of funds, strategies for implementation, M&E.
36. To better understand how District Assemblies and District Departments of Agriculture will work together to develop local extension priorities that will have impact on local/district economies and communities.
37. To get to know more about the agricultural extension policy and the processes in Ghana.
38. To understand the steps and stages of policy review used in Ghana.
39. An adaptive extension policy. Gender reflective extension policy.
40. Learn how decentralization is working
41. Review of policy will contribute to increased agricultural productivity at the district, metro, and municipal assembly levels.
42. I expect to hear from other places/countries how policy has helped agricultural extension agents deliver better services to farmers.
43. A policy that will encompass the changing trends in the agricultural landscape.
44. By the end of the second-day of the programme, I expect that a workable strategic extension services policy will be generated that is in-line with the Government of Ghana.
45. Policy should increase farmer uptake of certified seed and extension services. An improved national extension policy.
46. I expect to learn how the agricultural extension policy can be operationalized to make extension delivery meaningful and relevant for increase agricultural productivity.

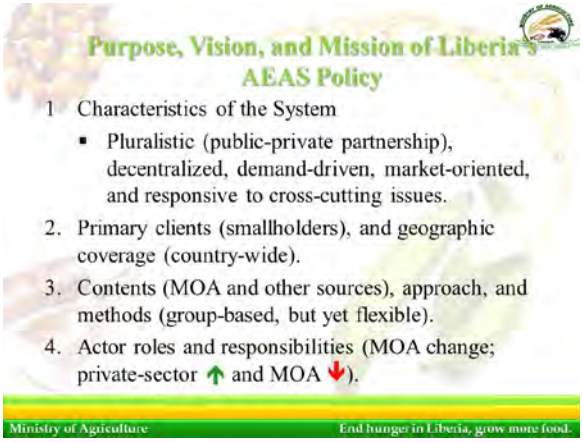
G. LIBERIA'S NATIONAL POLICY FOR AGRICULTURAL EXTENSION AND ADVISORY SERVICES











AAEAS Policy Implementation Status and Challenges

- Yet to be formally adopted by the National Legislature (delayed due to Ebola Virus outbreak and other reasons).
- Implementation action constrained by significant implementation challenges:
  - Weak public-sector capacity to coordinate pluralistic AEAS provision.
  - Decentralization facing its own challenges (lack of institutional and staff capacity and funding).

AAEAS Policy Implementation Status

- Limited number of private sector actors with already weak delivery capacity (except for foreign-owned oil palm and rubber sub-sectors).
- Potentially willing private sector (driven by NGOs), but as yet little direction provided.
- **Devastating effects of the deadly Ebola Virus Disease that killed over 4,000 citizens and stopped all economic development efforts (including agriculture) in Liberia from the outbreak in March 2014 to May 9, 2015 when the country of officially declared Ebola free by the World Health Organization.**

What is Needed Now?

- A Policy Implementation Strategy to guide implementation.
- Clearly defined capacity development plan.
- Champion(s) – both public and private sectors committed to driving policy implementation.
- Finance support to Implementation Strategy.
- **Targeted short, medium and long-term Economic Stabilization and Recovery Plan to overcome the devastating effects of the Ebola Virus Disease on the Agriculture Sector, including AEAS.**

Lessons Learned

- Committed Task Force is critical.
- Importance of resources to obtain stakeholder input.
- Need clearly defined plan for all stages in the Policy Development Cycle (Problem Definition; Formulation; Implementation and Evaluation).
- Permanent Advisory Board.
- Build on momentum.

Conclusion

- Liberia has an explicit AEAS policy and is one among the singularly few countries in Sub-Saharan Africa with such policies.
- Liberia's first National Policy for AEAS and its implementation receives the full support of senior staff of the Ministry of Agriculture including the Minister.
- AEAS Implementation process was stalled to due to Ebola Virus Disease.
- A recovery plan has been put into place to restart and forge ahead with the AEAS implementation strategy.

THANK YOU!!

H. Elements of Effective Extension Policies

APPENDIX H.
Elements of Effective Extension Policies: Lessons from Recent MEAS Experience

Paul E. McNamara

Accra, Ghana

May 12, 2015

Associate Professor, Department of Agricultural and Consumer Economics, University of Illinois at Urbana-Champaign; Director, Modernizing Extension and Advisory Services Project (MEAS)

Outline

- **Why invest in extension for development?**
- **What are the top policy issues?**
- **Lessons from country experiences in agricultural development**

Most of the world's poor are rural people

In 2010, over 900 million poor people (78 percent of the poor) lived in rural areas, with about 750 million working in agriculture (63 percent of the total poor). (World Bank 2015)

Farming groundnuts in Bong County, Liberia

Agricultural growth is effective in reducing poverty

"Overall, growth originating from agriculture has been two to four times more effective at reducing poverty than growth originating from other sectors." (World Bank, 2015)

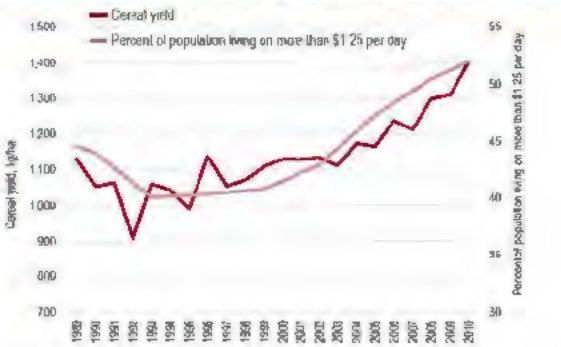
A Sierra Leonean woman farmer expanded this rice field with a micro-loan

Higher incomes help improve food security and nutrition

- In the poorest countries income growth reduces caloric deficiencies
- Estimates show a 60% increase in income per capita can lead to reduced stunting and underweight prevalence by 35% and 45% respectively (World Bank, 2015)

A Sierra Leonean farmer with cocoa seedlings in his nursery

Reducing poverty linked to agricultural productivity increases



Source: World Development Indicators, POVCAL. From Ending Poverty and Hunger by 2030, World Bank, 2015

Why invest in extension?

"Investing in extension so that it helps more farmers in more places – women as well as men, smallholders as well as commercial farmers – is the only way to reap the full benefit of innovation." (Gates Letter, 2015)

An irrigation innovation in West Africa (photo Jim Stipe)

Defining Extension

"Extension is defined broadly to include

- all systems that **facilitate access** of farmers, their organizations and other market actors **to knowledge, information and technologies;**
- **facilitate** their **interaction** with partners in research, education, agri-business, and other relevant institutions;
- and **assist** them to develop their own technical, organizational and management skills and practices."

Ian Christoplos, FAO, 2010 (emphasis added)

How? What are governments doing?

- Primary domains
  - Extension Policy
    - Extension approach
    - Coordination
    - Financing
    - Targeting – small-holders or larger commercial farmer
  - Agricultural policy and overall investment climate
    - Enabling environment for investment in the agricultural sector
  - Infrastructure
  - Extension services delivery
  - Research, regulation (inputs and environmental quality), information and direct services (veterinary, crops and pest management, etc.)

Policy issues affecting extension

- Agricultural policy
  - Fertilizer and seeds – subsidized or building a market?
  - Seed quality and seed availability, seed importation and distribution
  - All agricultural policies affecting the business and economic enabling environment for agricultural investment and operation
  - Agricultural finance policy
- Civil service staff rules and policy
- Land policy, water policy
- Budgets and financial policies
- Governance and decentralization

Policy objectives for extension

- Several different objectives for extension observed
  - Increase agricultural productivity
  - Reduce rural poverty
  - Respond to rural communities, rural development
  - Represent government in rural areas
  - Reaching underserved groups: minorities, remote communities, women farmers, youth

Pluralism

- A dizzying array of organizations involved in delivering extension services in many countries
  - Min. of Agric., Min of Local Govt, NGOs, private companies and farmers organizations, etc.
- Liberia – more than 60 NGOs, MOA, private sector and outgrower schemes
- Multiple organizations do not imply a "system"
- Ghana "Perhaps most importantly, we found a need for coordination at the national level because of the sheer number of actors and organizations operating in the agricultural extension area."

Quality

- "The quality of spending to agriculture is more important than the overall level of spending." Akroyd and Smith, 2007
- Feedback loops
  - Quality promotes support -- advocacy strategy
  - Quality promotes demand for services from farmers
- Implications for monitoring and evaluation

Training on soil testing and analysis for Ministry of Agriculture consultants (field staff) in Georgia by USAID-funded SEAS project

MEAS Country Level Observations – Some bright spots

- Devolution and decentralization offers an environment for new approaches and more local voice into extension
  - Kenya
  - Ghana
- Innovative ICT approaches and programs
- Public/Private Partnerships and private sector extension models
- A renewed commitment by some governments for rural development and extension
  - Ethiopia, Latin America examples
- Increased recognition of the importance of extension for poverty reduction and agricultural productivity

Linkages

- Rwanda "…because frontline extension workers are under MINALOC, it is not clear how MINAGRI can build the capacity of frontline extension workers. There is a need to strengthen linkages between the two ministries…"
- Ghana RELC – Research Extension Linkage Committees at regional level
  - Farmers need stronger voice on RELCs
  - "some expressed the view that the RELCs were dominated by the research side and that field extension staff and farmer organizations …do not have the ability to influence the research agenda much."

The Financing Challenge – Key Issues Identified

- Low level of support for agriculture in government budgets
  - Share of agriculture in overall budget in Asia declined from 14.8% in 1980 to 8.6% in 2002
  - CDAAP has improved this somewhat – quality issues, input subsidies, efficiency of spending
- Projectization of finance for extension
- Recurrent cost problem in extension
- Politicization of finance in extension
- Broken link between budgeting and performance

A multitude of alternatives

(modified from Birner and Anderson, 2007 and others)

Delivery Organization	Source of Financing				
	Public Sector	Private Sector Farmers	Private Sector Companies	NGOs	FBOs
Public Sector	Public sector extension	FFS provided by public sector	Private companies contract PS	NGOs contract PS	FBOs contract PS
Private Sector: Companies	Contracting	Fee For Service	Input linked ext., outgrowers	NGOs hire Private	FBOs contract Private
Private Sector: Individual Providers	Contracts, coupons	FFS, Private Service Providers		NGO hires agents	
Third Sector: NGOs	Govt contracts	Farmers pay fees		NGO hires agents, free	
Third Sector: Farmer-Based Organizations	Public support, subsidies for extension	FBO hires agents, FFS		NGO pays agents employed by FBO	Agents hired by FBO providing service to members

Ethiopia – sustained agricultural growth has led to poverty reductions

- Agricultural growth averaged 2.9% through the 1990s, and 6.2% in the 2000s
- Factors producing growth include
  - Roads and improved electricity generation
  - Political will
  - Productive Safety Net Program – rural employment using cash and food for building local infrastructure – roads, water retention structures
  - Macroeconomic stability – but a period of high inflation in 2007/08 and a foreign exchange shortage in 2009/10
  - Increased extension contributed to lowering of poverty and increased rural consumption

China – Broad Agricultural Growth

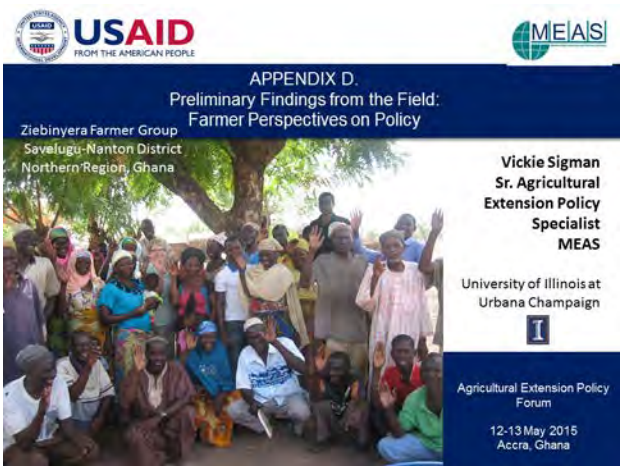
- Ravallion – Are there Lessons for Africa from China's Success against Poverty? 2008
- In 1981 two out of three mainland Chinese lived below $1 a day compared to 40% of people in SSA at the same time
- Trend for poverty reduction was 1.9% (1981-2004) versus 0.1% in SSA
- Despite obvious differences – population density, birth rates, income inequality, strength of governance – two lessons
  - Productivity growth in smallholder agriculture
  - "strong leadership and a capable public administration at all levels of government"

Conclusions

- Policy is a roadmap – directs and guides – implementation and feedbacks are critical
- Across countries some commonalities
  - Importance of functioning programs and public administration
  - Political commitment or the lack thereof
- Need to identify successes and strengths in extension and build on them
- Advocacy and leadership
- New directions that build on strength
  - District level extension in Ghana

    Partnership for extension capacity strengthening in Kenya

I. Preliminary Findings from the Field – Farmer Perspectives on Policy



Introduction

- Methodology
- Farmer Groups Interviewed
- Key Areas/Questions Explored
  - Findings
  - Possible Implications for Agricultural Extension Policy

Methodology

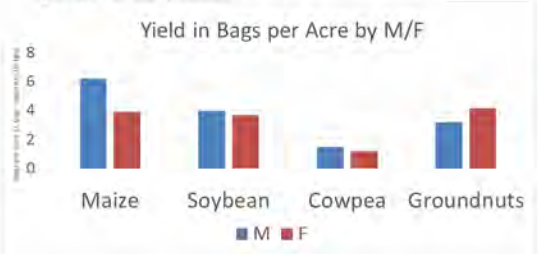
- Four Focus Group Interviews with existing Farmer Groups
  - Three in Northern Region districts, one in Upper East Region district
- Thanks for organizing and translating to district colleagues from Savelugu Nanton District, to Farmer Training Center Bolgatanga (NABOCADO), and to my colleague from UDS Tamale.

Farmer Groups Interviewed

- Group Characteristics
  - 11 male youths, new group
  - Mixed group M/F, organized for 7 years
  - All female group, organized for 4 years
  - Mix Group, Secondary-level Group – representatives from 11 first-level groups, organized for 11 years
- Total of 88 farmers; 43 men, 45 women
- Three different local languages

Crops & Yields

- Question: What are the main crops grown and yields?



Possible Policy Implications

- Focus extension activity on improving yields of key crops.
- Target crop production extension to men or women depending on their yield levels.

Farmer Interactions with Extension Agents

- Question: Do farmers consistently interact with public sector and/or NGO agricultural extension agents?
  - 2 groups AEAs (public), 2 groups NGO
  - Key Finding: Provided with limited operational funding support, public and NGO extension agents reach farmers & provide extension services.

Possible Policy Implication

- Support public sector Agricultural Extension Agents operationally, in-line with NGO extensionists, so public sector agents are positioned to reach and serve farm families.

Agricultural Extension Policy

- Question: Who makes agricultural extension policy? (government rules and regulations)
  - Response: Assembly Members and Chiefs.
  - Farmers do not seem to believe they have much influence or any effective voice in the development or implementation of policy (government rules and regs).

Possible Policy Implication

- Design and support a system and mechanisms to fully engage farmers in agricultural extension policy development, implementation, monitoring, and evaluation.

Decentralization

- Question: What is known about decentralization? (power to the District Assemblies)
  - Very large majority never heard of this but most all had heard of District Assemblies-knew of their Assembly Member.
  - Five were aware: via Best Farmer event, request to register Farmer Groups--MOFA now under District Assemblies.

Possible Policy Implication

- Develop and implement a plan to create greater awareness and deeper understanding among farmers of decentralization: what is it, its purpose, why it could make a difference to farmers, etc.

Farmer Demand

- Question: Do farmers believe they can tell AEAs what type of training they need?
  - Farmers can say but AEAs can say, but this is what we have.
  - Some farmers have more influence on NGO training due to needs assessment processes.
  - Except for ext agents, farmers do not know where they could go to express their extension needs.

Possible Policy Implication

- Build a demand-driven system whereby farmers are facilitated in articulating their agricultural extension needs through to higher levels of government.

Channels

- Question: How might farmer extension needs be best relayed to higher levels of government?
  - Key Findings: Primarily through AEAs, NGOs, Chiefs, Assembly Members, tractor service providers.

Possible Policy Implications

- Clarify the roles of these actors in the policy process.
- Build on these existing channels to facilitate farmer input to extension programming.

J. ESTABLISHING AND STRENGTHENING NATIONAL MULTI-STAKEHOLDER PLATFORMS

APPENDIX J.
Establishing and Strengthening National Multi-Stakeholders Platform- Country Forum: The experience of AFAAS and GFAASS

By
Gabriel Owusu
Focal person, Ghana

12 May 2015
Accra, Ghana

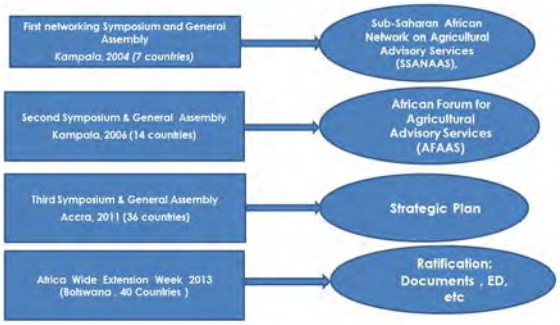
Critical Gaps in AEAS

- No continent-wide framework for supporting institutional development of AEAS
- Lack of mechanisms to develop synergies in AEAS between countries
- Information exchange not adequate
- Low capacity of AEAS to address current challenges and Opportunities

Introduction

- The African Forum for Agricultural Advisory Services (AFAAS) is the umbrella organisation for AEAS in Africa.
- To create efficient, effective and synergistic linkages and partnerships among AEAS of member countries to improve the delivery of these services to farmers.
- Operates within the framework of Pillar IV of the Comprehensive Africa Agriculture Development Programme (CAADP)

Evolution of AFAAS



AFAAS Vision and Mission

Vision: AEAS that effectively & efficiently contribute to sustained productivity, profitability & growth of African agric. for poverty reduction

Mission: Promote lesson learning & add value to initiatives in AEAS through sharing of information & increased professional interaction

AFAAS and the Role of CFs

Country Forums

- The CFs are building blocks of AFAAS
- Brings together AEAS actors
- Leads AEAS development at national level – linking AEAS stakeholders with CAADP process
- Information exchange
- Shares lessons
- Identifies opportunities for providing services to each other
- Innovation on AEAS

AFAAS Secretariat

- Facilitates alignment with AFAAS and FAAP
- Links CFs regionally and continentally for sharing and learning
- Capacity strengthening

CF Establishment Process

- Expression of interest from key stakeholders in a country
- Sensitisation of stakeholders in the country by AFAAS/CF focal point person
- Assessment of organisational and institutional status of AEAS stakeholders
- Facilitation of the process of establishing a country forum
- Facilitation of a CF to develop a strategic plan

Factors for success

- Champions who can mobilise stakeholders and resources
- Awareness creation
- Sustainable financing mechanism
- Pool of experts to support the CF members
- Capacity building of the CF members
- Stakeholders' ownership of the CF

Challenges

- Membership contribution
- Huge number and variety of actors
- How to get everybody represented (inclusive)
- Failures of Past attempts
- Balancing public and private sector actors' participation

Global Level (GFRAS)

RAS regional networks

Where are we now?????

Forum for Agricultural Advisory Support and Services, Ghana

- Interim Committee in place
- The Committee deliberated on issues and this was supported by GIZ.
- Constitution in place
- Regional validation of the constitution

Forum for Agricultural Advisory Support and Services, Ghana

- it is a legal entity called **Forum for Agricultural Advisory Support and Services, Ghana (GFAAS).**
- An MOU has been developed between GFAAS, AFAAS and DAES for the hosting and program implementation arrangements.

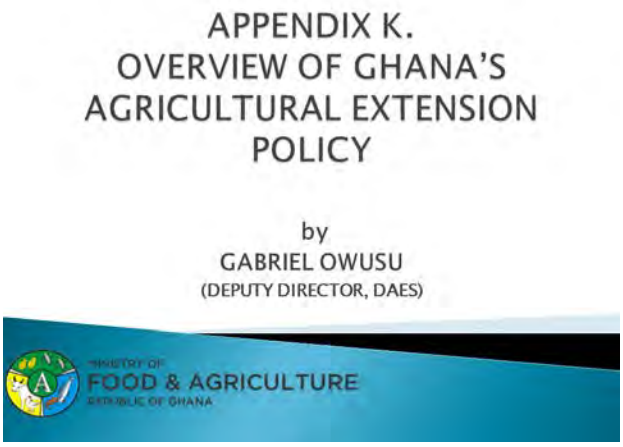
The Way Forward

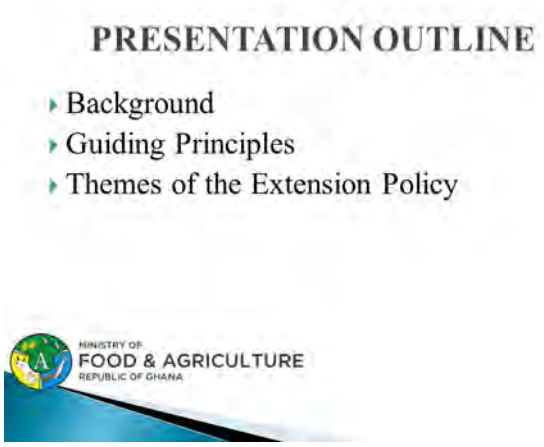
- There is the need for Official launching of the **Ghana Forum (GFAAS)**
- Members mobilization
- Advocacy and lobbying on AEAS issues
- Fund raising to sustain the forum
- Mobilize stakeholders to implement extension policy

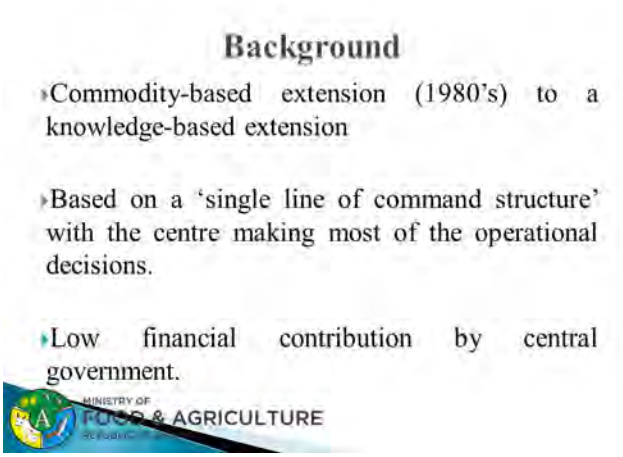
Thank you for your attention!

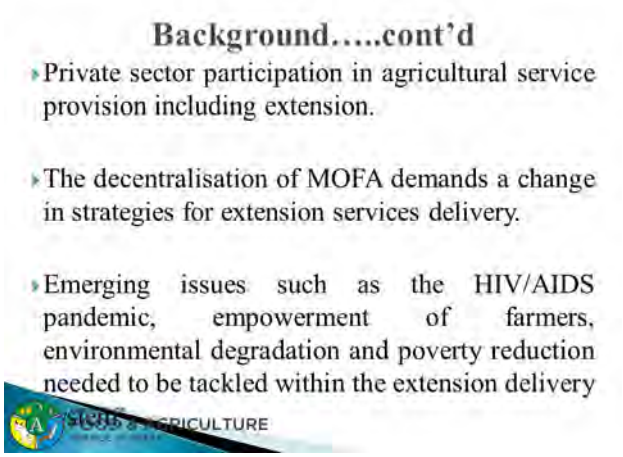
For more information visit:
Website: www.afaas-Africa.org

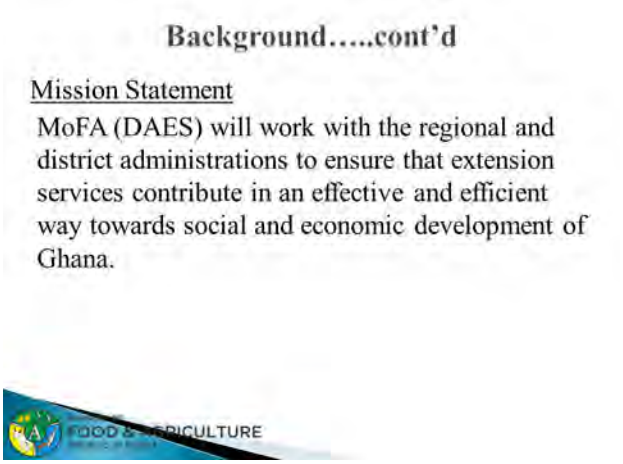
K. OVERVIEW OF GHANA'S AGRICULTURAL EXTENSION POLICY

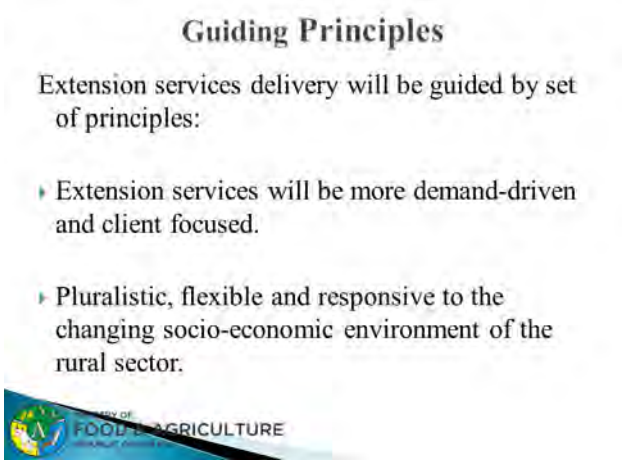












Guiding Principles

- Provision of adequate extension service to small-scale resource poor farmers with special attention to women, the youth and the physically challenged.
- Funded by government.
- Establish a high degree of financial sustainability through enhanced planning and prioritisation of commitments.

Guiding Principles.....contd

- Agricultural extension should be open to new funding mechanisms
- The private sector would be encouraged to finance and engage in agricultural extension services delivery

Guiding Principles..... contd

- Decentralisation of government functions to the District Assemblies
- Representative perspectives about the requirements of the farming community will be obtained by involving the community in problem identification, planning, implementation and evaluation of extension services

Guiding Principles..... contd

- Agricultural extension (both public and private) will be cost effective and ensure accountability to beneficiaries and other stakeholders
- Extension services would be more pro-active in developing business and marketing skills of farmers

Guiding Principles..... contd

- Extension service delivery will be monitored by the District Assemblies in conjunction with MOFA and farmers to ensure high quality of services provided by the private sector
- Human resource development should be continuous and intensified at all levels.

Themes

Five major themes have been derived from the policy.

1. Farmer Demand-Driven Extension
2. Management and Operations of Extension: Part A
3. Management and Operations of Extension: Part B
4. Capacity Building for Extension
5. Incorporating Emerging Issues.

Themes..... cont'd

THEME	POLICY OBJECTIVE	FRAMED BY GUIDING PRINCIPLE
IV. CAPACITY BUILDING FOR EXTENSION	#8. To attain a broad based human resource development program by ensuring continuous capacity building of agricultural development workers.	(10) Human resource development will be a continuous and intensified process.

MINISTRY OF FOOD & AGRICULTURE

THANK YOU

MINISTRY OF FOOD & AGRICULTURE

L. Organization of Working Groups by Policy Theme

Dear Forum Participant:

At the Forum, working groups will be organized around each of five themes from the Ministry of Food and Agriculture (MOFA), Directorate of Agricultural Extension Services (DAES), *Agricultural Extension Policy* (Abridged Version 2005)[7]. These themes are identified in the Theme Chart (following on page 2 of this document) along with their corresponding Policy Objectives and related Guiding Principles, all from the *Policy*.

You will be asked to select a group/theme in which to participate. We will appreciate your working with that particular group/theme over the two days of the Forum. To promote dialogue and exchange of ideas and experiences, we would like groups to be comprised of a mix of 10-12 people maximum from the different sectors (public, private, and civil society) and from the different geographic areas represented at the Forum.

There will be three group exercises:

1. Review, summarize, and report out on the theme.
2. Analyze progress and constraints to progress as well as gaps and changes related to the theme, and report out.
3. Develop prioritized recommendations addressing theme constraints, gaps, and changes and report out.

To facilitate your timely selection of a group/theme, please review the Theme Chart in advance.

THEME CHART: AGRICULTURAL EXTENSION POLICY CONTENT CATEGORIZED BY THEME

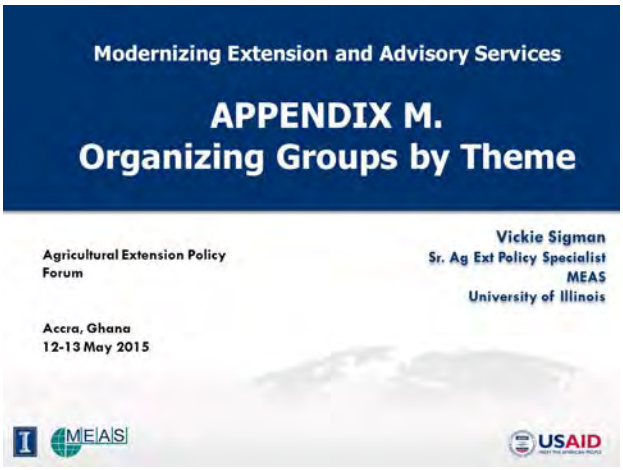
	FROM 2005 AGRICULTURAL EXTENSION POLICY DOCUMENT	
THEME	***POLICY OBJECTIVE*** ***(see policy pp 11-16 for details)***	***FRAMED BY POLICY GUIDING PRINCIPLE*** ***(see policy pp 10-11 for complete text)***
I. **FARMER DEMAND-**	#1. To promote farmer driven extension and research to ensure that services provided are relevant to farmers.	(1) Services will be more demand-driven and client-focused.

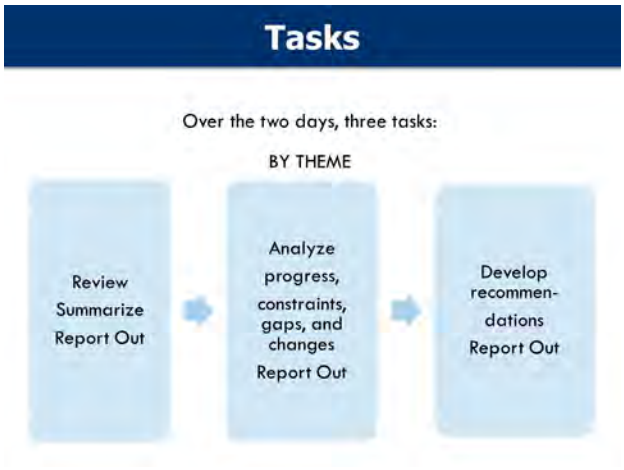
[7] Copy included in your folder.

	FROM 2005 AGRICULTURAL EXTENSION POLICY DOCUMENT	
THEME	***POLICY OBJECTIVE*** ***(see policy pp 11-16 for details)***	***FRAMED BY POLICY GUIDING PRINCIPLE*** ***(see policy pp 10-11 for complete text)***
DRIVEN EXTENSION **(pp 12-13)**	#2. To empower farmers through the formation and development of FBOs in the areas of marketing and agro-processing in collaboration with the Department of Co-operatives (DOC).	(8) Services will pro-actively develop farmers' business and marketing skills.
	#3. To promote best agricultural practices.	
II. MANAGEMENT AND OPERATIONS OF EXTENSION: PART A **(pp 13-14)**	#4. MOFA will increase the efficiency and cost effectiveness of publicly funded extension services.	(3) National system will ensure services to small-scale and poorly resourced farmers, with special attention to women, youth, and the physically challenged. (4) Public sector funding of services will aim toward financial sustainability. (5) Extension will be open to new funding mechanisms. (7) Private sector financing and engagement in service delivery will be encouraged.
	#5. To broaden extension services delivery to include other extension approaches.	(2) Services will be pluralistic, flexible, and responsive.
III. MANAGEMENT AND OPERATIONS OF EXTENSION: PART B **(pp 14-15)**	#6. To ensure that appropriate institutional structures and capacity are developed at all implementation levels to operate the new Agricultural Extension Policy. MOFA will operationalize the roles and responsibilities of the various levels of governance (national, regional and district) as defined under the decentralization process.	(6) Nature and level of publicly-funded services will be determined by District Assemblies in consultation with farmers and other stakeholders.
	#7. To design and implement an effective monitoring and evaluation system.	(9) Monitoring of services will be carried-out by District Assemblies along with MOFA and farmers.
IV.	#8. To attain a broad based human resource development programme by ensuring	(10) Human resource development will be a continuous and intensified process

	FROM 2005 AGRICULTURAL EXTENSION POLICY DOCUMENT	
THEME	***POLICY OBJECTIVE*** ***(see policy pp 11-16 for details)***	***FRAMED BY POLICY GUIDING PRINCIPLE*** ***(see policy pp 10-11 for complete text)***
CAPACITY BUILDING FOR EXTENSION **(pp 15)**	continuous capacity building of agricultural development workers.	
V. **INCORPORATING EMERGING ISSUES** **(pp 16)**	#9. To respond to the emerging issues of HIV/AIDS pandemic, environmental degradation and poverty reduction. Extension efforts will also focus on the areas of gender, equity and client empowerment as they relate to sustainable agricultural production.	

M. ORGANIZING GROUPS BY THEME





Find your Facilitator and Group
Wait a Moment Please

	Group	Facilitator	Where
1.	Farmer Demand	Mr. Maxwell Agbenorhevi	Front left of room (facing the back)
2.	Mgm't of Ext: Part A	Dr. Paul McNamara	Front right of room (facing the back)
3.	Mgm't of Ext: Part B	Mr. Gabriel Owusu	Middle back of room (facing the back)
4.	Capacity Building	Mr. Oliver Ferguson	Left back of room (facing the back)
5.	Emerging Issues	Ms. Hannah Nyamekye	Right back of room (facing the back)

Please join your group.

Any questions?
Please go now
and join
your
group.

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N. THEME I – FARMER DEMAND-DRIVEN EXTENSION

APPENDIX N:
Theme I: Farmer Demand-Driven Extension

GROUP 1 – MEMBERS

APPENDIX AA.
THEME 1: FARMER DEMAND-DRIVEN EXTENSION
GROUP 1

MEMBERS:

1. Yussif Sulemana
2. William Boakye-Acheampong
3. John Awuku Dziwornu
4. Vincent Subbey
5. Sampson Eshetu
6. Sunipa Das Gupta
7. Mahamadu Yakubu Masuid
8 Mahama Alhassan Seidu
9. Malex Alebikiya
10. Daniel B. Kurinaah
11. Facilitator: Maxwell Agbenorhevi

Exercise 1: Summary

FARMER DEMAND-DRIVEN EXTENSION

Objective 1: To promote farmer driven extension and research to ensure that services provided are relevant to farmers.

Explanation: Farmers play a lead role in defining the type of services that they need i.e. bottom-up approach

To increase farmers' voice, leadership and ownership in solving their problems i.e. research and production problems

Objective 2: To empower farmers through the formation and development of FBOs in the areas of marketing and agro-processing in collaboration with the department of cooperatives

Explanation: Build strong farmer institutions for a collective voice to ensure participation in decision making, advocacy and access to relevant information

Objective 3: To promote best agricultural practices

Explanation: Managing existing technologies and participatory generation of new ones – i.e. scaling down and scaling up.

Exercise 2:
Progress, Constraints, Gaps, Changes

FARMER DEMAND-DRIVEN EXTENSION

Objective 1: To promote farmer driven extension and research to ensure that services provided are relevant to farmers.

PROGRESS AND CONSTRAINTS OBJECTIVE 1 – To promote farmer driven extension and research

PROGRESS

- Establishment of RELCS
- Institution of bottom up planning process
- Creation of farming systems research approach in various ecological zones

CONSTRAINTS

- Inadequate funding to promote RELCS activities
- Limited appreciation of alternative models of farmer driven extension – agricultural innovation systems

PROGRESS AND CONSTRAINTS OBJECTIVE 2 – To empower farmers through the formation and development of FBOs

PROGRESS

- Formation of FBOs by relevant stakeholders – private and public
- Capacity building of farmers, AEAs, etc.

CONSTRAINTS

- Lack of coordination among different extension service providers at all levels
- Lack of coordination among the various FBOs
- Lack of implementation strategy for FBO at all levels
- Low capacity of extension service providers in FBO development

PROGRESS AND CONSTRAINTS OBJECTIVE 3 – To promote best Agricultural practices

PROGRESS

- Information and resource Centre is in place
- There are AEAs in all the districts in the country
- Efforts by government to support best agricultural practices through externally funded projects – Roots and tubers, WAAPP, GCAP and other USAID projects.
- Research has released a number of improved varieties into the system

CONSTRAINTS

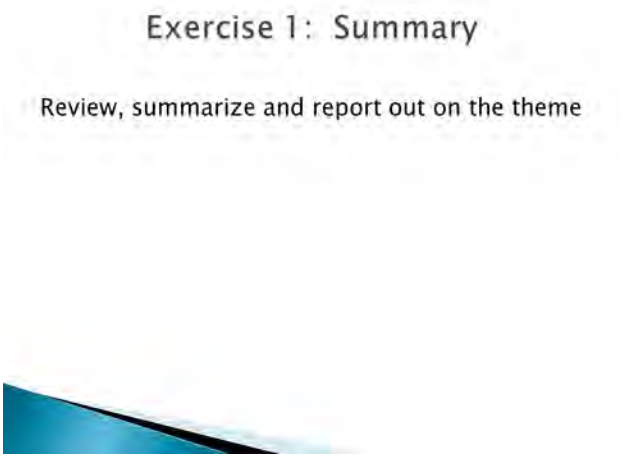
- Limited numbers of frontline staff
- Lack of knowledge management strategy and central depository of agricultural innovations and evaluation reports
- Lack of strategies and mechanisms of identification and implementation of innovations (agricultural practices, technologies, approaches and methods)
- Limited resources to implement extension delivery
- Weak linkage of the input and output supply market system
- Limited reliability of agricultural data

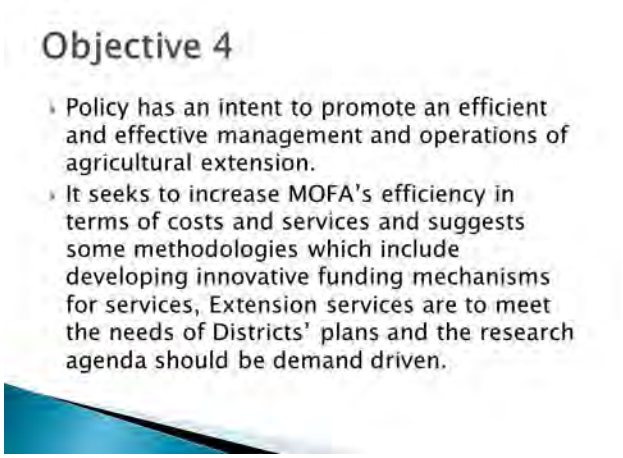
Exercise 3: Recommendations

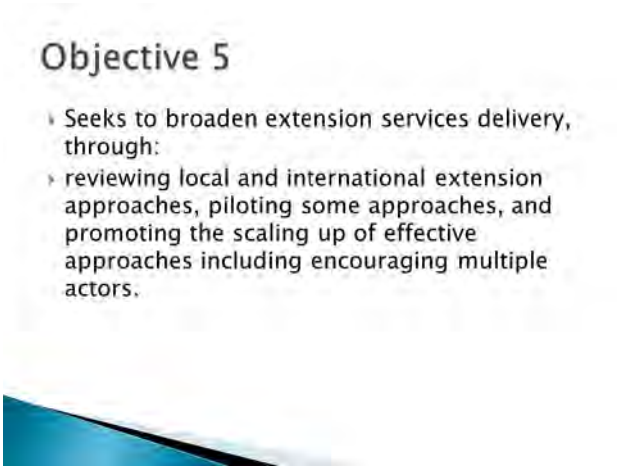
Exercise 3: Recommendations
Promoting farmer demand driven extension

GAP	RECOMMENDATION
• Lack of coordination among different extension service providers at all levels • Lack of coordination among the various FBOs • Lack of implementation strategy for FBO at all levels • Low capacity of extension service providers in FBO development	Review and update FBO development policy and strategy at the directorate of agricultural extension services implementation by all stakeholders
No district level multi stakeholder planning and implementation platform at the district level in relation to RELCS activity.	Establish a multi stakeholder planning implementation platforms for agriculture development at the district level

O. THEME II – MANAGEMENT AND OPERATIONS OF EXTENSION PART A







Exercise 2: Progress, Constraints, Gaps, Ghanges

	Progress	Gaps	Recommendations	
1. Providing a clear definition of target beneficiaries, types of publicly funded extension they should expect to recieve	Clearly defined target group with emphasis on smallholders	Targeting of women farmers remains a concern, insufficient AEAs to reach all farmers, areas that are not being served by projects fall through the cracks because of lack of funds, opportunity for improved coordination can increase targeting		

	Progress	Gaps	Recommendations	
2. Placing more emphasis on working with farmer groups	Training on farmer groups, handbook on farmer group organization, officer in charge of FBOs at national and regional level, track number of fbos at District	Inequities exist within fbos for women farmers, some womens groups exist but need capacity development, competition across fbo umbrella groups at the national level		

	Progress	Gaps	Recommendations	
3. Encouraging private sector participation in extension delivery and funding	NGOs mobilize funds, private sector extension in cocoa and other commercial value chains, outgrower extension, input supplier extension	Inadequate coordination among stakeholders at the district level; no incentive for private participation in extension		

	Progress	Gaps	Recommendations	
4. Exploring the possibility of cost sharing (where proportion of the cost of services is charged to the users of that services)				

	Progress	Gaps	Recommendations	
5. Supporting the setting up of an Agricultural Extension Development Fund to promote private sector participation in extension	Government of Ghana initiated through world bank assistance	Lack of political will to sustain		

	Progress	Gaps	Recommendations	
6. District level planning/implementation plans	There is some progress made through district planning session coupled with composite budgeting	No funds are received to fund the plans		

	Progress	Gaps	Recommendations	
7. Setting Research Agenda in participatory manner	Farmer resources and constraints have been identified through districts and regional planning sessions. Government has supported agric research through projects and programmes	Inadequate funding to support the research agenda		

	Progress	Gaps	Recommendations	
1 Reviewing various extension approaches with the view to assessing their suitability	Reviews have been conducted and assessments			

	Progress	Gaps	Recommendations	
2. Developing and maintaining links with local and international organizations to identify the most appropriate	Ecowas review (?), ministry review/			

	Progress	Gaps	Recommendations	
3. Supporting the development and piloting of various approaches in collaboration with private sector providers	Some progress – CARE private sector providers,	More to do		
4. Encouraging a range of organizations/agencies including NGOs, private sector companies and public organizations to provide extension service				

	Progress	Gaps	Recommendations	
5. Elaborating extension indicators and quality standards to service providers	Not much has been accomplished			
6. Ensuring that activities of all service providers are coordinated and monitored to ensure effectiveness of service	Coordination remains a concern and coordination is an area where significant work needs to be done			

	Progress	Gaps	Recommendations	
7. Training all staff	Trainings through projects – WAAPP, ATT,			
8. Disseminating information on appropriate approaches to all extension services providers	Projects have been disseminating technical approaches, a sufficient platform does not yet exist	Needs for Ghana AFAAS affiliate to promote sharing of best fit approaches to network of providers		

Exercise 3: Recommendations

Recommendations: Promoting Efficient and Effective Management

- (Add a sentence: Ministry of Food and Agriculture (MOFA) will increase …. MOFA will provide an enabling environment, facilitate and support effective demand-driven District Department of Agriculture, private sector and NGO extension services, within the decentralized system. Options for improving the effectiveness….

Recommendations

- Gender targeting of program resources for both service providers and beneficiaries.
- Utilize private sector providers and NGOs to increase the number of women extension workers.
- Strengthen women-based fbos.
- Extension service providers should strengthen social mobilization and technical capacities of farmer groups and fbos to obtain services they require.
- Supporting the setting up of an Ag Exten Development Fund to promote and coordinate private sector and MMDA participation in extension services delivery.

Recommendations

- "Setting research agenda in a participatory manner to promote demand driven extension services delivery."
- Promote the use of volunteers and lead farmers in extension program.

P. THEME III – MANAGEMENT AND OPERATIONS OF EXTENSION PART B

APPENDIX P:
Theme III: Management and Operations of Extension: Part B (Decentralization & M&E)

Group 3 - Members

LIST OF GROUP 3 MEMBERS

- AWAL SUHUYINI
- ANTOINETTE NYAKPENU
- ISSAKA B. BASINTALE
- HARUNA A. ZURE
- ZIM ALHASSAN
- JOSEPH Z. FAALONG
- SETH D. BOATENG
- OWUSU GABRIEL

Exercise 1: Summary

SUMMARY OF OBJECTIVE 6&7

- TO FACILITATE INSTITUTIONAL REFORMS TO IMPLEMENT COLLABORATIVE EXTENSION SERVICES THAT INTEGRATE OPERATIONS AT THE RELEVANT GOVERNANCE LEVEL*
- TO DESIGN AN INSTITUTIONAL FRAMEWORK OF MONITORING AND EVALUATION OF EXTENSION SERVICES AT ALL LEVELS

Thank You

EXERCISE 2: Progress, Constraints, Gaps, Changes

PROGRESS	CONSTRAINTS	GAPS	CHANGE ANALYSIS
▪ M&E Unit at the Ministry and Regional Offices ▪ Presence of Extension Units at all levels	• Low M&E Capacity Index at the District level ➢ Knowledge ➢ Accountability ➢ Low budgetary allocation at all levels ➢ Clear understanding of roles and responsibilities ➢ Inadequate AEAs	• No functional M&E Unit for Extension Unit at the Ministry and Region • Low Extension Services Delivery activities in the District Plans and Budgets • Lack of mandatory standing Agric Sub-committees	Extension by radio, E-Extension, Evidenced-Base Extension Accountability in terms of Extension Monitoring

Exercise 3: Recommendations

RECOMMENDATIONS

S/No.	Recommendation	Score	Rank
1	Alternative Extension services method (i.e. e-Extension, radio/TV extension, etc)	4	3
2	Adequate budgetary provision for Agriculture and Extension Services from the District IGF & DACF	6	1
3	Establishment of a mandatory Agriculture sub-committee at the District Assembly	5	2
4	Establishment of a performance based assessment	2	5
5	Establishment of a functional PM&E at all levels	4	3

Q. THEME IV – CAPACITY BUILDING FOR EXTENSION

APPENDIX Q:
Theme IV:
Capacity Building for Extension

Group Members

- Victor Lolig
- Dr. Bernard My-Issah
- Martin A. Kuzie
- Charles Akwotiga
- Kwaku-M Nudanu
- Hawa Musah
- Nana Aisha
- Wyomia Boamah
- Oliver Ferguson

Exercise 1: Summary

Objective 8

- **Imparting knowledge and skills to frontline staff (Public and Private). Covering broad based capacity building.**
  - ***For Staff*** Provide technical and management skills to frontline staff, to ensu they are able achieve career advancement and personal ambition.
  - ***For Farmers*** Gives an overview of relevant services that should provided by the extension system(public and private).
    - *Eg.* Gender issues, group formation and dynamics.
  - ***For Educational Institutions*** Consultation with stakeholders to help develop curricula to address changing needs of the sector.
    - *Eg Financing, Administration, marketing, health.*

Exercise 2: Progress & Constraints, Gaps & Changes

AREAS OF PROGRESS

- **Most training is demand driven based on needs determined on the ground**
  - MOFA has been utilizing M&E data collection to determine training needs.
  - NGOs and other private actors also develop training based on feedback from stakeholders
- **There is increased use of data analysis to determine training needs**
  - MOFA has recently introduced 'results based' reporting
- **NGOs are heavily involved in financing and providing 'in-service' training for frontline staff (public and private).**
  - Collaborate with MOFA to organize and deliver training

CONSTAINTS

- MOFA should be providing monthly training, but has not been able to because of lack of resources
  - Trainings are often merged with monthly meetings and isn't adequate
- It is difficult to access up to date information in country
- It is difficult to obtain current and accurate data to determine farmer needs
- Because of the large numbers of extension actors, there can be duplication of training
  - Some civil society organizations don't formally notify Districts of activities
- Inadequate access to testing facilities (eg. soil testing) and sufficient data to track training

CONTRAINTS

- Private sector providers also face inconsistent financing
- Private providers do not provide training for overall career development of frontline staff
- There is currently a freeze on hiring new staff or replace retiring staff

GAPS

- Inadequate consultation of stakeholders in curriculum developme
- Support for logistics for extension officers to deliver information t the farmers
- Uncertainty within the public system as to who is responsible for training in decentralization process (Dist? Region? Central?)
- Farmer behaviour and attitude towards farming

CHANGE ANAYSIS

- Training needs to be timely and relevant
- Broader consultation with training institutions and stakeholders o the design of curriculum
- Clear definition of roles and structure under decentralization structure
- Consistent source of funding for agriculture development (DACF, DDF, IGF)
- Behavioural and attitudinal training for famers
- Training for addressing the needs along the entire value chain
- Informal education for farmers (functional literacy)

CHANGE ANALYSIS

- Strenthening FBOs to be able to serve themselves (farmer to farmer training)
- Harmonizing information and technology by various stakeholders
- All stakeholders should make themselves known formally in districts/regions
- Development of infrastructure to help promote service delivery
- Continue to promote results based reporting

GROUP 4
EXECERCISE #3

Prioritized recommendations

EXERCISE 3: Recommendations

RECOMMENDATIONS

- **Frequent demand driven training which is gender sensitive and responsive to farmers needs.**
- **Clearly defined capacity development plan**
- **Collaboration between public and private sector**
- **Good understanding of the policy by all stakeholders**

RECOMMENDATIONS

- **The policy should outline funding of capacity building DDF/DACF/ PPP/ IGF/GOG etc. as possible funding sources**
- **The policy should harmonize capacity building activities of all stakeholders(training institutions, non-state actors, MOFA etc) within the extension service sector**

R. THEME V – INCORPORATING EMERGING ISSUES

APPENDIX R:
THEME IV:
INCORPORATING
EMERGING ISSUES

Group 5

- Chair : Dr Moses Zinnah
- Rapporteur : Victoria Adongo

Members

- Oladele OI
- Alphensus Belane
- Ayambire Akaditi
- Hawa Musah
- Mary Opoku-Asiama
- Anna Antwi
- Kofi Boafo

Exercise 1: Summary

- Emerging Issues are Contemporary issues that have a direct and indirect impact on Agriculture

Exercise 2:
Progress & Constraints
and Gaps & Changes

Progress and Constraints, Gaps & Change Analyses

Themes	Progress	Constraints	Gaps	Changes
Health Issues (HIV/AIDS)	Government program addressing health issue at the ministry level in collaboration with MOH, CSOs , NGOs & development partners Designated unit in MOFA in	Slow behavioral change of population Inadequate personnel; Inadequate funding;	Climate Change & Climate Smart Agriculture issues Child Labour Food Safety and Nutrition Youth in Agriculture	Develop detailed implementation strategy and action plan to measure how the policy is addressing emerging issues, (e.g. 5 domain of women empowerment - agricultural production, resources, income,

Health Issues (HIV/AIDS)	Government program addressing health issue at the ministry level in collaboration with MOH, CSOs , NGOs & development partners Designated unit in MOFA in collaboration with EPA	Slow behavioral change of population Inadequate personnel; Inadequate funding;	Climate Change & Climate Smart Agriculture issues Child Labour Food Safety and Nutrition Youth in Agriculture Urban Agriculture	Develop detailed implementation strategy and action plan to measure how the policy is addressing emerging issues, (e.g. 5 domain of women empowerment - agricultural production, resources, income, leadership and time)
Environmental degradation				


GAP: Natural Resource Management and Associated causes


Exercise 3:
Recommendations
Theme: Incorporating Emerging Issues


Recommendations
Continuous updating of emerging issues in the AEAS policy and ensure training of staff to respond to the emerging issues
Develop linkages with relevant institutions on emerging issues for e.g. Nutrition, gender, and, health etc.
Joint utilization of resources on cross cutting issues among relevant institutions
Emerging issues should be mainstreamed in the agenda of MOFA and collaborating organizations


Prioritized Recommendation
Continuous updating of emerging issues in the AEAS policy and ensure training of staff to respond to the emerging issues

S. Extension Policy Standing Committee Members

Ms. Victoria Adongo	Programme Manager	Peasant Farmers Association of Ghana (PFAG)	0302 254518; 024 4657451	peasantfarmersghana@yahoo.com
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Mr. Mahama Alhassan Seidu	Lead Farmer	Savelugu-Nanton District - Northern Region	024 355 1953	c/o Mr. Francis Neindow francisneindow@gmail.com
Ms. Queronica Quartey	Representative	Action Aid	020 823 0178	Queronica.quartey@actionaid.org
Mr. Malex Alebikiya	Executive Director	Association of Church-based Development NGOs (ACDEP)	024 478 5305	amalex@acdep.org
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T. Participant Evaluation Form

The Forum has several stated objectives and some expected results.

For each question below please put an X in the box that best describes your opinion.

When completed, please fold and give this sheet to one of the Forum Facilitators.

	Completely Disagree	Mostly Disagree	Slightly Disagree	Slightly Agree	Mostly Agree	Completely Agree
1. Shared understanding of Ghana's current national Agricultural Extension Policy was developed among Forum participants.						
2. I was able to voice my opinions and perspective on the issue of extension policy in Ghana.						
3. Policy implementation progress and constraints were assessed.						
4. Gaps and possible changes in the existing policy were identified.						
5. Recommendations to address constraints to progress were identified.						
6. Recommendations to address gaps and possible changes were identified.						
7. Ways to move forward with recommendations developed were identified.						
8. The opinions and perspectives of key stakeholders have been heard and taken into account in this Forum.						
9. Overall, high quality work was accomplished at the Forum.						

Any comments you may have about the content and quality of the Forum will be much appreciated.

_____

_____

_____

_____

_____

_____

Thank You

U. Participant Evaluations and Participant Comments

Results of Participant Evaluations (number of cases: 40)

Percent Participants Responding

	Completely Disagree[8]	Mostly Disagree	Slightly Disagree	Slightly Agree	Mostly Agree	Completely Agree
1. Shared understanding of Ghana's current national Agricultural Extension Policy was developed among Forum participants.	3%	0%	5%	16%	42%	34%
2. I was able to voice my opinions and perspective on the issue of extension policy in Ghana.	5%	0%	3%	5%	40%	48%
3. Policy implementation progress and constraints were assessed.	5%	0%	0%	10%	45%	40%
4. Gaps and possible changes in the existing policy were identified.	5%	0%	5%	0%	48%	43%
5. Recommendations to address constraints to progress were identified.	5%	0%	0%	5%	48%	43%
6. Recommendations to address gaps and possible changes were identified.	3%	0%	0%	3%	58%	37%
7. Ways to move forward with recommendations developed were identified.	0%	3%	5%	13%	38%	43%
8. The opinions and perspectives of key stakeholders have been heard and taken into account in this Forum.	0%	3%	0%	8%	51%	38%
9. Overall, high quality work was accomplished at the Forum.	3%	0%	0%	8%	56%	33%
Total across Questions	3%	1%	2%	7%	47%	40%

[8] One or two respondents completely disagreed with the majority of statements. One stated this was largely because the Forum should have invited more people from the South. Why the other respondent completely disagreed with the majority of statements is not known.

Participant Comments (some paraphrasing for purposes of clarity):

1. The commitment to the review of the policy document was made by key stakeholders. The review was represented by a wide-range of key institutions and is was widely-accepted that there is need to work to finalize the document. The commitment to the process is high.
2. Several unrealistic approaches and recommendations that do not take realities into account, worry me.
3. There was deep content of high quality. Perhaps to consider course of studies leading to higher qualifications for extension staff. Capacity building should not only consider in-service or on-the-job training.
4. The policy document is excellent. The only problem is that we have lost 10 years which must be made-up first.
5. Hotel accommodation was not properly planned for the first night by USAID. I had to pre-finance the first night. Facilitators were excellent! The process was participatory.
6. At least some logistics should have been provided for those from Accra.
7. The way forward for the development of this policy document is for champions to lead the way with political commitment.
8. Was great but need more time for group work where issues were discussed.
9. The Standing Committee should agree to their first meeting date before the end of the workshop.
10. One and one-half days seems too short for Forum tasks. Overall, good and impressive Forum, well-organized.
11. Discussions were satisfactory on the whole.
12. The planning was well thought out. However, the programme was too loaded. Overall, a wonderful time.
13. High quality.
14. Stakeholders should have covered the whole country instead of the Northern Sector.
15. One and one-half days was not sufficient to provide enough time to interrogate the issues in depth. Good progress and great step in the right direction.
16. The policy document should be reviewed based on the key recommendations at early as possible and start implementing the policy.
17. Time allocated for this workshop was too short.
18. Time allotted for discussion of themes, gaps, constraints, changes, and recommendations was inadequate. Participants were rushed in discussions which was not the best.
19. The agenda should be moved quickly

C3. GSSP/IFPRI-APSP-WAFP-AFPA Report: Towards a Sustainable Soil Fertility Strategy in Ghana

TOWARDS A SUSTAINABLE SOIL FERTILITY STRATEGY IN GHANA

Report submitted to the Ministry of Food and Agriculture
Government of Ghana

September 2015

TOWARDS A SUSTAINABLE SOIL FERTILITY STRATEGY IN GHANA

This report received funding from the following USAID-funded programs: Ghana Strategy Support Program/IFPRI (GSSP), the USAID/Ghana Feed the Future Agriculture Policy Support Project (APSP), the USAID West Africa Fertilizer Program (WAFP), the African Fertilizer and Agribusiness Partnership (AFAP) and the Innovation Lab for Food Security Policy (ILFSP) at Michigan State University. The purpose of commissioning this report was to support the Ministry of Food and Agriculture (MOFA) of the Government of Ghana in developing an action plan for strengthening soil fertility management in the country, including the development of input policy.

The report is drawn from the findings of a mission of technical experts from IFPRI, IFDC, ILFSP/Michigan State University, and IITA that visited Ghana from January 26 through February 3. The team held discussions / interviews with the Minister of Agriculture and other policy makers, importers / traders, farmer representatives, donors, and other parties, which culminated in a stakeholder workshop to validate the recommendations.

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Acknowledgements

The institutions funding this study and the team of experts thank the following institutions for attending the meetings and contributing to the discussions:

- Soil Research Institute (SRI)
- Council for Scientific and Industrial Research (CSIR)
- Soil Science Department, Kwame Nkrumah University of Science and Technology (KNUST)
- International Institute of Tropical Agriculture (IITA)
- SNV (Netherlands Development Organisation)
- Adventist Development and Relief Agency
- Northern Rural Growth Programme
- Peasant Farmers Association of Ghana
- Yara
- Dizengoff
- Grow Green
- Kuapa Kooko
- Northgate Agro Products
- AMG/ENEPA Ventures

The following media institutions provided space for disseminating the findings: Graphic Communications; Joy FM; Starr FM; Ghana Television; Unique Radio; Adom FM; Peace FM and and Prime FM.

The author's views expressed in this publication do not necessarily reflect the views of the United States Agency for International Development or the United States Government.

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Acronyms

ADRA	Adventist Development and Relief Agency
AFS	African Fertilizer Summit
APSP	Agriculture Policy Support Project
CSIR	Council for Scientific and Industrial Research
CSZ	Coastal Savannah Zones
ECAOWAS	Economic Community of West African States
FSP	Fertilizer Subsidy Program
GDP	Gross Domestic Product
GLSS	Ghana Living Standards Survey
GoG	Government of Ghana
GSS	Ghana Statistical Service
GSSP	Ghana Strategic Support Program
GSSZ	Guinea Sudan Savannah Zones
ICT	Information and Communications Technology
IFDC	International Fertilizer Development Center
IFPRI	International Food Policy Research Institute
IMF	International Monetary Fund
ISSER	Institute of Statistical, Social and Economic Research
IITA	International Institute of Tropical Agriculture
IT	Information Technology
KNUST	Kwame Nkrumah University of Science and Technology
MoFA	Ministry of Food and Agriculture
NPK	Nitrogen, Phosphorous, and Potash (Potassium)
NRGP	Northern Rural Growth Program
PEAG	Peasant Farmers Association of Ghana
SNV	Netherlands Development Organization
SSA	Sub Saharan Africa
VRC	Value Cost Ratios
WAFP	West Africa Fertilizer Program
USAID	United States Agency for International Development

Executive Summary

Most efforts to raise fertilizer use in SSA over the past decade have focused on fertilizer subsidies and targeted credit programmes with hopes that these programmes could later be withdrawn once the profitability of fertilizer use has been made clear to adopting farmers and once they have become sufficiently capitalized to be able to afford fertilizer on their own. This line of reasoning under-emphasizes the evidence that many smallholder farmers obtain very low crop response rates to inorganic fertilizer application and hence cannot use it profitably at full market prices. A central hypothesis of this study is that Ghanaian farmers will demand increasing quantities of fertilizer when they can utilize it more profitably, and that doing so will require improved agronomic and soil management practices that enable farmers to achieve higher crop response rates to fertilizer application.

The study's findings are based on reviews of existing studies from Ghana and the wider region, key informant interviews of cocoa and maize farmers, international and local scientists, fertilizer distribution companies and government officials. The study also benefited from feedback obtained on the team's preliminary findings, which were presented at the conference convened by GSSP/IFPRI, APSP, WAFP and AFAP on "Towards a Sustainable Soil Fertility Strategy in Ghana," 2 February, 2015 in Accra which brought together roughly 60 international and local researchers and agricultural sector stakeholders from the public and private sectors.

The study finds that low crop response to inorganic fertilizer is one of several major problems impeding the profitable use of fertilizer. There is strong evidence in the literature that if fertilizer use does not increase the value of crop output more so than the costs of using it, farmers are unlikely to use it except in cases where the product is heavily subsidized. There is also robust evidence that farmers respond to incentives. Farmers will demand more fertilizer if obtaining higher crop response to fertilizer enable them to utilize it more profitably. Doing so is likely to require greater public investment in effective systems of agricultural research and extension that emphasize bi-directional learning between farmers of varying resource constraints and agro-ecologies, extension workers, and researchers. Other impediments to the profitable use of fertilizer on food crops in Ghana are related to the uncertainties and late announcements of the Fertilizer Subsidy Programme, the fixed transport margins imposed on fertilizer distributors, which constrains farmers' access to fertilizers in remote rural areas, and the widespread practice of seasonal burning of grassland, which contributes to problems of soil infertility.

There is lack of specific information on the profitability of the different soil-crop-fertilizer combinations that could be employed in Ghana's diverse agro-ecologies and soil types. The lack of such information on crop-fertilizer profitability across the country, and the various farmer management factors influencing response rates, means that researchers and extension agents are not in an informed position to provide more than generalized guidance to farmers about 'best practices'. Sub-optimal farmer practices with regard to soil fertility management increases yield risk, impedes farmers' incentives to use fertilizer, and results in foregone agricultural output likely to exceed USD400 million annually. Knowledge of soil characteristics and processes regulating nutrient availability and supply to crops is essential to raise productivity per unit of fertilizer nutrient applied. The recommendation of the African Fertilizer Summit (2006) to increase fertilizer use from 8 to 50 Kg/ha nutrients by 2015 reinforces the importance of both inorganic and organic fertilizer for increasing crop productivity and attaining food security and rural wellbeing in Ghana. The impact of this target will however vary depending upon the agronomic efficiency of applied fertilizer. This efficiency varies across ecological zones, farms and fields within farms and greatly affects

the returns to the recommended 50 Kg/ha. Insufficient and unbalanced fertilization of soils using fertilizers as well as lack of nutrient conservation technology adoption by farmers contribute to accelerating the rapid decline in soil fertility. The efficient uses of both inorganic and organic fertilizers, through Integrated Nutrient Management approach, will form an important element of a holistic approach for sustainably increasing crop production in Ghana.

Introduction

Ghana's agricultural sector has achieved rapid production growth since the early 1990s and has contributed greatly to the country's impressive economic transformation. However, sustained agricultural growth is not assured, and several important constraints are emerging. Cereal crop yields remain low and are rising very slowly over time. Use of inorganic fertilizer is low even by African standards -- 8 kgs per hectare on average -- in contrast to the Abuja Declaration target of 50kgs per hectare. It is widely agreed that increased use of inorganic fertilizer is crucial to achieving sustainable agricultural productivity growth.

Current policy efforts are focused on lowering the cost of fertilizer to farmers in order to increase its use. These efforts alone may increase the usage of fertilizer without necessarily improving agricultural productivity, due to the very low efficiency with which many farmers use fertilizer. For example, survey evidence from Ghana indicates widely varying maize response rates to nitrogen fertilizer application; responses in the range of 5-20 kgs maize per kg N are not uncommon. These estimates are in line with survey evidence on fertilizer response rates obtained on farmer-managed fields from many countries in the region (Table 1). By contrast, on-farm trials using best practice approaches tend to be at least double the response rates show in Table 1, indicating substantial scope for increasing the efficiency with which farmers use fertilizer if they are capable of overcoming the many constraints that currently prevent them from adopting these practices.

In much of Africa, including many areas of Ghana, achieving much higher levels of fertilizer use is inhibited by low crop response rates to fertilizer application, which depress farmers' incentives to use fertilizer and erode the contribution of increased fertilizer use through subsidy programs to national development goals. It is increasingly understood that crop response to inorganic fertilizer in many areas of Africa, including Ghana, are depressed by a variety of soil degradation problems. Soil fertility management is a crucial yet under-appreciated dimension of sustainable productivity growth. If soil fertility problems remain unaddressed, Ghana's agricultural growth will be impeded, its agricultural lands will become increasingly degraded, its use of inorganic fertilizer will continue to be low, and it is likely to become more dependent on food imports as the rate of growth of population or consumption outstrips that of food production.

Table 1. Recent estimates of fertilizer application and crop response rates in sub-Saharan Africa

African study areas	***Geographic focus***	***% maize fields receiving commercial fertilizer use***	***Application rate for users***	***Estimated nitrogen use efficiency (kgs output per kg N)***	***VCR***
Sheahan *et al* (2013)	20 districts of Kenya where maize is commonly grown, 5 years of data between 1997-2010.	Ranges from 64% (1997) to 83% (2007)	26 kg N/ha (1997) rising to 40kg N/ha (2010)	AP=21 kg maize/kg N MP=17 kg maize/kg N	AVCR=Ranging from 1.3 (high-potential maize zone) to 3.7 (eastern lowlands)
Marenya and Barrett (2009)	Kenya (Vihiga and S. Nandi districts); relatively high-potential areas	88% (maize and maize/bean intercrop)	5.2 kg N/ha	MP=17.6kg maize/kg N	MVCR=1.76 (but fertilizer was <1.0 on 30% of plots).
Matsumono and Yamano (2012)	100 locations in Western and Central Kenya (2004, 2007)	74%	94.7 kgs fertilizer product/ha maize	MP=14.1 to 19.8kg hybrid maize/kg N	MVCR=ranging from 1.05 to 1.24 for hybrid maize
Snapp et al (2014)	Malawi – nationally representative LSMS survey data	27% (maize plots)	62.9 kgs/ha maize	5.33 for monocropped maize; 8.84 for intercropped maize	
Morris *et al* (2007)	W/E/S Africa			E/S Africa: 14 kgs maize/kg N (median) W. Africa: 10kg maize/kg N (median)	E/S Africa: 2.8 W.Africa: 2.8
Minten, Koru, Stifel (2013)	Northwestern Ethiopia	69.1% of maize plots fertilized	65.3 kg N/ha	MP=12kg maize/kg N on-time planting; 11 kg maize/kg N for late planting	1.4 to 1.0 (varying by degree of remoteness)
Pan and Christiaensen (2012)	Kilimanjaro District, Tanzania			11.7 kg maize/kg N	
Xu *et al* (2009)	AEZ IIa in Zambia (relatively good quality soils/rainfall suitable for maize production)	56.4% on maize	61.4 kgs N/ha (among users)	AP=18.1 (range from 8.5 to 25.5) MP=16.2 (range from 6.9 to 23.4)	Accessible areas=1.88 Remote areas=1.65
Burke (2012)	Zambia (nationally representative), 2001, 2004, 2008	36-38% of maize fields; 45-50% of maize area	35.2 N/ha maize	9.6 kg maize/kg N	0.3 to 1.2 depending on soil pH level for 98% of sample
Ricker-Gilbert and Jayne (2012)	Malawi, national panel data	59% of maize fields	47.1 N/ha maize	8.1kg maize/kg N	0.6 to 1.6
Chibwana et al (2012)	Malawi – farmer-managed field data in Kasumgu and Machinga Districts			9.6 to 12.0kg maize per kg N	
Chirwa and Dorward (2013)	Malawi – national LSMS survey data			Negative to 9.0	Below 2.0
Liverpool-Tasie et al (2015)	Nigeria – national LSMS survey data			8.0kg maize/kg N 8.8 kg rice/kg N	Below 2.0 Below 2.0

Sources: see reference section for complete citations.

The objectives of this report are:

i. to explain the causes and consequences of soil degradation in hindering the Ghanaian government's agricultural and broader economic development goals;
ii. to identify other market and institutional factors influencing fertilizer use, particular for maize and cocoa; and,
iii. to identify concrete actions that the government may wish to consider to achieve more sustainable agricultural productivity growth.

The methods rely on reviews of existing reports, many by Ghanaian scientists and academics; information obtained from key informant meetings with stakeholder groups, including fertilizer importers and distributors, farmers and representatives of farmer organizations, scientists, development partners, and government officials. The report is also based on primary analysis of farm survey data sets, GLSS data, and Ministry of Food and Agriculture statistics.

The layout of the report is as follows:

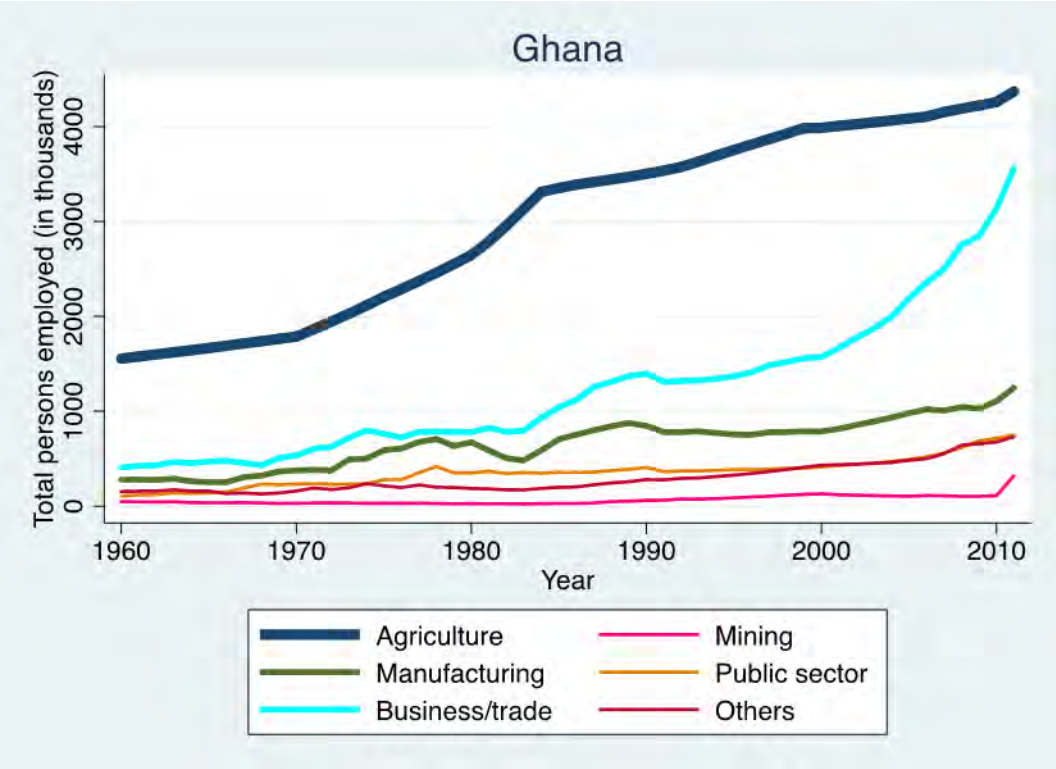
- Section 2 briefly covers important trends in Ghana's agricultural sector that are relevant to our objectives.
- Section 3 describes Ghana's soil characteristics, reviews the causes and extent of soil degradation in the country's varied agro-ecologies and reviews the evidence of soil degradation on the crop response rates that farmers obtain when using inorganic fertilizer.
- Section 4 examines the institutional and market-related impediments to expanded fertilizer use in Ghana, with particular focus on the maize and cocoa sectors.
- Section 5 identifies elements of a holistic strategy to achieve sustainable agricultural productivity growth.
- Section 6 summarizes the main points and identifies a number of actions for consideration by the government.

Trends in Ghana's Agricultural Sector

The agricultural sector of Ghana contributes about 21% (2014) to the country's gross domestic product (GDP), employs over half of the labour force and also provides raw materials for industrial growth and development (GoG, 2010). The GDP growth rate was 4.4%, while that of the agricultural growth rate was 4.2% in the year 2000 – 2003. In 2003 – 2007, the GDP growth rate increased to 5.8%, while that of the agricultural growth increased to 5.2% (ISSER, 2008). From 2006 until 2014 the GDP increased on average by 8.21%, while the agricultural sector grew by 4.14% (GSS, 2015).

The majority of Ghana's population has historically been engaged in agriculture (figure 1). Farming will continue to be the single largest source of employment for Ghanaians for at least another decade, though Ghana's economy is diversifying rapidly. Micro businesses, services, construction, manufacturing and mining are growing fast. These indications of structural transformation are very positive and have been fuelled by the multiplier effects from sustained agricultural growth starting in the 1990s. Economic transformation in Ghana will continue to be influenced by the pace of agricultural labour productivity growth.

Figure 1. Employment trends in Ghana
Source: Groningen Global Centre for Development employment files (2013)



The following basic identity (Equation 1) shows that labour productivity in agriculture (the net value[1] of agricultural output divided by agricultural labour, Y/L) is determined by the product of two terms: land productivity or the net value of agricultural output per unit of cultivated land (Y/A) and the ratio of cultivated land to labour (A/L).

[1] Net value refers to the value of crop production minus the cost of all inputs use to produce the crop.

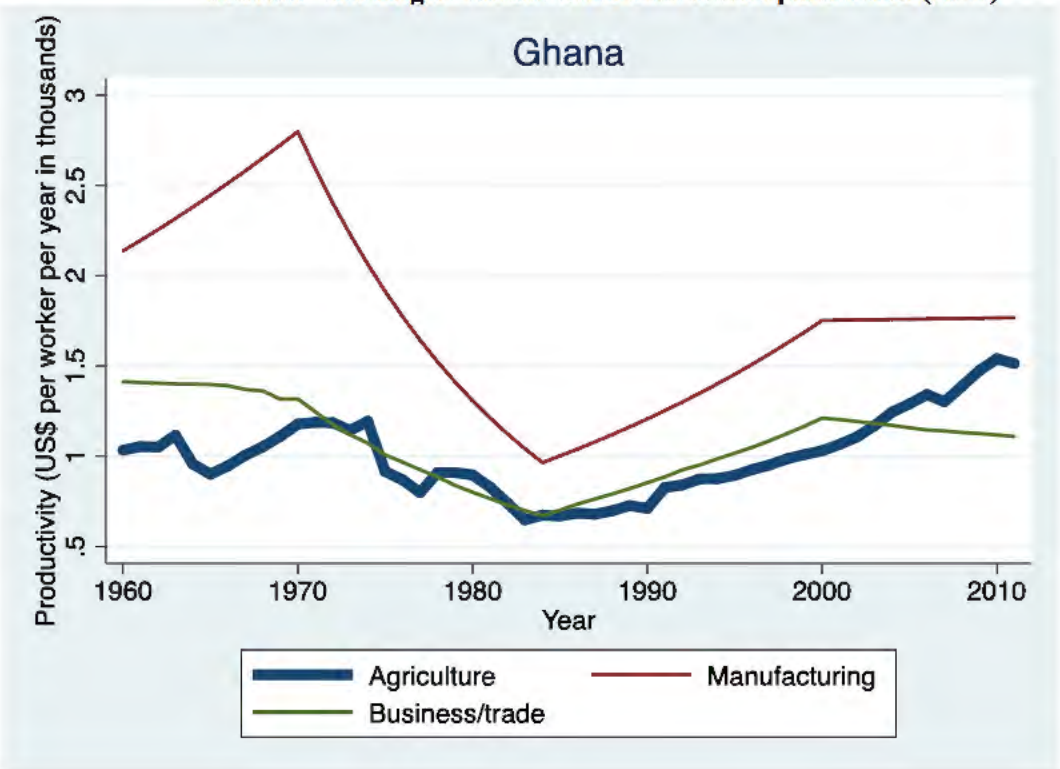
(1) $$\frac{Y}{L} = \frac{Y}{A}\frac{A}{L}$$

We focus on labour productivity in agriculture because it is normally considered to be the closest reflection of livelihoods for those engaged in agriculture. Equation 1 shows that raising labour productivity in agriculture will require major growth in land productivity (Y/A) and/or an increase in the rate of area expansion compared to the agricultural labour force.

In many African countries, labour productivity in agriculture has risen in recent years as land productivity (Y/A) growth rates have started to exceed the decline in the ratio of cultivated area to agricultural labour (A/L). Ghana's economic success over the past several decades has benefited greatly from rising labour productivity in agriculture since the early 1990s (Figure 2). The country has experienced a decline in the share of the labour force in agriculture from 65% to 45% in the past two decades, which has exerted downward pressure on A/L and contributed to labour productivity growth as per Equation 1.

But Ghana's labour productivity in agriculture would be much higher than it is today if greater use of inorganic fertilizer could have raised net output per hectare (Y/A). While greater use of fertilizer should also be a natural outgrowth of a more productive agricultural system, fertilizer use in Ghana remains very low at 8kgs per hectare cultivated. Sustained agricultural productivity growth is likely to require much greater use of fertilizer, and relatedly, more efficient use (Dittoh et al, 2012). As will be shown in more detail below, raising inorganic fertilizer use in Ghana will require greater attention to the soil-related factors that influence the crop response rates that farmers are currently obtaining from the use of fertilizer.

Figure 2. Labour productivity ('000 USD per worker per year) by sector, Ghana
Source: Groningen Global Centre for Development files (2013)



Fertilizer use trends

Fertilizer use in Ghana since 2010 is 6 to 10 times higher than it was in the early 2000s. The Fertilizer Subsidy Programme (FSP), which started in 2008, has had a lot to do with this, accounting for roughly 40% of total fertilizer use during the 2011 to 2013 period (Table 2). In 2012, Ghana imported more fertilizer than any country in sub-Saharan Africa except Ethiopia, Nigeria and South Africa.

The stated objectives of the FSP are to increase farmers' accessibility to inputs and also raise application rates from current average of 8kg/ha to at least 20kgs/ha and therefore raise farmers' incomes. The main fertilizers subsidized are NPK (15:15:15), Urea, and SOA targeting mostly maize, rice, millet, sorghum, and horticultural crops.

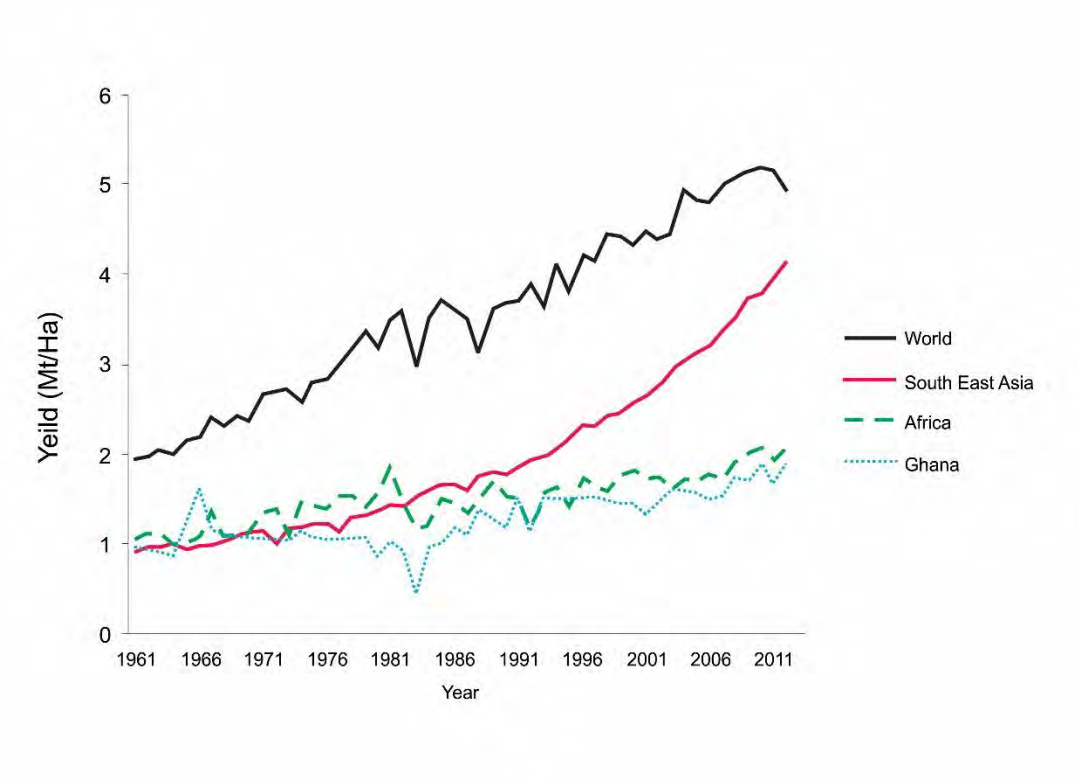
One would think that the substantial increase in fertilizer use since 2009 of the magnitude shown in Table 2 would have had a major impact on agricultural productivity. However, there appears to have been only a modest increase in food crop yields since 2011 when fertilizer imports increased dramatically associated with the commencement of the FSP. As shown in Figure 4, maize yields in Ghana have continued to rise slowly at long-term trend growth rates, and show no obvious jump during the post-2008 FSP period compared to the pre-2008 trend. Meanwhile, maize yields in other regions of the world continue to rise rapidly. Increased food production in Ghana is presently due mostly to expansion of area under cultivation. Average yields of most of the crops are 20% - 60% below their achievable yields, indicating that there is significant potential for improvement.

Table 2. Trends in fertilizer use, prices and profitability of use in Ghana

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Total Fertilizer imports (mt)	41,888	92,807	223,733	91,306	189,879	189,594	187,030	335,186	489,215	432,343	669,951	371,012
Fertilized distributed under FSP (mt)							43,176	72,795	91,244	176,278	173,755	180,000
Total FSP (% of total imports)							23.1	21.7	18.7	40.8	25.9	48.5
Total expenditure on the agriculture sector (GHS million)	34.4	44.8	69.8	106.5	122.9	169.9	305.3	363.6	442.2	576.2		
Total expenditure of MOFA (GHS million)	5.4	7.7	10.0	42.3	35.2	47.4	102.4	145.5	160.0	241.8		
Total FSP (GHS million)							20.7	34.4	30.2	78.7	117.4	64.0
Total FSP (% of total agriculture expenditure)							6.8	9.5	6.8	13.7		
Total FSP (% of total MOFA expenditure)							20.2	23.6	18.9	32.5		
FSP announcement date							2-Jul	9-Apr	21-Jul	11-May	4-Jun	16-Apr
Market price (GHS/50kg bag)												
NPK 15:15:15 -mkt price			18.9	20.2	20.4	21.7	38.1	43.4	44.0	42.0	42.0	49.0
SOA - mkt price			14.2	15.8	17.5	18.1	28.1	33.0	34.0	33.0	40.0	44.0
Urea - mkt price			18.9	22.9	24.6	25.8	36.0	47.0	41.0	43.0	44.0	54.0
FSP subsidy price (GHS/50kg bag)												
NPK 15:15:15 - FSP price							26.0	26.0	27.0	30.0	39.0	51.0
SOA - FSP price							18.0	18.0	18.0	26.0	38.0	44.0
Urea -FSP price							26.0	26.0	25.0	29.0	35.0	50.0
Average Ghana farm-gate price (GHS/metric tonne)						238	318	347	291	366	710	831
Value cost ratio (VCR) of urea fertilizer at market prices used on maize												
at response rate of 4 (12 kgs maize per kg N)						1.84	1.77	1.48	1.42	1.70	3.23	3.08
at response rate of 5 (15 kgs maize per kg N)						2.30	2.21	1.85	1.77	2.13	4.03	3.85

Sources: Fertilizer imports: IFPRI. Fertilizer market prices are those for April-June of each year, MOFA-SRID data files. Maize farm-gate prices for each year: Ghana Statistical Service and MOFA-SRID.

Figure 3. Average maize yields
Source FAOStat, 2014



Inorganic fertilizer does not necessarily improve agricultural productivity in isolation of other yield-enhancing technologies and practices (Vanlauwe et al., 2011). It is well established that complementary investments in soil and water conservation for efficient and optimal nutrient

uptake is crucial, especially on degraded soils, not only to raise the profitability of fertilizer use but also to achieve a sustainable agricultural system.

One of the most important soil augmenting investments that complements inorganic fertilizer is organic forms of fertilizer, such as compost, manure, and other sources of organic matter (Tittonell and Giller, 2013; Vanlauwe et al., 2011). The proportion of Ghanaian farm households using inorganic fertilizer is approximately 33 percent, although there is major variation across the country. Less than 2 percent of farmers use both organic and inorganic fertilizers. For sustainable agricultural intensification and productivity growth, it is the combination of both organic and inorganic fertilizers that increases crop response rates to inorganic fertilizer and thereby makes inorganic fertilizer more profitable to use (Snapp and Grandy, 2011). The joint adoption of inorganic and organic fertilizer is also the foundation of a sustainable agricultural productivity growth strategy (Shaxson and Barber, 2003; Powlson et al., 2011).[2]

Table 3. Percent of Households Using Organic and Inorganic Fertilizer

		Inorganic Fertilizer Adoption	
		Yes	No
Organic Fertilizer Adoption	Yes	1.8%	12.2%
	No	31.2%	54.8%

Source: GLSS VI (2012/2013).

Data in Table 2 provide a rough estimate of the profitability of using urea fertilizer on maize. The 'value/cost ratio' (VCR) is an indicative measure of the profitability of using fertilizer. It is computed as the ratio of the farm-gate price of maize to the cost of acquiring fertilizer, multiplied by the additional maize produced from an additional kilogram of fertilizer applied to the maize field. Studies have shown that VCRs in excess of 2.0 are generally required for smallholder farmers to demand fertilizer on a sustained basis (Crawford and Kelly, 2002).

While definitive studies of crop response to fertilizer in Ghana are unavailable, agronomic response rates of 8 to 16 kilograms of maize per kg nitrogen are typically observed on farmer-managed fields in most parts of the region as shown in Table 1 (see also Jayne and Rashid, 2013, and Snapp et al., 2014 for reviews of the literature). Using agronomic response rates of 12 to 15, and given prevailing maize and fertilizer prices in Ghana as reported by the Ministry of Food and Agriculture and shown in Table 2, we compute VCRs for the 2007-2013 period. The VCRs reported in Table 2 are mostly below 2.0 for the 2007-2011 period but rose substantially above this level in 2012 and 2013, when maize prices were relatively high compared to the other years. While these results are only indicative and more detailed site-specific analysis of fertilizer profitability is required, the use of available information suggests that using fertilizer on maize may not be profitable for many Ghanaian farmers given full market fertilizer prices, prevailing maize prices, and average agronomic response rates observed on farmer-managed fields from similar agro-ecologies in the region. The significant rise in VCRs in the two most recent years is encouraging, as it indicates increased profitability and demand for fertilizer, and is most likely influenced by relatively high maize prices during 2011-2013. However, the ability of Ghanaian farmers to use higher levels of fertilizer profitably, consistently, and productively will depend on efforts to raise farmers' response rates to fertilizer application.

[2] The importance of supporting African farmers to raise their use of both organic and inorganic fertilizers was also stressed in the Abuja Declaration of 2006.

Soil Fertility Conditions in Ghana[3]

The total land area of Ghana is 23,853,900 ha of which 57.1% (13,628,179 ha) is suitable for agriculture but most of the soils are of low inherent fertility. The coarse nature of the soils has an impact on their physical properties and water stress is common during the growing season. Extensive areas of country's land area particularly the Interior savannah zone have suffered from severe soil erosion and land degradation in various forms. Ghana has one of the highest rates of soil nutrient depletion among sub-Saharan African countries with annual projected losses of 35 kg N, 4 kg P and 20 kg K ha^{-1}. The extent of nutrient depletion is widespread in all the agro-ecological zones with nitrogen and phosphorus being the most deficient nutrients. Nutrients removed from the soils by crop harvest have not been replaced through the use of corresponding amounts of plant nutrients in the form of organic and inorganic fertilizers. While Ghana has one of the highest soil nutrient depletion rates in SSA, it has one of the lowest rates of annual inorganic fertilizer application - only 8 kg per hectare. Therefore, even compared to most other African countries with fragile soils, sustainable forms of agricultural intensification in Ghana will require explicit attention to soil nutrient replacement.

While there has been considerable research and policy analysis on fertilizer use in Ghana, there remain knowledge gaps, on the state of fertility of Ghanaian soils; the yield response to fertilizer for major crops, the profitability of fertilizer use, and the likely effects of changing climatic conditions on the profitability of fertilizer use.

Most of Ghana's soils are developed on thoroughly weathered parent materials. They are old and have been leached over a long period of time (Bationo, 2015). Their organic matter content is generally low, and are of low inherent fertility. The two most deficient nutrients are nitrogen and phosphorus particularly because of the very low organic matter content. The build-up of any amount of organic matter is further constrained by the regular burning of crop residue and/or competitive use of these residues for fuel, animal feed or building purposes. The low vegetative cover during the long dry season also renders most of the soils susceptible to erosion during the rainy season. This, in turn, exacerbates the low fertility problem. The sustainability of good crop yields is therefore closely linked with the careful management of the soils with the objective of preventing and controlling erosion, increasing their organic matter content, and replacing and increasing plant nutrients lost through erosion and crop uptake. The average fertility status of soils of the different agro ecological zones is presented in Table 4.

Table 4: Soil Fertility Status of the Various Agro-ecological zones

Agro-Ecological Zones	Soil pH	Organic C	Total N	Available P	Available K
		(%)		(mg/kg soil)	
High Rainforest	3.8 – 5.5	1.52 – 4.24	0.12 – 0.38	0.12 – 5.42	63.57 – 150.41
Forest-Transition	5.1 – 6.4	0.59 – 0.99	0.04 – 0.16	0.30 – 4.68	58.29 – 72.53
Semi-Deciduous Forest	5.5 – 6.2	1.59 – 4.80	0.15 – 0.42	0.36 – 5.22	62.01 – 84.82
Coastal Savanna	5.6 – 6.4	0.61 – 1.24	0.05 – 1.16	0.28 – 4.10	48.02 – 58.71
Guinea Savanna	6.2 – 6.6	0.51 – 0.99	0.05 – 0.12	0.18 – 3.60	46.23 – 55.27
Sudan Savanna	6.4 - 6.7	0.48 – 0.98	0.06 - 0.14	0.06 – 1.80	36.96 – 44.51

Source: Bationo, 2015

[3] This section draws from Bationo (2015).

The major processes or types of soil degradation in Ghana are physical (erosion, compaction, crusting and iron pan formation), chemical (depletion of nutrients, salinity and acidification) and biological (loss of organic matter).

Soil erosion

Soil erosion caused by rainfall and water runoff is one of the most potent degradation processes affecting soil productivity. Large tracts of land in Ghana have been destroyed by water erosion (Quansah et al., 2000). Studies by Asiamah (1987) on the extent of erosion reveal the land area susceptible to the various forms of erosion as 70,441 km2 to slight to moderate sheet erosion, 103,248 km^2 to severe sheet and gully erosion and 54,712 km^2 to very severe sheet and gully erosion. The most vulnerable zone is the northern savannah (Guinea and Sudan Savannah zones) which covers nearly 50% of Ghana with the Upper East Region being the most degraded area of the country.

A model of land degradation assessment in Ghana predicts that land degradation reduces agricultural income in Ghana by a total of US$4.2 billion over the period 2006–2015, which is approximately five percent of total agricultural GDP in this ten-year period (Diao and Sarpong, 2011).

Nutrient depletion

Loss of nutrients, including organic matter, is the key contributor to chemical soil degradation. Nutrient depletion occurs primarily through crop removal in harvested products and residues, leaching, erosion and N volatilization. Stoorvogel and Smaling (1990) showed that nutrient losses through these depletion pathways are only partially compensated for by crop residues left on the field, manure and fertilizer application besides atmospheric inputs. Consequently the annual NPK balance for sub-Saharan Africa were negative with minus 22 – 26 kg N, 5.83 – 6.87 kg P_2O_5, and 18 – 23 kg K_2O ha^{-1} from 1983 – 2000.

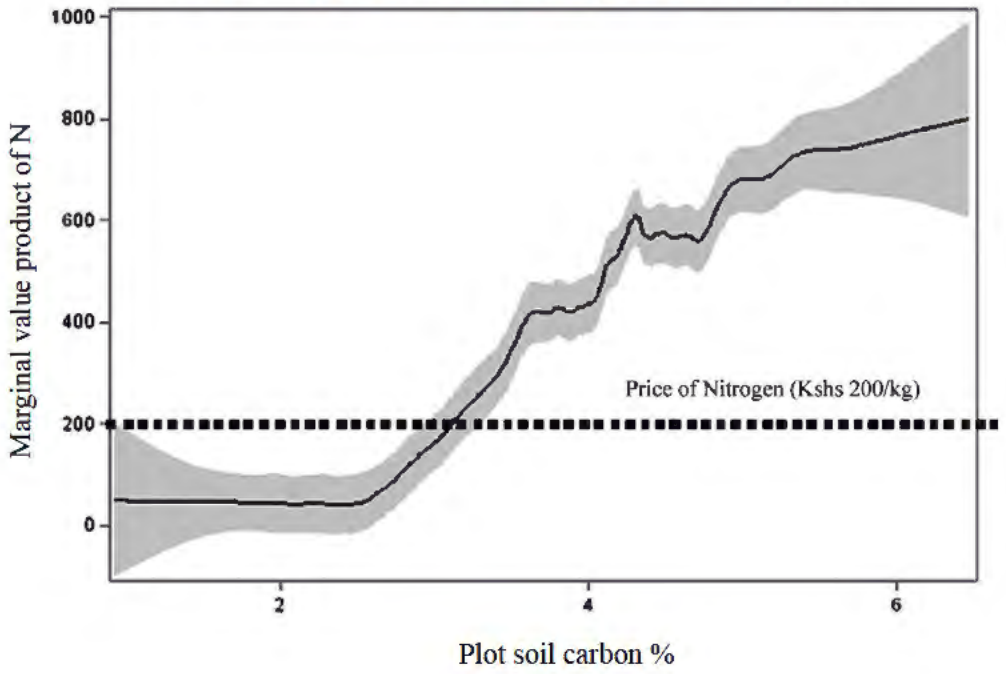
In Ghana, annual depletion rate of 30 kg N, 3 kg P and 17 kg K h^{-1} were recorded for the period 1982 – 84. The projected figures for year 2000 were 35 kg N, 4 kg P and 20 kg K ha^{-1}. Of course this was a special period, perhaps isolated, in Ghana's history when the country experienced long spells of dry weather leading to vast bush fires across the country. The extent of nutrient depletion in Ghana is widespread in all the agro-ecological zones with nitrogen and phosphorus being the most deficient nutrients. These deficiencies are, however, more pronounced in the coastal, Guinea and Sudan Savannah zones where organic matter content is low and the annual burning[4] and removal of crop residues further prevent the build-up of organic matter. It has also been generally observed that the eroded sediments contain higher concentrations of organic matter and plant nutrients in available forms than the soil from which these were lost (Quansah et. al., 2000).

The high losses of organic matter are of particular concern since nutrients applied to the soil in the form of mineral fertilizers are far less effective on soils with low organic matter content (Swift, 1997; Tittonnel and Giller, 2013; Snapp et al, 2014). Figure 4 shows the relationship between soil organic carbon and maize response to nitrogen from inorganic fertilizer in

[4] Control and Prevention of Bushfires Act, 1990 articulates rules for burning within and without conservation area, including range management (means the control and manipulation of vegetation for optimum usage by human beings, livestock or wild animals according to the Act). However, the farmers we interviewed claimed that often bushfires extend beyond controlled regions. This may suggest that the 1990 Act is not being implemented/enforced to its full extent. The government has indicated a possible review of the law to increase the role of traditional leaders in enforcement.

Kenya. This figure, as with recent research from other parts of Africa, shows a threshold level of soil organic carbon (found to be roughly 0.8 by previous studies), below which inorganic fertilizer produces very little crop response (Snapp et al., 2014). Table 2 above shows that many areas of Ghana have soil organic carbon levels that are below this 0.8 threshold, particularly in the Forest Transition, Guinea Savannah and Sudan Savannah regions. Figure 4 shows a much higher threshold SOC level of roughly 3.0 for the particular location in Western Kenya. Most agronomic studies indicate a much lower threshold level.

Figure 4. Estimated marginal value product of nitrogen fertilizer conditional on plot soil carbon content, Western Kenya.
Source: reproduced from Marenya and Barrett (2009)



Water logging

In the Guinea and Sudan Savannah Zones (GSSZ), localized water logging is experienced every rainy season. This is mainly due to shallow soils, high rainfall intensities and poor surface drainage resulting from the general low relief of the terrain. Peak season floods are major cause of recurrent crop failures and food shortages. In the Coastal Savannah Zone (CSZ), the low infiltration rates of Vertisols, the subdued relief and high rainfall intensities are responsible for periodic water logging which causes crop failure.

Land Tenure Arrangement

A key factor affecting land management and soil quality in many areas of Ghana are prevailing land tenure arrangements. The type of land tenure arrangements more often than not make farmers indifferent to the loss of future economic returns to land. Sharecroppers have put enormous pressure on soil fertility to realize immediate high yields in order to pay land rents (Benneh et al., 1997). Farmers in such situations discount the future at very high rates, thereby reducing the incentive for long-term investments in improved soil fertility. For example, the team found anecdotal evidence that lack of access to land is restricting entry of youth into cocoa farming, and that the risk of losing land rights or renegotiating land tenure may discourage settler farmers from removing diseased trees from farms.

Demographic pressures and land availability constraints have also contributed to the decline in soil fertility. With increasing populations, the traditional techniques for renewing soil fertility, such as slash-and-burn and long-term fallowing, are not as feasible as they once were. The need for subsistence production and income are such that land can no longer be taken out of production for substantial periods to allow for natural nutrient replenishment. Nor are animal manures and crop residues usually sufficient for replacing lost nutrients.

Other traditional soil fertility management techniques also generally fall short of the nutrient requirements of today's intensive agricultural practices. Majority of farmers in Ghana generally do not have the resources to produce sufficient organic fertilizers to replace all the nutrients removed at harvest time. For example, in order to provide 150 kg of plant nutrients to fertilize one hectare of land, a farmer could apply either 200 kg of inorganic NPK fertilizer, or 10 to 15 metric tons of crop residue grown on 5 to 10 hectares of land, or 18 metric tons of animal manure generated from crop residue grown on 10 to 15 hectares of land (Bationo, 2015).

Elements of a strategy to achieve sustainable agricultural productivity growth

While the Government of Ghana's efforts to raise fertilizer use is laudable, GoG expenditures on input subsidy programs currently appear to produce relatively limited benefits for farmers because crop response rates are low. The contribution of the input subsidy program (and fertilizer use in general) to sustainable growth could be much greater if the soil-related constraints on agricultural productivity were addressed through a holistic program of soil fertility management. The general elements of such a holistic program are as follows:

- **public sector research programs** to identify region-specific best practices for amending soil conditions, given the great micro-variability in agro-ecological conditions in the country
- **public agricultural extension programs** to transfer region-specific best practices to farmers as well as provide bi-directional learning between researchers and farmers to refine best practices in light of farmers' experiences in their fields, and
- **input distribution systems** that make available the full range of products and services required by farmers. Input distribution systems for a wider set of soil enhancing products, such as organic fertilizer, lime, and new lines of inorganic fertilizer (e.g., deep placement, slow release types, etc.), will be developed once there is proven effective demand for such products. Developing the effective demand will in turn require research to determine site-specific soil diagnostics and best practices, and then extension systems that effectively link farmers to researchers to guide bi-directional learning and adaptation of technologies and practices. The point is that input distribution systems do not develop spontaneously – they typically require the prior public investments required to generate effective demand among farmers for new inputs.
- **public support services,** e.g., the Ghana Cocoa Board (Cocobod), that effectively provides collective action (such as comprehensive area spraying to arrest pest and disease problems in cocoa producing areas) in cases where individual farmer behaviour cannot produce favourable outcomes.

To move from general thrusts to concrete steps, the following proposals are offered for government consideration.

1. Provide support to existing research institutions in each of Ghana's diverse agro-ecologies and regions to develop "best practices" with regard to crop and soils management for particular crops and regions. Site-specific recommendations on best practices require a better understanding of the factors that might constrain productivity. Soils maps need to be updated to reflect soil functional properties (rather than soil taxonomic class) as well as more spatial detail on the variation of these functional soil properties. There already exist initiatives that can be built on for this purpose (e.g. the AfSIS project). Affordable techniques are available for wide-scale soil testing and analyses. Building the capacity to conduct wide-scale soil testing services in Ghana would provide an important foundation to provide farmers with improved knowledge of how to manage their soils and improve their incomes from farming.

2. Benchmark landscapes would need to be identified and characterized in terms of their current soil fertility status (and variability herein) by means of multi-locational diagnostic trials. Diagnostic trials give insight into the actual soil health constraints and means to overcome apparently large yield gaps. Linking the constraint envelopes to particular landscape positions will help to map soil health constraints for the wider landscape.

3. Based on the diagnostics trials 'best bet' soil management practices to address the observed soil health constraints can be identified. Local extension services could then provide soil management recommendations that would include nutrient management options in combination with other soil amendments for the various crops, and using improved varieties, aiming to improve the agronomic efficiencies of the fertilizer use, which would in turn raise the demand for fertilizer.

4. Extensive testing of the recommended soil management practices on farmer's fields will allow local research institutes to determine crop response to the various inputs and would support the formulation of recommended input packages to raise farmers' expected returns to investment. Use of locally available (organic) resources should be considered as part of the solution. This will involve the collection, collating and analyzing existing secondary data and primary data, and use of appropriate crop and soil fertility models.

5. A review of available information on the existing mineral fertilizers and its use under the current agro-ecological conditions provides the basis for further research on fertilizer product development (to achieve balanced crop nutrition) and formulation of alternative soil fertility management strategies for the various agro-ecological conditions, land degradation status and farm type. Extensive field demonstrations and extension guides may be needed in support of a more site specific recommendations.

6. Science-based monitoring and evaluation of yields on the fields of farmers who have adopted the recommended practice should allow for gradual development towards a 'best-fit' solution that reflects the farmer's socio-economic situation. There are advanced ICT tools available that can be used for data collection. Such approach would require reform of the extension services and better collaboration with already existing rural development initiatives and with the research community.

In addition to these proposals, which focus on developing the country's agricultural research and extension systems' capacity to meaningfully support farmers, interviewed stakeholders

frequently mentioned the following additional issues that could promote sustainable agricultural productivity growth in Ghana:

7. *Implement the Fertilizer Subsidy Program in ways that promote transparency and reduce uncertainty among farmers and input distributors*

Existing inconsistencies and uncertainties regarding whether subsidies would be provided or not is hampering the ability of actors including farmers, importers, input dealers and distributors to adequately plan for the season. It was noted that the announcement of the FSP in recent years has come very late, never before April and as late as July in 2008 and 2010. Such delays in program announcement contribute to delays in fertilizer delivery to farmers and the untimely application of fertilizer, which reduces response rates and the contribution of fertilizer to food production.

8. *Modify the modalities of FSP distribution to enhance efficiency*

Under the waybill system, fertilizer distribution companies import and pay all costs to deliver fertilizers to their assigned regions or districts from where their network of agro-dealers sell to farmers. The stocks delivered to districts are confirmed by MOFA staff and payment to importers is made on quantity (bags) of fertilizer sold. Therefore the signed / verified sale documents have to be channeled back to importers for the latter to claim their refunds from the designated government secretariat. This program faces some of the same problems as the previous voucher program, including the late delivery of fertilizers and delays in reimbursing importers and distributors by the government, thereby increasing the costs involved in fertilizer trade (Fuentes et al., 2012). A number of inefficiencies emanate from the rigidity brought into the system by fixed transport costs and margins for the market players. This gives no room for flexibility for players with changes in exchange rates or varying distances to farms and related costs, leading to the classic case in which dealers sell only at large rural centers and avoid distributing to remote places. Thus the implementation of the subsidy program restricts the development of retail networks in rural areas. This structure of controlled prices implies that market penetration will be limited, and some areas will not be served, as they do not offer attractive returns to traders within these restrictions. A proposal for consideration is to modify the fixed transport cost margins for distribution firms as a function of the points to which they deliver. This modification would promote access to FSP fertilizer by farmers in more remote areas.

9. *Government should liaise with local community leaders to implement strategies to address bush fire*

The stakeholders that the study team consulted with felt that bush fires were a major contributor to the current low levels of organic matter in farmers' fields. In addition to its threats to human life and property, uncontrolled bush fires consume vegetation cover and crop residues on agricultural land, and undermine nutrient recycling to improve soil fertility. Inadequate enforcement of bush fire laws (PNDCL 2 29) at the national level inhibits efforts to curb widespread and pervasive bushfires across the country, which also frustrates sustainable soil management strategies. Evidence suggests that community level strategies (e.g. establishment of bush burning free zones in Nandom Traditional Area in Northern Ghana) are successful at enforcing rules and reducing rates of bush fire. In light of this, we recommend that local authorities (e.g., District Assemblies) sensitize their constituents and develop modalities to implement bush fire prevention programs at community level as a means to safeguard life and properties, and boost organic matter content in the soil.

10. Domesticate the ECOWAS Fertilizer Quality Regulations to protect farmers

The ongoing efforts by GoG and other stakeholders to identify what needs to be done to make sure that farmers access quality fertilizer should be encouraged. It is necessary to identify areas that need strengthening in terms of infrastructure and human capacity in order to adapt the regional regulatory framework signed by ECOWAS in 2012. This is an important aspect in making sure that farmers access fertilizers with the correct nutrient content which has implications for crop response rates.

11. Facilitating private sector entry and investment in agricultural input distribution

Government actions influence the rate of private sector investment in fertilizer value chains and hence influence farmers' access to agricultural inputs. The following issues illustrate the complex ways in which government actions affect market access conditions for farmers:

Access to Capital: Access to affordable capital is one of the most important factors influence private entry and investment in the agricultural sector. In Ghana specifically and Africa more generally, commercial banks generally do not lend to private agricultural input distributors and retailers, often citing the following problems that create high risks of loan non-repayment: (i) lack of verifiable information about the proposed borrowers; (ii) climate risks (drought and flood); (iii) insufficient credit guarantee from government and donors; (iv) potential opportunistic behavior of retailers, who sometimes do not pay back their loans to the input distributors who supply them; and (v) unpredictability of government policies in input markets. Overcoming these constraints on access to capital will require systemic improvements in the functioning of agricultural commodity, input and finance markets, and are therefore likely to remain major problems at least in the short run.

Storage Facilities: Related to the lack of working capital is the problem that fertilizer distributors are sometimes unable to secure storage space. While the availability of physical storage facilities is most likely not a major problem, many private stakeholders are able to invest in urgently needed warehouse space for lack of working capital. Expanded access to credit will enable distributors to reduce their transport expenses by reducing trips to the Tema port where the importers' warehouses are located, and thereby promote competition in input distribution.

Ideally, one or two fertilizer wholesalers might be in a position to consider building warehouses up to 60-80KMT in either the Ashanti or Brong Ahafo regions. By so doing, those facilities could act as inland port and allow the Northern Region distributors to forgo transport costs from the Tema port. Private firms' willingness to make such investments will depend on their assessment of the enabling environment over the next 5-10 years.

Better credit terms with importers: To facilitate the downstream flow of fertilizer, the large importers might consider improving their credit and payment terms to local distributors. Under most current agreements, a well-performing distributor may have a credit limit of $300K and 30-days repayment. That credit amount and repayment period may prove difficult for many distributors to adhere to, thereby increasing trader costs and restricting the number of distributors operating in local markets.

When a distributor is unable to repay within the 30-day limit, he or she has to resort to a commercial line of credit (if possible) with an average of 32% annual interest at financial institutions. Otherwise, the distributor must request credit from microfinance lenders at 4-7% monthly interest.

Some importers are concerned that with the upcoming IMF US$ 940 million 2015-2017 bailout, oil revenue shortfall, huge compensation bill, and current cedi devaluation, the Government may not be able to fulfill its financial obligations towards them in the subsidy programs.[5] Already, some large companies have withdrawn from participation in the Government's input subsidy program.

Linking farmers to market: One possible solution to the high borrowing costs is linking farmers to market by leveraging outgrower schemes and identifying readily available and solvent buyers. Under that scenario, an agro-processor or commodity exporter could pre-finance input purchase with a distributor on behalf of smallholder farmers. The payment could be made directly to the importer, who would then provide the distributor a commission per bag upon delivery. By so doing, the lack of credit and pressure to borrow at high interest rates would have been relieved for those stakeholders who could join such scheme.

Interviewed private companies often provided the following as examples that could be pursued to improve the functioning of agricultural input markets in Ghana:

- Banking policies with easy-to-access and well-funded credit guarantees (at least US$50 million)
- Capacity building for the fertilizer stakeholders (e.g., hub agrodealers training on inventory and cashflow management)
- Removal of unnecessary road checks to reduce transport costs and facilitate timely delivery
- Timely advance announcement of the details of government subsidy program logistics (quantities to be distributed, modalities of distribution, distributors to be involved, locations of program operation, fertilizer types, etc).

A full listing of these proposals, divided into short-term, medium-term and long-term actions are presented in Appendix Tables 1, 2 and 3.

[5] For example, during the week of March 16-20, 2015, multi and bilateral partners decided to withhold US$700 million of promised foreign aid. Facing such a gap, the Minister of Finance consequently revised the budget downwards by Ghana cedis 1.5 billion. Such developments create risks for financial institutions considering lines of credit to agricultural input suppliers participating in government subsidy programs.

Summary

Most efforts to raise fertilizer use in SSA over the past decade have focused on fertilizer subsidies and targeted credit programmes with hopes that these programmes could later be withdrawn once the profitability of fertilizer use has been made clear to newly adopted farmers and once they have become sufficiently capitalized to be able to afford fertilizer with their own working capital. Relatively little emphasis has been given to improving the profitability of fertilizer use through understanding the most productive levels and combinations of nutrient input for various agro ecological areas, management practices and market options. Inorganic fertilizer does not necessarily improve agricultural productivity in isolation. Information on the fertility status and agricultural potential of the soils are also required. Complementary inputs such as investment in soil and water conservation for efficient nutrient uptake will be necessary for sustainable agricultural productivity growth. Improved soil fertility management through increased levels of fertilizer use, increased use of available organic soil amendments, and improved farm management practices, together with the use of improved seed, is the foundation for a sustainable strategy.

However, at this time there is lack of information on the profitability of the different soil-crop-fertilizer combinations that could be employed in the different parts of the country. The lack of such information on crop-fertilizer profitability across the country means that farmers cannot tell how much they stand to gain or lose by applying a particular type of fertilizer on a particular crop. This increases their risk and creates a disincentive for use of fertilizer. Information about profitability levels can serve as an incentive for inorganic fertilizer use. Most simply, expected Value Cost Ratios (VCR) from fertilizer use can guide farmers' decisions. While detailed information to estimate the profitability of fertilizer use for farmers with different resource constraints and agro-ecologies is largely unavailable, the weight of the evidence indicates that fertilizer use is not clearly profitable for many Ghanaian farmers. Knowledge of soil characteristics and processes regulating nutrient availability and supply to crops is essential to raise productivity per unit of fertilizer nutrient applied.

The recommendation of the African Fertilizer Summit (2006) to increase fertilizer use from 8 to 50 Kg/ha nutrients by 2015 reinforces the importance of fertilizer for increasing crop productivity and attaining food security and rural wellbeing in Ghana. The impact of this target will however vary depending upon the agronomic efficiency of applied fertilizer. This efficiency varies across ecological zones, farms and fields within farms and greatly affects the returns to the recommended 50 Kg/ha. Insufficient and unbalanced fertilization of soils using fertilizers as well as lack of nutrient conservation technology adoption by farmers contribute to accelerating the rapid decline in soil fertility. The efficient uses of both inorganic and organic fertilizers, through Integrated Nutrient Management approach, will form an important element of a holistic approach for sustainably increasing crop production in Ghana.

The sustainability of good crop yields is therefore closely linked with the careful management of the soils with the objective of (i) preventing and controlling erosion, (ii) increasing their organic matter content, and (iii) replacing and increasing plant nutrients lost through erosion and crop uptake.

The study has proposed a number of actions for consideration by the Government of Ghana to address these three classes of problems, as well as the broader market-wide factors constraining farmer investment in sustainable intensification practices. The details of these proposals are contained in Section 4, but the general elements are as follows:

i. **public sector research programs** to identify region-specific best practices for amending soil conditions, given the great micro-variability in agro-ecological conditions in the country;
ii. **public agricultural extension programs** to transfer best practices to farmers as well as provide bi-directional learning between researchers and farmers to refine best practices in light of farmers' experiences in their fields; and,
iii. **input distribution systems** that make available the full range of products and services required by farmers. This is likely to go well beyond inorganic fertilizer and include compost and other forms of organic fertilizer, lime and other factors to address soil acidification based on the use of simple mobile soil testing kits that provide rapid site-specific soil diagnostics to guide fertilizer recommendation decisions by the farmer.
iv. Promoting transparency in the implementation of the FSP, changing the fixed transport cost margins offered to distribution firms, and addressing the widespread issue of seasonal burning of grassland were also noted as important issues to be addressed to promote sustainable agricultural intensification in Ghana.

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Appendix : Short, Medium and long Term Policy Options

Table 1. Short terms options to improve performance of the FSP (2015-2016)

Challenge	Recommended Action	Responsibility
Uncertainty and unpredictability	2015 tender published already. Disseminate information on subsidy to all stakeholders well in advance of the season.	Minister (MOFA) & Minister (MOF)
Public budgetary cost constraints	Conduct benefit-cost analysis of FSP to guide decisions. Also, encourage private sector to take increased role in the market.	National Input Subsidy Committee (MOFA), Development partners
Blanket fertilizer use irrespective of crop and agro-ecological zone	Begin sensitizing stakeholders on impending changes to FSP (see medium term options for more info).	National Input Subsidy Committee

Table 2. Medium-term Options to Improve FSP (2016-2018)

Challenge	Recommended Action	Responsibility
Blanket fertilizer use irrespective of crop and agro-ecological zone	Employ region-specific data on soils as basis for the type of fertilizer imported Import tender awards to : a) support soil fertility management and b) Ensure fertilizers imports suitable to agro-ecological zones and crops. Or supply fertilizers suitable to ecologies/regions?	National Input Subsidy Committee + Private sector stakeholders
Fertilizer Use Efficiency	•Review best practices that include improved planting material , SOM, water management, •Encourage increased private sector participation to provide credit and support adoption of good agricultural practices	Research Institutes, National Input Subsidy Committee + Extension Service + Private sector stakeholders
Sustainability of FSP	•Endorse the policy of gradual reduction in the subsidy rate along with reforms towards a smarter subsidy •Adopt relevant aspect of the Burundi and Nigeria models	Minister, MOFA

Challenge	Recommended Action	Responsibility
Smuggling of subsidized fertilizer to neighboring countries within ECOWAS	Better tracking using IT to ensure all allocated fertilizer go to intended beneficiaries e.g. the Nigerian GES-TAP system	MOFA (Crops Services) + Development Partners
Delays in payment of importers	•Better tracking using IT to ensure all allocated fertilizer go to intended beneficiaries •Use IT for real time verification , reconciliation and reporting of sales (initiated in 2013) • Timely announcement of FSP well before planting time	MOFA (Crops Services) + Development Partners
Timing and delayed delivery to farmers	•Publish delivery dates and time in advance of the season •Explore innovative financing mechanism for the distributors	MOFA, Private Sector, Banks, Development Partners

Table 3. Long-term Options to Improve FSP (2016-2018)

Challenge	Recommended Action	Responsibility
Sustainability	•Encourage increased participation of private sector in FSP •Government to provide regulatory and quality control oversight •Encourage development of the regional market for produce and inputs	Private Sector, MOFA (Crops Services), Development Partners, ECOWAS

C4. Iowa State University: Report on Agricultural Insurance in Ghana

FEED THE FUTURE AGRICULTURE POLICY SUPPORT PROJECT (APSP)

AGRICULTURAL INSURANCE IN GHANA

July, 2015

This report was produced for review by Chemonics International Inc. It was prepared by Iowa State University's consultant [redacted]

FEED THE FUTURE AGRICULTURE POLICY SUPPORT PROJECT (APSP)

AGRICULTURAL INSURANCE IN GHANA

Contract No. 641-C-14-00001

Content

I. Introduction

Agriculture is a key sector for Ghana's economy. In 2013, agriculture accounted for 22% of Gross Domestic Product (GDP) and 45 % of total employment (SRID). Agricultural exports are substantial, with a share of 19.4 % of total exports in 2012 (CIA, FAOSTAT). In addition, 49 % of the population lived in rural areas as of 2010 (SRID). Unfortunately, agricultural production in Ghana is also vulnerable to major shocks caused by climatic risks (e.g., drought, excess rain, windstorms, and floods), natural perils (e.g., bush fires), and biological hazards (e.g., pests and diseases) (Stutley). The average annual combined losses to Ghana's main food crops stemming from such hazards have been estimated to be approximately 5.5 % of the total value produced (Stutley).

Because of the high exposure of Ghana's agriculture to various types of risks, combined with the strong dependence of the overall economy on the sector, finding ways to ameliorate the impact of such risks is critical to improve the well-being of a large share of the nation's population. Historically, insurance has been used by many countries to help manage risks in agriculture (Mahul and Stutley). Further, over the last two decades, innovations in technology and contract design have led to major initiatives promoting the adoption of agricultural insurance in developing countries (IFAD, Roberts). Correspondingly, agricultural insurance has been advocated in recent years as an important tool to address the risks faced by Ghanian agriculture.

Sizable resources have been devoted to developing agricultural insurance programs for Ghana over the last few years.[1] Nonetheless, insurance takeup has been disappointing. This fact provides the motivation for the present report. The main purposes of this analysis are to explore the likely reasons why agricultural insurance programs have not fared as well as hoped for in Ghana, and assess their potential for widespread adoption in the future.

[1]For example, funding for the "Innovative Insurance Products for the Adaptation to Climate Change" (IIPACC) project discussed later in Section IV amounted to 3.832 million euros (Gille).

The report proceeds by providing a brief overview of agricultural insurance in the second section. The third section reviews research studies related to agricultural insurance with specific applications to Ghana. This is followed in the fourth section by a description of recent developments and the current status of Ghana's agricultural insurance programs. The fifth section summarizes the outcomes of an informal survey of stakeholders' opinions regarding (a) the reasons for the programs' past performance, and (b) the issues to address to enhance the likelihood of future success. In the sixth section, the prospects for the successful establishment of agricultural insurance in Ghana are assessed. The seventh and final section provides concluding remarks.

II. Agricultural Insurance: Basic Concepts

Agricultural producers resort to a variety of strategies to cope with the risks they face. Some strategies are based on technical tools (e.g., irrigation, input choices, and mix of activities), whereas others rely on financial arrangements (e.g., hedging, insurance, and strategic savings/disinvestments). Agricultural insurance is a financial risk-management tool often available to farmers in developed countries, achieving in some instances substantial levels of adoption (e.g., in the United States 88 % of the eligible acres across all crops were insured in 2014 (RHIS)). However, agricultural insurance has historically been much less popular in developing countries.[2]

To a large extent, the contrast in the penetration agricultural insurance achieved in developed countries compared to developing ones is associated with the fact that the former have been much more willing to subsidize it (see, e.g., Mahul and Stutley, p. 72, Table 3.7).[3] Even

[2]In 2007, the top 4 countries by volume of agricultural insurance premiums were the United States, Japan, Canada, and Spain, with respective shares of 56.4 %, 7.4 %, 7.2 %, and 5.4 % of global volume of premiums (Mahul and Stutley, p. 72, Table 3.7). Agricultural insurance premiums accounted for 2.3 % of agricultural GDP for high-income countries, versus less than 0.3 % of agricultural GDP for middle- and low-income countries (Mahul and Stutley, p. 8, Table 1).

[3]An important reason for the popularity of subsidized agricultural insurance schemes in developed countries is that they are permitted under World Trade Organization regulations (Roberts; Mahul and Stutley). Developed countries have historically been more willing to support domestic farmers through subsidies, and subsidizing crop insurance allows them to do so without violating international trade regulations.

though examples of successful unsubsidized programs do exist (e.g., named-peril insurance schemes in Argentina, Australia, and Germany (Mahul and Stutley)), there are certain features of agricultural insurance that make it more difficult to establish than other types of insurance. More concretely, those features are the systemic nature of agricultural risks, and the information asymmetries that characterize such risks.

Risks are systemic if the underlying hazards tend to occur simultaneously across economic units. Unlike traditional (e.g., health, auto, or home) lines of insurance, whose underlying risks are idiosyncratic, agricultural insurance must deal with risks that often are systemic, such as those caused by droughts or low market prices. Systemic risks expose insurers to large losses when adverse events happen, making private insurers either unwilling to cover such risks, or willing to cover them but at premiums too high to be attractive.[4]

Information asymmetries occur when the insured has more information about his/her risks than the insurer has. Information asymmetries can be of two types, namely, adverse selection and moral hazard. Adverse selection refers to situations where (a) the farmers facing the highest risks are also the ones more likely to seek coverage, or (b) farmers are more likely to insure their highest exposures to risk (Roberts). Thus, when insurance is voluntary and adverse selection does exist, the insured units tend to be associated with greater losses than the average unit in the population. Insurers may protect themselves from adverse selection by gathering information about producers to infer their risk levels, but doing so is not always possible or may be too expensive. Alternatively, insurers may seek protection by adding loadings to the premiums, thus skewing the insured pool even further toward the highest risks, which may prevent a viable market for insurance altogether.

Moral hazard occurs if buying insurance induces farmers to increase their risk exposure, as coverage reduces their incentives to prevent losses, or to influence the indemnities claimed to their advantage. Examples of moral hazard include inadequate levels of care (e.g., by not using

[4]To protect themselves from systemic risks, private insurers typically buy reinsurance. Unsubsidized reinsurance is expensive, and adds an extra loading to the premiums charged by insurers.

pesticides or not fertilizing) and fraudulent claims. Insurers may protect themselves from moral hazard by incorporating clauses to that effect into the contracts, performing careful monitoring of farmers' activities, and inspecting losses to uncover fraud. However, preventing moral hazard can be quite costly and may render insurance premiums too expensive for widespread adoption.

There are many different types of agricultural insurance contracts. According to the type of event used to trigger the indemnities, contracts can be classified into damage-based and index-based insurance (Roberts). In the case of damage-based insurance, the amount of indemnities paid is determined by the actual loss experienced by the insured unit. In contrast, index-based insurance indemnities are based on the outcome of an index, which is less than perfectly correlated with the insured unit's actual losses.

Depending on the type of losses covered, damage-based insurance can be further categorized as named-peril, multi-peril, or revenue insurance. Named-peril insurance protects producers from output losses caused by specific events, such as hail or windstorm (Roberts). This type of insurance is the most widespread among unsubsidized schemes, because insurers effectively select the perils to be covered so as to minimize their exposure to systemic risks and information asymmetries. Hail insurance is a prime example of successful unsubsidized protection, which is not surprising because hail can induce large losses to the affected farmers, but from the insurer's perspective it is an idiosyncratic risk with essentially no exposure to informational asymmetries.

Multiple-peril insurance, also known as yield insurance, covers output shortfalls relative to some production level specified in the contract, regardless of cause (Roberts). Revenue insurance is analogous, but with coverage aimed at protecting producers from low revenues rather than low output. In both types of insurance, issuers are highly exposed to systemic risks and information asymmetries. For this reason, neither of them is usually viable without large

subsidies. Revenue insurance has been heavily subsidized in the United States over recent years, and nowadays it is the largest agricultural insurance program in the world.[5]

Index-based insurance contracts can be categorized according to the nature of their underlying index, with the most popular schemes being weather index insurance (WII) and area-based index insurance (ABYI). In the case of WII, the index used to trigger indemnities is based on the measurement of a weather-related variable (e.g., rainfall, temperature, or days without rain) at a certain weather station over a specified time interval (IFAD). The ultimate goal when designing the index is to strike an appropriate balance between simplicity and a high level of correlation with the yields of the targeted producers. WII's main advantage is that insurers do not face the problem of asymmetric information. On the downside, WII exposes farmers to basis risk, i.e., the risk of not receiving an indemnity when experiencing a loss in the insured unit (which may well occur because the index is not perfectly correlated with the insured's losses) (IFAD).

In the case of ABYI, indemnities for the insured units depend on the yield measured over a much larger area (e.g., district or county) comprising them. As with WII, ABYI has the advantage of not exposing insurers to informational asymmetries. In addition, compared to WII, at least in principle producers should face less exposure to basis risk when covered by ABYI. However, basis risk under ABYI may still be too high to warrant adoption.

An alternative way of classifying agricultural insurance programs is by the level of aggregation at which policies are issued. By this criterion, insurance can be applied at the micro, meso, or macro levels (IFAD). Micro-level insurance policies are the typical ones sold to individual agricultural producers. Meso-level insurance is aimed at groups of farmers (e.g., producer cooperatives) instead of individuals themselves, or non-farm participants in the industry with high exposure to agricultural risks (e.g., agricultural lenders, input suppliers, and

[5]In 2014, revenue insurance accounted for 75 % of the total premiums paid for agricultural insurance in the United States (RHIS). In that year, the government paid 0.62 cents out of every dollar paid for agricultural insurance premiums in the United States (RHIS). Recall from footnote 2 that the United States constitutes more than half of the world market for agricultural insurance.

processors).[6] Finally, macro-level insurance is targeted at covering the exposure to adversities of an entire country's agricultural sector.[7]

III. Literature Review of Research on Agriculture Insurance in Ghana

The present section reviews the sizable volume of research that has been conducted in recent years focusing on agricultural insurance in Ghana. To organize the discussion, the studies are categorized by whether the type of insurance under analysis is index-based or damage-based. When the same study looks at both kinds of insurance (e.g., Stutley), each of them is addressed separately in the corresponding subsection.

III.1. Index-Based Insurance

Consistent with the great attention given worldwide to agricultural index insurance over the past two decades, most of the research performed in Ghana has involved index-based insurance. The next subsections review this literature, organized by the type of index used to determine indemnities.

III.1.a. Weather Index Insurance (WII)

Within the category if index-based insurance, the largest number of studies pertain to WII. By chronological order of publication, this research includes Stutley; Muamba and Ulimwengu; the Katie School of Insurance; Okine; Karlan et al. (2014); McKinley, Asare, and Nalley; and Gallenstein et al.

Stutley (2010)

[6]According to Stutley, the first meso-level program was Agroasemex's "Daños para Agostaderos con Imágenes de Satélite" WII, aimed at providing catastrophic coverage for state governments in Mexico (www.agroasemex.gob mx/ProductosyServicios/Seguros.aspx#horizontalTab1).

[7]An example of a macro-level program is the recently established African Risk Capacity, a WII designed to protect African countries from catastrophic weather events (http://www.africanriskcapacity.org/home).

As part of the "Innovative Insurance Products for the Adaptations to Climate Change" (IIPACC) project to develop innovative agricultural insurance project in Ghana, Stutley conducted a comprehensive study of the feasibility of crop insurance for all major crops. In his assessment of the yield data available, Stutley points out several limitations. First, yield estimates at the district level are not sufficiently precise, because of the negative impact on the quality of sampling stemming from governmental budget constraints. Second, the data are not available in a consistent database format, and exhibit obvious errors. Third, political boundaries have been redefined, making it difficult to compute consistent district-level historical yield series. Fourth, yields are calculated from the area harvested rather than the area planted, thus underestimating damages when planted fields are totally lost. Finally, only historical yield data for the main cropping season exist (i.e., there are no yield data for the minor growing season in the central and southern regions).

The study finds a downward trend in annual rainfall across most of Ghana. Weather-related perils include drought in some areas of eastern, western, and southern Ghana, excess rain and floods in parts of northern Ghana, and windstorms in certain areas. Rainfall patterns vary substantially across short distances, implying that a high-density network of weather stations is required to establish successful WII products. Further, the exposure of Ghana to the effects of climate change may require additional loadings into WII premiums, to protect insurers from climate change risk.

As part of the study, the demand for agricultural insurance was assessed by conducting discussions with 10 farmer focus groups, each of them consisting of 10 to 20 farmers. Farmers ranked lack of access to rural finance as the main constraint to agricultural crop production. Other reported production impediments included marketing constraints, low output prices, lack of storage, bush fires, and pests and diseases. Unpromising from the perspective of the demand for WII, in none of the meetings was weather risk ranked among the top three constraints. However, farmers stated their willingness to purchase insurance if it helped them gain access to credit.

Based on the analysis of 18 years (1992 through 2009) of data on average yields and rainfall at the district level, Stutley concludes that drought WII would provide very appropriate coverage for corn in the Eastern Region. However, other regions are characterized by weaker correlations between rainfall and corn yields, suggesting that drought WII would not be as effective to provide coverage for shortfalls in corn yields. The correlations between rainfall and yields are also weak for other rain fed crops (e.g., rice, millet, sorghum, and groundnuts). Further, in some of the northern regions, the correlations between rainfall and yields crops are negative, indicating that yield losses are more likely due to excess rain or floods than to drought.

Overall, Stutley concludes that corn, rice, pineapples, and mango have the potential to support WII. Rainfall WII could be developed to protect corn and rice producers from drought in districts with high correlations between rainfall and yields, and with an appropriate density of weather stations. Rainfall WII could be designed to cover pineapple producers from drought in the Central Region, and to protect mango growers from excess rainfall in some districts of the Northern Region. Stutley also notes that WII might possibly be developed also for sorghum, millet, and groundnuts.

Muamba and Ulimwengu (2010)

Muamba and Ulimwengu propose a programming method to compute optimal drought insurance contracts. The contracts are assumed to pay an indemnity whenever rainfall is below a certain trigger; the indemnity increases proportionally with the amount by which rainfall is short of the trigger, up to a pre-defined stop-loss rainfall. The maximum indemnity occurs when rainfall is equal to or smaller than the stop-loss. The advocated approach consists of computing the trigger and the stop-loss values that maximize the covariance between the indemnities and the losses being insured, subject to a maximum fair premium (which is defined as the expected indemnity divided by the liability).

Muamba and Ulimwengu apply their method to calculate optimum insurance contracts for corn yields in 12 districts of Ghana's Northern Region. For this purpose, they rely upon

district-level annual yield and monthly rainfall data spanning 1998 through 2004. The estimated correlations exhibit large variability across months and districts. The largest correlations correspond to July and August, for which the average correlations across districts are respectively 0.41 and 0.35. However, in some instances correlations are large but negative, rendering them unsuitable to develop drought insurance.

After estimating the optimal contracts, the authors examine their viability by computing the correlations between the corresponding indemnities and the yield losses for premium rates ranging from 5 % to 15 %. They find that only three districts (East Mamprusi, Gushiegu Karaga, and Saboba) have significantly positive correlations at the 10 % level. Four other districts (Bole, East Gonga, Savegulu Nanton, and Tolon Kumbugu) have positive but non-significant correlations between indemnities and yield losses. Importantly, correlations for the other five districts (East Dagomba, Nanumba, West Dagomba, West Gonja, and West Mamprusi) are negative, suggesting that rainfall-based drought WII is not viable. The authors find similar results when testing the in-sample performance of the contracts (i.e., using the 1998-2004 data). Muamba and Ulimwengu conclude that corn drought rainfall insurance may not be viable for some districts, in particular those where corn yield losses are negatively correlated with the contracts' indemnity payments.

Katie School of Insurance (2011)

The study by the Katie School of Insurance explores the feasibility of index insurance products for corn and rice in Northern Ghana. It focuses on Northern Ghana because its weather patterns are more favorable to the design of simpler rain-based WII products, as it has only one rainy season (which usually spans April through September).

Data limitations posed a major challenge for the study. First, although 16 years of historical rainfall data are used for the analysis, the variability found would make it highly desirable to double the length of the time series to better assess the rainfall patterns. Second, temperature data at the district level do not exist, but temperature data at the regional level

exhibit a clear increasing trend over the last 40 years. Third, Ghana experienced a major redistricting reform in 1988/89, which established 110 districts; subsequent changes had established a total of 170 districts by 2008. As a result of redistricting, historical district-level crop production data are often not available.

Data analysis focused on the Bole and Yendi districts in Ghana's Northern Region over the period 1992-2007. An important finding is that both the frequency of rainfall and the monthly precipitation have exhibited upward trends over the period under study, which "… raise serious concerns for developing policies to address productivity of crops in Ghana." (Katie School of Insurance, p. 13). Unexpectedly, the strongest correlations between precipitation and yields have negative signs; in the Yendi district, the correlation between monthly precipitation (rainfall frequency) and corn yields equals -0.70 (-0.46). This result indicates that, at least for some districts, WII triggers would need to account for excess rainfall as well as rainfall shortages. Overall, the correlations between precipitation and yields are rather weak.

Okine (2014)

Okine applies a Black-Scholes option pricing framework to determine the price of WII for corn in the Tamale district, which is located in Ghana's Northern Region. The author postulates an insurance contract based on the cumulative monthly rainfall, with the payoff of a "cash-or-nothing" put contract (i.e., the payment of a certain cash amount whenever the recorded cumulative rainfall in a particular month falls below a certain trigger). Okune's analysis relies on district-level aggregate data, which is well suited to the Tamale district because it has a small area (731 km^2).

Based on data for the period 1992 through 2007, the study shows that the largest positive correlations between monthly cumulative rainfall and district-level corn yields correspond to February and March, with correlations of 0.53 and 0.50. Thus, not only are the correlations relatively low, but also they are registered before (February) or during (March) the planting season in Tamale, which severely reduces their usefulness for insurance purposes. During the

corn growing season, the only months with positive correlations between cumulative rainfall and yields are July (correlation of 0.42) and August (correlation equal to 0.24). However, due to the variability in the data, Okune notes that a much longer time series (40 years) would be needed to estimate the correlations with a reasonable level of precision.

Karlan et al. (2014)

Karlan et al. (2014) performed a multiyear randomized trial experiment in northern Ghana, aimed at assessing the extent to which capital constraints and uninsured risks affect investment by small farmers. To this end, they focused on communities where corn was the most important crop, and selected farmers who grew corn but had no more than 15 acres of land.

Karlan et al. (2014)'s econometric analysis is based on experimental data for three annual crop cycles. In the first year (2009), 135 farmers were provided free WII, 117 farmers received free cash grants, 95 farmers obtained both free WII and capital grants, and 155 farmers were set aside as controls. In the second year (2010), the sample was expanded, and WII was no longer provided free of charge, but offered at prices above and below fair and market values. In total there were 2,082 experimental subjects, with 1,095 who were offered to buy insurance, 363 who received cash grants, and 624 in the control group. In the third year (2011), WII was offered at various prices, but no cash grants were given. The total sample consisted of 1,406 farmers, with 1,095 of them receiving offers to buy insurance and 311 being assigned to the control group.

The WII product offered was different in each year. In the first year, the product aimed at covering crop losses due to drought and flood, by paying indemnities if between June and September there was a month with 8 or fewer dry days, or 18 or more wet days. In the second year, the insurance also targeted losses from drought and flood, but it was based on a slightly different indemnity schedule (e.g., payouts triggered by 12 or more consecutive dry days, or 7 or more consecutive wet days, between June and September). In contrast, the third year product was designed to cover drought only, with payouts depending on the number of consecutive dry days at different stages of the growing cycle for corn.

The most striking result from Karlan et al. (2014) is that uninsured risks have a far greater impact on investment than capital constraints. Insured farmers are found to cultivate more acres and spend more on land preparation and on inputs overall. However, the value of harvest is not significantly greater for insured farmers. Insurance is also found to be significantly associated with greater involvement in riskier enterprises, but whose risks are more likely to be covered by the insurance.

In terms of the demand for insurance, Karlan et al. (2014) find that trust and recency (i.e., whether an insurance payout was received or not in the previous year) have a significant impact on farmers' uptake. Most important from the perspective of the viability of WII in Ghana, however, is their claim that (Karlan et al., 2014, p. 601)

> "We also show that there is sufficient demand to support a market for rainfall insurance and discuss in more length the ensuing policy and market issues in Ghana. We find that at the actuarially fair price, 40% to 50% of farmers demand index insurance, and they purchase coverage for more than 60% of their cultivated acreage."

McKinley, Asare, and Nalley (2015)

McKinley, Asare, and Nalley discuss the critical issues hampering the development of WII for cocoa in Ghana. The main problems identified are:

1. The lack of historical yield data.
2. The perennial nature of cocoa trees, which not only results in yields that vary with the age of the tree, but are also negatively autocorrelated (i.e., high yields are followed by low yields, and vice versa).
3. The determination of adequate rainfall and temperature values triggering indemnities.

The authors argue that computing rainfall and temperature triggers is especially challenging, because cocoa yields suffer if there is either too much or too little rainfall, and if temperatures are excessively high or excessively low.

In addition, McKinley, Asare, and Nalley perform a preliminary assessment of the feasibility of WII for cocoa in Ghana. They use farm-level yield data for 1,200 cocoa producers covering 109 villages, 19 districts, and 5 regions, spanning the period February 2011 through August 2012, together with geo-referenced precipitation data with a resolution of approximately 9 km^2. For insurance purposes, a key finding from their study is the identification of pod maturation as the critical stage for rainfall. Using simulations, the authors estimate that the probability of receiving an indemnity payment for a 50 % (70 %) coverage ranges between 15.9 % and 28.8 % (28.6 % and 40.0 %). The authors attribute the large probability of payouts to the lack of appropriate data to adequately calibrate their simulation model. If the actual payout probabilities are as high as estimated by McKinley, Asare, and Nalley, WII would not be seem viable for cocoa producers in Ghana.

Gallenstein et al. (2015)

Motivated by the low demand for unsubsidized WII found in many instances where it has been tried, Gallenstein et al. investigate the potential demand for WII tied to loans in the Upper East, Upper West, and Northern Regions of northern Ghana. In those regions, the market for agricultural loans is dominated by 16 rural and community banks. Those banks provide microfinance loans to farmer associations rather than to individual farmers, focusing exclusively on joint liability loans.

Given the structure of the agricultural credit market in northern Ghana, Gallenstein et al. surveyed 258 farmer associations, out of almost 800 farmer associations listed by the banks as existing or potential customers. The associations surveyed were the ones that met a set of criteria, including being in good standing, belonging to low rainfall districts, having corn as their primary or secondary crop, comprising 7 to 15 members, and borrowing less than GH₵ 10,000. The focus on the demand from farmer associations rather than individual farmers, and on existing (73 %) or potential (27 %) loan customers is a distinguishing feature of the study.

Within each association, three randomly selected farmers were interviewed, which resulted in the collection of 780 surveys in total. Surveys were conducted in February 2015.

The surveys inquired about the farmers' willingness to pay (WTP) for agricultural loans with three alternative types of insurance policies, namely:

1. Policy held by individual farmers, with indemnities based on rainfall at a nearby weather station and paid directly to farmers.
2. Policy held by the bank, with indemnities based on rainfall at a nearby weather station and paid to the bank, which then applies to repay farmers' outstanding loans.
3. Policy held by individual farmers, with indemnities based on rainfall at farmers' plots and paid directly to farmers.

The authors consider as potentially viable only the first two types of policies, but they also included the third policy in the questionnaire to quantify the amount of basis risk. Note, however, that the third policy payouts are triggered by shortages in rainfall rather than yield, which means that it also involves basis risk (because individual farmers' yields need not be perfectly correlated with rainfall at the farmers' plots). In addition, the survey included questions about farmers' strategies to cope with drought, and about demographic characteristics and other variables that, according to the literature, are associated with the demand for insurance.

By far, the main mechanism to cope with droughts for the farmers in the sample is selling livestock or other assets (53 %). Borrowing money (17 %) and spending savings (11 %) are respectively the second and third most popular strategies to cope with drought.

Regarding the estimated demand for insured loans, 56 % of the sampled farmers are willing to have individually insured loans as described above in item (1) at market-viable prices for the insurance component. The analogous figure for the loans with insurance held by the bank (specified in item (2) above) is very similar (54 %). The authors also estimate that the WTP to avoid rainfall basis risk is large (equal to 4 % of the loan principal) and statistically significant.

Although the aforementioned demand for insured loans seems high, it must be recalled that 73 % of the farmers in the sample are existing borrowers. Hence, the data suggest that the

number of borrowers would greatly decrease if all of the loans offered by banks were insured at market-viable prices (although, of course, the resulting banks' loan portfolios would be protected against the risk of drought). In other words, the number of borrowers would fall by a large amount if loan insurance were made mandatory.

III.1.b. Price Index Insurance

Agricultural insurance schemes based on market price indices were investigated by Sarris, and Karlan et al. (2011).

Sarris (2002)

Sarris (2002) develops a theoretical model to quantify farmers' WTP for price insurance, and applies it to analyze the potential demand for price insurance by cocoa producers in Ghana. The proposed contract can be categorized as price-index insurance, because it relies on the market-level price, rather than the specific prices received by the insured farmers for their crop.

Sarris considers the case of a minimum price on a fixed amount of crop (determined before production takes place), as well as the case where the minimum price applies to the total amount produced (which is uncertain at the time the insurance is purchased). He estimates that actuarially fair premiums for the insurance are smaller than the premiums for analogous put options available at organized exchanges. In addition, Sarris estimates that the WTP for price insurance typically greatly exceeds the actuarially fair premiums and the premiums on exchange-traded put options, especially for producers who derive most of their household income from cocoa, are risk averse, and have more difficulties smoothing consumption. He also finds that the WTP for the price insurance on a fixed crop amount is very similar to the WTP for price insurance on the total output produced.

Karlan et al. (2011)

Karlan et al. (2011) conducted a randomized trial experiment in the Eastern Region of northern Ghana in 2007, which involved loans with price insurance protection to eggplant and corn farmers. The provision of price insurance was motivated by information gathered at focus group meetings, which revealed price variability to be a major risk for farmers in the region, whereas rainfall variability did not seem large enough to pose a major risk.

A total of 169 farmers participated in the experiment. A subset of them was assigned to the control, receiving only an offer of uninsured loans. The rest of the farmers were placed in the treatment group, and were offered only crop-price indemnified loans at the same interest rate as the (uninsured) control loans. The loan insurance was supplied at no extra charge, and consisted of forgiving 50 % of the loan if the average market price at harvest fell below a certain threshold (equal to the 10^{th} and 7^{th} percentiles of historical prices for eggplant and corn, respectively).

The average loan size was large, representing between 13 % and 38 % of the average annual income for a typical farmer. Farmers who borrowed tended to be older, to have higher cognitive scores, to be more likely to have borrowed before, and to be more averse to ambiguity. The takeup of loans was very high and not significantly different across the control (86 %) and treatment (92 %) groups. Defaults were also quite high (58 % after 1.5 years), and the same for the two groups.

Because of the high loan takeup, it was very difficult to discern the effects of the price insurance. In particular, essentially no impacts were found of price-indemnified loans on investment in inputs. However, the price insurance induced changes in the marketing of crops: compared to farmers with uninsured loans, farmers with indemnified loans were significantly more likely to sell to market traders than to farmgate sellers. This is interesting, because farmgate sellers typically buy at a discount in exchange for locking in prices.

III.1.c. Price-Weather Index Insurance

To address the fact that farmers' revenues are affected by the combination of both output and price realizations, Keyzer, Molini, and van den Boom; and Molini et al. analyzed insurance based on a composite of price and weather indices.

Keyzer, Molini, and van den Boom (2007)

Keyzer, Molini, and van den Boom develop a theoretical framework for insurance contracts based on the realizations of market prices and weather variables, and whose indemnities are aimed at preventing farmers' total (i.e., farm plus non-farm) income from falling below the poverty level. Keyzer, Molini, and van den Boom's proposed insurance relies on subsidies for the poorest farmers, either from outside sources, or from the better off farmers in the insurance pool. They show how to compute the indemnities as functions of the weather and price data, so as to minimize the risk of income realizations below the poverty level, and subject to self-financing up to a certain amount of external subsidies.

The authors apply their method to Ghana. To this end, they construct a pseudo-panel of representative agents using data from the 1987/88, 1988/89, 1991/92, and 1998/99 Ghana Living Standards Survey, and the 1970, 1984, and 2000 Population Census. They also use the length of the growing period as the weather index, the market prices for 6 cash and staple crops, and the per-capita farm size to compute indemnities for individual farmers. When optimal indemnities are restricted to be linear functions of the length of the growing period, prices, and farm size, the insurance is estimated to reduce poverty by only 4 % (from 47 % to 43 %). The authors also estimate that allowing for more flexible indemnity schedules would reduce poverty by an additional 5 % to 10 %.

Molini et al. (2007)

Using the method proposed by Keyzer, Molini, and van den Boom, Molini et al. calculate the indemnity schedule for farmers in the three northern regions of Ghana (Upper East, Upper West,

and Northern). They estimate that the premium required to eliminate the risk of falling into poverty is approximately 50 % of income, which renders the insurance scheme impractical in the absence of subsidies. The advocated insurance scheme is estimated to reduce the poverty incidence by about half, from 63 % to somewhere between 39 % and 27 %, depending on the flexibility allowed in the indemnity schedule.

Importantly, Molini et al. raise in issue rarely discussed by the index insurance literature, namely, that crop insurance in the absence of other safety net policies may exacerbate food crises induced by crop failures. This may happen if, for example, indemnities received in a bad crop year allow insured farmers to outbid uninsured ones for the food available, and in the process greatly worsen the conditions for the farmers without insurance. The authors argue that if food crises are to be avoided when crop failures occur, food deliveries must be managed together with cash indemnifications.

III.1.d. Area-Based Yield Insurance (ABYI)

Area-based yield insurance (ABYI) is often advocated, because it relies on an index (area yield) that is typically more highly correlated with individual farmers' yields than weather indices are. Stutley, and Katie School of Insurance analyze ABYI for Ghana.

Stutley (2010)

Stutley finds that corn and rice are crops for which ABYI could most likely be designed. ABYI might also be suitable to cover sorghum, millet, and groundnuts. However, he conditions the feasibility of such insurance products on (a) historical series at the district level being of sufficient quality and long enough, (b) average yield estimates meeting minimum precision standards, and (c) a minimum level of acres being planted in the insured area (district).

Katie School of Insurance (2011)

The study by the Katie School of Insurance, already discussed in connection with WII, also addresses the potential for ABYI to overcome the limitations faced by WII due to the relatively poor estimates of the correlations between rainfall and yields. The study finds that ABYI corn premiums for the Bali and Yendi districts are very sensitive to the yield probability distribution assumed for the computations, but particularly so for Yendi. For typical coverage levels, the estimated premiums would be commercially viable for Bali, but too expensive for Yendi. In addition, corn yields are found to be negatively correlated across the two districts, which the study argues would facilitate risk reduction for financial institutions willing to diversify their loan portfolios geographically.

III.2. Damage-Based Insurance

Stutley; and Kwadzo, Kuwornu, and Amadu study traditional damage-based agricultural insurance in the context of Ghana.

Stutley (2010)

Based on his comprehensive feasibility analysis, Stutley concludes that windstorm insurance is technically feasible for rubber, large-scale banana plantations, and possibly small-holder producers of plaintains. He also determines that catastrophic insurance against aggregate damage in cocoa plantations due to the Cocoa Swollen Shoot Viral Disease could be designed and implemented.

Kwadzo, Kuwornu, and Amadu (2013)

Kwadzo, Kuwornu, and Amadu estimate the WTP for multi-peril crop insurance by farmers in the Kintampo North district, located in Ghana's Brong Ahafo Region. The district under study is between the forest and northern savannah zones, and agriculture provides most of the household income in the area. The authors collected data from a representative random sample of 120

farmers (12 farmers per community across 10 communities), by conducting face-to-face interviews in 2010.

The data obtained allow the authors to assess the frequency and severity of various perils faced by the farmers. The perils more often cited by farmers as affecting crop production are bushfires (98 %), drought (91 %), windstorms (91 %), grazing livestock (61 %), theft (61 %), and flood (47 %). In terms of perceived effects, farmers rank bushfires as the top peril, followed in decreasing order by drought, floods, windstorms, theft, and grazing livestock. According to the farmers' reported frequency of occurrence over the previous 5 years, bushfires is the most frequent peril (100 %), grazing livestock (80 %) and theft (80 %) are next, followed by windstorms (60 %), and finally drought (40 %) and flood (40 %). Based on the data, the authors classify bushfires and windstorms as high-effect-high-frequency perils, livestock grazing and theft as low-effect-high-frequency perils, and drought and flood as high-effect-low-frequency perils. By far, the crop most affected by the various perils is corn.

The survey also included questions regarding the strategies used by farmers to manage risks. Crop diversification and sharecropping are typical risk management strategies used by farmers in the area. Other risk-driven strategies reported by farmers in the sample are selling or liquidating farm productive assets (42 %), adding on or shifting to other businesses (39 %), varying crop practices (e.g., by intercropping, adopting drought resistance varieties, staggering planting, or using low-risk inputs) (8 %), borrowing from friends and family (5 %), and resorting to the use of family labor (5 %).

For the sample analyzed, the WTP for an insurance product covering GH¢ 1,000 of hypothetical losses in farm income ranges from a minimum of GH¢ 5 to a maximum of GH¢ 80.00, with an average of GH¢ 24.43 (i.e., the WTP averages only 2.4 % of hypothetical losses, with a minimum of 0.5 % and a maximum of 8 %). The likelihood of purchasing crop insurance is significantly positively correlated with family size and farm size, and significantly negatively correlated with the level education, the diversification by means of livestock production, and land ownership. One additional family member dependent on the farm is associated with a 10 %

higher probability of insuring, and one additional farm hectare corresponds to a 7.5 % greater likelihood of purchasing insurance. In contrast, farmers with formal education are 51 % less likely to buy crop insurance, and farmers who diversify via livestock enterprises are 40 % less likely to purchase insurance. Similarly, land ownership is associated with a 33 % reduction in the probability of buying insurance. Overall, the authors conclude that "The major policy implication revealed by this study is that farmers who have the ability to self insure generally are not interested in market-based crop insurance and therefore lead to high levels of exposure by insurance firms if care is not exercised." (Kwadzo, Kuwornu, and Amadu, p. 18).

IV. Recent Developments and Current Situation

Agricultural insurance has had very little development in Ghana, and most of the progress has occurred over the last decade. Before then, the only experience with agricultural insurance was in the 1970s, when Ghana's State Insurance Agency in association with Barclays Bank used to provide damage-based insurance for rice producers. The program was successful for some time, but eventually fraudulent claims led to sizable losses to the insurer,[8] which stopped operating the scheme. The negative experience had a galvanizing effect, and for a long period agricultural insurance was a shunned business in Ghana.

Interest in agricultural insurance issues has surged over the last decade in Ghana. In 2007, the non-governmental organization Innovations for Poverty Action (IPA) started funding the aforementioned study by Karlan et al. (2011), aimed at examining the effects of crop price insurance (IPA undated-a). Two years later, IPA started sponsoring the project by Karlan et al. (2014) discussed earlier in the literature review, which focused on the impact of WII on farmers' investments (IPA undated-b). Both studies were noteworthy because, consistent with IPA's approach, they relied upon randomized trials to obtain data. Farmers in the treatment groups purchased actual WII contracts.

[8]Producers harvested the rice fields and then set them on fire to demand indemnity payments.

In 2009, a major initiative promoted by the German Federal Ministry for the Environment, Nature Conservation, and Nuclear Energy culminated in the establishment of the IIPACC project. IIPACC, funded by the aforementioned German Ministry, and implemented jointly by Ghana's National Insurance Commission (NIC) and the German Gesellschaft für Internationale Zusammenarbeit (GIZ), was scheduled to last until June 2013 (Appenteng-Mensah and Gille). As suggested by its name, IIPACC's main goal was to assist in the development and implementation of economically sustainable innovative agricultural crop insurance products in Ghana, aimed at protecting farmers from adversities in agricultural production related to extreme weather (Appenteng-Mensah and Gille).

IIPACC was instrumental in the establishment of the Ghana Agricultural Insurance Programme. The Programme consisted of a steering committee in charge of setting policy and advocacy, and the Ghana Agricultural Insurance Pool (GAIP) in charge of governance and management. The steering committee was chaired by the NIC, and had members representing the public and private sectors, a state-owned reinsurance company, and development partners. GAIP was supported by 19 of the 22 non-life insurance companies in Ghana, and its day-to-day operations were conducted by a technical management unit staffed by three individuals (Appenteng-Mensah and Gille).

The process leading to the creation of GAIP raised awareness about agricultural insurance in Ghana, encouraged dialogue among potential stakeholders, and resulted in regulatory changes. GAIP was launched in 2011, and in that same year it introduced its first product, a corn WII for 3 regions in northern Ghana. The policies were sold to three banks (which used them to cover their loan portfolios) and IPA, resulting in the coverage of over 3,000 farmers for a total of 5,045 acres (Appenteng-Mensah and Gille). Significantly, GAIP's WII was adopted by Karlan et al. (2014) for their third-year treatment group; as a result, their experiment accounted for approximately one third of all farmers covered by GAIP's WII in 2011 (Appenteng-Mensah and Gille).

In 2012, GAIP expanded its portfolio by offering WII to cover corn and soybeans over 6 regions (Gille). In 2013, GAIP offered named-peril insurance for rubber producers, ABYI for corn, and WII for corn, soybean, and sorghum, extending its reach to seven regions (Gille). Notwithstanding the expansion in the types of products offered, coverage decreased relative to 2011: only 490 farmers for a total of 769 acres were covered in 2012, and 435 farmers for 939 acres in 2013 (MoFA).

The 2013 pilot ABYI trial was quite disappointing, and it was discontinued thereafter. Takeups for WII continued to be quite limited in 2014. The most successful GAIP products in 2015 were named-peril insurance for rubber producers (with 713 acres covered) and accidental mortality insurance for poultry producers (Katu ACII, personal communication). The portfolio of products offered by GAIP in 2015 includes WII for a number of crops (including corn, soybeans, sorghum, millet, groundnut, and cocoa), as well as named-peril insurance for eligible commercial producers of various crops, livestock, or poultry.[9] In a concerted effort to increase its market penetration and reach a target of 600,000 subscribers, GAIP has recently greatly expanded its staff, by incorporating a marketing manager and 13 marketing officers who sell policies in the field. This has been achieved with funding support from organizations such as ADVANCE II and FINGAP. The GAIP board is expected to take very important decisions on the way forward after the results from the 2015 season become available.

There are two major research projects currently under way involving agricultural insurance, namely, "Disseminating Innovative Resources and Technologies to Smallholders" (DIRTS) and "Promoting Adoption of Improved Production Technologies among Smallholders in Ghana via Coupled Credit and Index Insurance Contracts" (OSU/ACET).[10] Both projects involve collaborations with GAIP. DIRTS started in January 2014 and will finish in December 2015, whereas OSU/ACET begun in August 2013 and will last until mid-2016. One of DIRTS's

[9]The indemnity-based products are advertised as "multi-peril" insurance by GAIP (GAIP), but they fall under the named-peril insurance category discussed in Section II.

[10]Two of the leaders of DIRTS, Professors Karlan and Udry, are co-authors of the Karlan et al. (2014) study. Likewise, two of the leaders of OSU/ACET, Professors Miranda and Sam, are co-authors of the study by Gallenstein et al. discussed earlier.

stated objectives is to implement and evaluate commercial drought index insurance (Udry et al.). OSU/ACET is aimed at assessing the effect of index-insurance-contingent loans on the provision of credit and other agricultural-related issues (Miranda et al.), and the study by Gallenstein et al. discussed earlier is an early outcome of the project. Results from these two projects should provide valuable insights about WII in Ghana and its potential for scaling up.

V. Opinions of Major Stakeholders

In May 2015, interviews were conducted with individuals representing major stakeholders of agricultural insurance in Ghana (see list of interviewees at the end of the present document). The goals of the interviews were threefold. First, to learn about the individuals' opinions regarding the possible explanations for the failure of recent efforts at establishing a large agricultural insurance program. Second, to sense whether stakeholders are optimistic about the likelihood that agricultural insurance programs will succeed in Ghana. Finally, to uncover the factors stakeholders deem most critical for the widespread adoption of agricultural insurance in Ghana.

The next subsections discuss the main results stemming from the informal survey. The discussion is supplemented by the opinions of stakeholders expressed in recent presentations by Gille and Appenteng-Mensah, and publications by Nunoo and Acheampong, and Appenteng-Mensah and Gille.

V.1. Reasons for Limited Adoption

The following list provides a summary of the main reasons brought forward at the interviews for the poor performance exhibited by the WII programs:

- Expensive Premiums:

  In the opinion of several interviewees, the high cost of WII deterred its widespread adoption. WII was sold at premiums in the order of 7 % to 10 % of farmers' production costs, with actual costs ranging from 4 % to 25 % of production costs depending on soils, geographic regions, and other production factors.

- Lack of Awareness/Financial Literacy:

  Insurance in general has low penetration in Ghana (e.g., insurance premiums accounted for 1.06 % of Ghana's GDP in 2011 (NIC)). Further, there is no tradition of agricultural insurance, and WII is a new concept unknown to many farmers. Clear evidence of this issue was provided at the interview with officers of the Ghana National Association of Farmers and Fishermen, as they were not aware of the agricultural insurance programs offered in recent years or currently in place.

- Insufficient Commitment by Insurance Companies:

  As pointed out in the previous section, the initial insurance programs were established largely under the leadership of GIZ. For this reason, it is perceived that there was an undue emphasis on WII products, and that insurance companies were insufficiently committed to make the programs successful. Management of the agricultural insurance program was the responsibility of GAIP. However, for a long period GAIP was staffed by only three employees, which severely impaired its ability to devote the amount of resources needed to adequately educate farmers about insurance and, more importantly, market insurance products in the field.

- Lack of Trust by Farmers:

  Some respondents stressed that it is critical for farmers to trust that they will be paid back. In some instances, the failure of susu schemes has made farmers lose trust in financial arrangements, thus hindering their willingness to buy insurance. In other instances, farmers may simply not have had enough trust in the providers of WII to purchase insurance.

- Poor Infrastructure:

  Some of the interviewees deemed the network of weather stations as not adequate to reduce basis risk to acceptable levels. The density of stations was not sufficiently high, and the existing stations were often old and/or inefficient. Even though some weather stations were added to the network to provide support for the WII program, more stations were needed, especially in the Central Region.

- Low Participation of Lenders, Input Suppliers, and Processors:

  WII can be used by financial institutions to protect their portfolios of agricultural loans. In the case of Ghana, however, lenders seem to care mostly about the default risk of individual loans rather than the overall risk of their loan portfolios. Thus, the few lenders who decided to insure tried to pass along the cost of the policies to farmers by charging higher interest rates on their loans, which rendered them too onerous for potential borrowers. Input suppliers and processors are other agricultural industry participants who may find WII potentially attractive to manage the risks they face, but they did not participate in the programs offered.

- Basis Risk:

  An issue raised at some interviews was the basis risk inherent in WII, which makes it less appealing than damage-based insurance. It was pointed out that problems arise when a farmer has a bad crop but the index realization does not trigger an indemnity payment, because then s/he gets a sense of paying for nothing.

In addition to the above explanations given for the low popularity of the WII programs, the following contributing factors were also cited during the interviews:

- Alternative Mechanisms to Cope with Risks:

  Insurance is not the only way to cope with risks, and it need not be the most attractive alternative for the majority of farmers.

- Complexity of WII Contracts:

  WII contracts need to be very simple if they are to appeal to most farmers. Contract complexity is likely to deter many farmers from buying insurance.

- NGO Handouts:

  One individual noted that the pervasiveness of handouts from NGOs has made many farmers reluctant to pay for a product like insurance, which is less tangible than standard goods (and pays out in times of need, which are also the occasions when NGOs are more likely to provide aid).

- Insufficient Number of Products:

The WII products offered covered only a handful of crops, which may have limited their market.

There was a clear consensus among interviewees with respect to the key reasons for the failure of the ABYI program, namely:

- Unreliable Yield Data:

  The system set up by government agencies to estimate crop yields, based on crop cuts, resulted in very poor data. In many occasions, estimated yields did not appropriately reflect actual yields.

- Lack of Farmers' Trust in the Yield Data:

  Because of the poor track record of the yield data underlying the ABYI program, farmers perceived that it was not credible enough to warrant purchasing ABYI.

Reasons for the slow progress of agricultural insurance have also been made public by Appenteng-Mensah (manager of IIPACC), Acheampong (affiliated with GIZ), Gille (agricultural insurance advisor of GIZ), and Nunoo (affiliated with the Department of Economics at the University of Cape Coast). Table 1 below summarizes their views in this regard.

Table 1. Factors Explaining Slow Progress of Agricultural Insurance in Ghana According to Named Sources

Factor	**Nunoo and Acheampong**	**Appenteng-Mensah**	**Appenteng-Mensah and Gille**	**Gille**
Expensive premiums	X	X		X
Lack of awareness	X	X	X	
Ownership				X
Poor infrastructure			X	

Basis risk				X
Low government involvement	X	X		X
Severe data limitations	X		X	
Negative image of insurance	X			

V.2. Prospects and Recommended Actions

The individuals interviewed were generally optimistic about the potential for agricultural insurance in Ghana. In particular, they felt ongoing projects involving agricultural insurance are worth pursuing, as they may provide useful information to eventually render it successful.

Given the opinions expressed in the interviews, the following actions emerged as crucial to improve the likelihood that agricultural insurance programs will succeed in Ghana:

- Bolster Marketing Efforts:

  There is a perceived need to have a much more active presence of marketing officers to sell policies in the field than in the past. To this effect, this year GAIP incorporated six full-time marketing officers in the field, funded by grants. The marketing efforts should cater to groups/associations of small farmers, farmer cooperatives, and large farmers. In addition, lenders should be enticed to buy agricultural insurance to protect their loan portfolios.

- Obtain Government Support:

  Stronger government support appears to be essential for the success of agricultural insurance. It was mentioned that the government could provide support in various ways, such as helping with product research and development, subsidizing the purchase of agricultural insurance by the rural poor, and requiring farmers to have insurance to receive loans from banks. It is felt that, even though the government participated in the private-public partnership that led to the creation of GAIP, the government is not seriously committed to backing agricultural insurance. As an example of this concern, some interviewees pointed out that the 2014

"Budget Statement and Economic Policy" presented by the Finance Minister to the Parliament states that the government will help pooling funds from the private and public sectors to scale up the agricultural insurance program (Terkper 2014, p. 50), but the actual budget contains no allocation to that effect.

- Promote Education/Awareness:

  Most farmers are not aware of the potential advantages of using insurance to manage their risks. Current efforts to educate farmers include broadcasting campaigns to promote agricultural insurance, and providing free agricultural insurance for farmers' demonstration plots, both activities supported by means of ADVANCE grants. There is also a concerted effort to create awareness through the extension system, by giving seminars about insurance targeted at extension agents. In addition, seminars are being provided aimed at educating lenders and input dealers on the use of agricultural insurance in their operations.

- Expand the Number of Agricultural Insurance Products:

  Having a larger portfolio of products is seen by some individuals as critical to ensure a widespread adoption of agricultural insurance. The expansion in the number of products may be achieved by targeting a wider variety of agricultural activities (e.g., production of mango, cocoa, rice, vegetable crops, cash crops, and livestock) and alternative types of coverage (e.g., multi-peril crop insurance, or even revenue insurance). In the latter regard, some interviewees feel that GAIP should reduce the past emphasis on WII. One individual pointed out that products should be developed aiming at the entire value chain, rather than only farm output (e.g., drought/flood insurance is of no help if prices drop precipitously in a year with excellent weather). The portfolio of products offered by GAIP now includes multi-peril crop insurance for rubber production, and accidental mortality insurance for confined poultry production.

- Reduce Basis Risk:

  The interviews revealed the need to have smaller basis risk to make WII products appealing to farmers. The density of weather stations should be increased, especially in some regions

(e.g., the Central Region). The possibility of supplementing the data from the weather stations with satellite data (or a vegetation index) is worth considering. Further, implementing a system which allows farmers to independently receive in real time the weather data associated with WII would be highly desirable, as it would boost farmers' trust in the system. Some actions have already taken to reduce basis risk; in particular, weather stations have been recently added, and GAIP has acquired satellite data for areas poorly covered by weather stations.

Additional actions that some individuals felt might help at establishing a sound agricultural insurance program include the following:

- Change the Form of the Insurance Pool:

  When GAIP was first established, the insurance companies and NIC agreed that no company would enter the agricultural insurance market alone. At the time, it was felt that an insurance pool was the best arrangement for at least two reasons. First, no individual insurance company seemed to have the expertise or the resources to be able to pursue agricultural insurance on its own. Second and more important, the insurance companies wanted to avoid agricultural insurance fail as a result of cutthroat competition (i.e., firms undercutting each other's premiums to the point where the premiums collected would not be enough to pay indemnities). However, a pool need not provide the best incentives to develop innovative insurance products. In addition, more aggressive marketing of agricultural insurance products might occur by allowing individual companies to market them. One of the interviewees felt that GAIP should be chartered following the model of the Nigeria Agricultural Insurance Corporation.[11]

- Modify the Composition of the Agricultural Insurance Steering Committee:

  In the opinion of one of the interviewees, the current composition of the steering committee for agricultural insurance does not provide an adequate representation of the sector's

[11]It is worth pointing out that Aina and Omonona (2012) discuss problems associated with the Nigeria Agricultural Insurance Corporation, and point out that its most recent reported loss ratio was equal to 4, which implies a substantial level of subsidies.

stakeholders. In his view, making the steering committee more representative of the parties with an interest in the success of agricultural insurance would go a long way toward establishing a successful program.

To compare with the actions favored by the individuals participating in the informal survey, a summary of views made public by other stakeholders is reported in Table 2.

Table 2. Recommended Actions to Establish Agricultural Insurance Programs in Ghana According to Named Sources

Factor	**Nunoo and Acheampong**	**Appenteng-Mensah and Gille**	**Gille**
Obtain Government Support	X		X
Promote Education/Awareness		X	
Provide damage-based products	X		
Improve infrastructure		X	
Improve data	X	X	
Build capacity	X		
Make premiums more affordable			X
Establish cost-effective dist. channels		X	

VI. Potential for Widespread Adoption of Agricultural Insurance

The IIPACC-led initiative and the programs that followed it involved an unprecedented effort to promote agricultural insurance in Ghana. However, despite the sizable resources devoted so far, the results have been disappointing. The present section discusses the potential for widespread

adoption of agricultural insurance in Ghana, given the evidence from the studies reviewed earlier in Section III and other relevant literature, and the information obtained from stakeholders.

Succinctly, the prospects for WII programs in Ghana --and in particular for those aiming at smallholders-- are dim unless they are heavily subsidized. The basic argument in support of this assessment is that, despite the vast number of ingenious index-based insurance schemes that have been tried around the world, there is no record of any being economically self-sustainable on a large scale (see, e.g., Burke, de Janvry, and Quintero; and Carter et al.). Binswanger-Mkhize performs an in-depth analysis of index-based insurance programs, which leads him to state that poor farmers (Binswanger-Mkhize, p. 187)

> "… are cash/credit constrained and, therefore, cannot advance the money before sowing time to buy insurance that pays out only after the harvest. Index insurance, therefore, cannot be scaled up. Even if a few farmers purchase it, governments still will need to run relief programmes for the uninsured. Standard ways suggested to improve the index insurance, such as reducing basis risks, educating farmers and improving weather data, do not improve the ability of small farmers to purchase insurance and may not improve product design sufficiently to be competitive with self-insurance of the better-off farmers."

In a study examining the records of index-based agricultural insurance for 15 developing countries in which policies are held by individuals, and 22 countries where policies are held by institutions, Burke, de Janvry, and Quintero conclude that "**The current gap between high promise and low takeup suggests a promising research agenda to learn lessons from current programs and to experiment with alternative approaches on both the supply and demand sides of individual and institutional products.**" (Burke, de Janvry, and Quintero, p. 3, emphasis of theirs). Quite significantly, they also argue that "The benefits of investment in index insurance need to be weighed carefully against the alternative risk reduction and risk

management approaches available at both the household and the organizational levels." (Burke, de Janvry, and Quintero, abstract, underlining of ours).

Even though a large number of index-based agricultural insurance schemes have been tried in many countries over the last 15 years, the vast majority of them never left the pilot stage because of difficulties encountered when attempting to scale them up. The National Index-Based Insurance Schemes in India, ACRE in East Africa, the R4 Rural Resilience Initiative in Ethiopia and Senegal, and the Index-Based Livestock Insurance Project in Mongolia are among the handful of index-based agricultural insurance programs that have achieved a large scale. These programs are also held as the prime examples of success by advocates of index-based agricultural insurance (e.g., Greatrex et al.). As such, they can provide useful insights about the potential viability of other index-based programs, and this is the reason why they are the focus of the case study by Greatrex et al. The evidence from their analysis is clear: all four of them rely on subsidies.[12]

The following excerpt from Carter et al., written upon examination of a large number of index-based insurance schemes implemented in developing countries, provides an up-to-date summary of the experience regarding the uptake of index-based agricultural insurance (Carter et al., p. 11, underline of ours):

> "**3. The puzzle of low uptake**
>
> Uptake is a battle in progress, with successes and failures, but results have to this date been generally disappointing. The few cases where index insurance has been implemented were either free or heavily subsidized, or offering insurance along with other benefits such as subsidized credit and heavy technical assistance. In extensively

[12]In the case of India's programs, the government typically pays between 60 % to 75 % of the premiums. ACRE has relied on donors to fund its establishment (e.g., for feasibility studies and salaries), and to pay for premium subsidies. The scheme in Ethiopia and Senegal allows farmers to pay premiums with labor instead of cash, through the government's Productive Safety Net Programme in Ethiopia, and the World Food Program's Food For Assets initiatives in Senegal. Finally, subsidies in Mongolia's program take the form of the government paying for catastrophic losses, and for subsidized reinsurance and other supporting services.

studied cases in Malawi (Giné, 2009) and India (Cole et al., 2013), take up was only 20-30% with adopters hedging only a very small fraction of agricultural income. Take up among farmers not explicitly targeted in these programs was much lower. There are, however, recent exceptions, with Karlan et al. (2012) reporting a 40-50% take up at fair price plus a 50% loading in Ghana, and insurance inducing an increase in investment in cultivation. In this case, experiencing insurance payouts either oneself or through social networks was an important determinant of demand. In general, however, low uptake is still the norm and it requires addressing the issue of the reasons why this is the case."

The quote above is important because it indicates that the relatively high uptake of index-based insurance found by Karlan et al. (2012) is an exception. The published version of Karlan et al. (2012) (Karlan et al., 2014) was reviewed in Subsection III.1.a of the present report. However, it is revisited next because of its high relevance, with a special focus on the potential for the commercial scaling up of its experimental setting.

There are several features of Karlan et al. (2014)'s experiment that call into question the replicability of its results on a large-scale commercial setting, namely:

- Farmers' trust
- Local infrastructure
- Farmers' knowledge about agricultural technology
- Farmers' program awareness
- Farmers' knowledge of contract specifications

In terms of trust, farmers offered insurance by Karlan et al. were told that the program was a research project being conducted by the non-governmental organizations IPA and Presbyterian Agricultural Services. Both organizations are well-known by the farmers for their services in the local communities; hence, it is safe to assume that farmers trusted the insurance offering (Osei-Akoto, personal communication). In addition, Karlan et al.' experiments were performed in an area where farmers had been exposed to substantial agronomic advice from prior development

programs, and infrastructure had been improved by the Millenium Challenge Account program funded by USAID (Osei-Akoto, personal communication). Thus, conditions were likely better than in many other areas of Ghana to respond to the offer to buy insurance.

In regards to farmers' awareness and knowledge of the contract specifications, Karlan et al. (2014) devoted vast resources to ensure that each subject in the insurance treatment group was aware and had a proper understanding of the product. Marketers paid individual visits to the farmers offered to buy insurance. In the visit, the marketer explained the insurance product and its price, left a copy of the policy with the farmer, and informed him/her that s/he would have about two weeks to decide whether to purchase insurance. Since (a) the individualized marketing used for the treatment group would be very difficult to achieve on a commercial setting because of its high cost, and (b) the takeup rates reported by Karlan et al. (2014) are computed relative to the treatment group, it is obvious that Karlan et al.'s takeup rates overestimate the takeup rates achievable on a commercial scale.

In connection with the scalability of the levels of farmer awareness and product knowledge, it must be noted that Karlan et al. (2014) continued the experiment for a fourth year. The corresponding results are not analyzed in the article, because several changes occurred in the experimental setting. However, one of the ways in which the fourth year differed from the previous three years was that "(ii) Marketing was done to entire communities with interactive sessions (thus avoiding the costly one-on-one marketing that was used in the first years of the study)." (Karlan et al. (2014), p. 647). Interestingly, WII takeup in the fourth years was only 5 %, i.e., it was drastically smaller than in previous years.

Inferences about the potential scalability of the high takeups reported by Karlan et al. (2014) should also consider the (lack of) representativeness of the weather realizations in the first two years of their experiment, in conjunction with the significant recency effects[13] found by them. The reason for this assertion is that the weather index realized in the first and second years

[13]That is, that the probability of a farmer purchasing insurance on a given year is highly positively correlated with him/her receiving an insurance payout in the previous year.

of the experiment led to unsustainably large payouts.[14] Consistent with sizable recency effects, the second and third years were characterized by high participation rates. In contrast, the weather index realizations in the third year resulted in zero indemnities. The fourth-year results were not analyzed econometrically in the study, mentioning that "The year 4 product (i.e., after the results reported herein) differed, and only 5 % of the farmers purchased." (Karlan et al. 2014, p. 647). However, the dramatic drop in participation observed in the fourth year is also consistent with strong recency effects. More importantly, it also suggests that the high takeups found by Karlan et al. (2014) may have been largely driven by the unusually large payouts in the first two years of the experiment.

The distinction between demand for insurance at actuarially fair premiums versus demand at market premiums is an additional caveat to consider when drawing inferences on commercial scalability from Karlan et al. (2014). Although they find the quantity demanded at actuarially fairly premiums encouragingly high (takeup rates of 40 % to 50 %, with about 40 % to 50 % of cultivated acres covered per insured farmer), it must be recognized that such premiums are not commercially viable because they do not include servicing costs. The quantity demanded at "market" premiums (defined for the study as the actuarially fair premium plus a 50 % load), which would be more realistic for a commercial setting, is much lower (takeup rate of 11 %, with less than 35 % of cultivated acres covered per insured farmer).

Absent subsidies, the amount of basis risk associated with WII products in Ghana seems to pose an unsurmountable impediment to their widespread adoption. According to the WII research reviewed in Subsection III.1.a of the present document, the correlation between rainfall and yields at the district level is typically weak (e.g., Muamba and Ulimwengu; Katie School of Insurance; Okune), thereby implying substantial district-level basis risk. Moreover, the actual

[14]In the first (second) year 74 % (40 %) of insured farmers received payouts, consisting of \$85/acre (\$51/acre on average). Back-of-the-envelope calculations yield average realized payouts of \$62.9 per insured acre (= 0.74 × \$85/acre) for the first year and \$20.4 per insured acre (= 0.40 × \$51/acre) for the second year. Such payouts were unsustainable, because they substantially exceeded the respective actuarially fair premiums of \$47.50/acre and \$10/acre.

basis risk faced by individual farmers is even higher, because district-level correlations overestimate farm-level correlations. In this regard, the findings by Kwadzo, Kuwornu, and Amadu suggest that individual farmers' basis risk is much greater than the district-level basis risk.[15]

Some of the stakeholders interviewed argued that one way to contribute to the diffusion of agricultural insurance is to require that agricultural insurance for farmers borrowing from banks. Similarly, Nunoo and Acheampong state that "Agricultural insurance coverage could be made mandatory for financial institutions that provide agricultural loans and credits." (Nunoo and Acheampong, p. 243). However, the evidence from Gallenstein et al. indicates that such proposals should be viewed with skepticism. The study by Gallenstein et al. suggests that requiring insurance for lending might create major distortions in the market for agricultural credit, because their data imply a large drop in the number of borrowers associated with mandatory loan insurance.

The consensus opinion that failure of the ABYI pilot program was largely due to the unreliability of the yield estimates produced by the government suggests that, unless major corrective actions are taken to ensure the integrity of the underlying yield data, the prospects for ABYI are poor. Unfortunately, even if the quality of yield data could be improved to adequate levels in the near future, implementation of ABYI would still be hampered for years to come. This is true because the weakness of the historical data poses severe challenges for the computation of actuarially far rates.

Finally, in regards to the prospects for damage-based insurance, the key problems to be solved for it to be viable concern moral hazard and adverse selection. It does not seem feasible to design policies that do not expose insurers to moral hazard and adverse selection, marketed at premiums that are both economically sustainable for insurers and sufficiently attractive for small

[15]Recall that in their study, farmers reported that, over the previous 5 years, the frequencies of perils were 100 % for bushfires, 80 % for theft, 80 % for grazing livestock, 60 % for windstorms, 40 % for drought, and 40 % for flood.

farmers.[16] However, as demonstrated by the damage-based programs currently offered to rubber and poultry producers, niche opportunities are likely to exist to develop economically self-sustained damage-based insurance schemes targeting commercial-scale farms (see also Stutley). Unfortunately from a social welfare standpoint, such programs would reach only a tiny -- and the least economically vulnerable -- fraction of Ghana's farm population.

Interestingly, the majority of the stakeholders interviewed proved to be cautiously optimistic about the prospects for agricultural insurance in Ghana. Such view contrasts with the recent experience with WII in the country, and with the evidence elsewhere regarding index-based and multiple-peril agricultural insurance programs (which strongly indicates that adoption is very limited in the absence of subsidies or mandates). Hence, it seems a worthwhile undertaking to explore in greater depth the rationale for the optimism expressed by stakeholders, to determine the extent to which it is justified.

Given the information gathered at the interviews, we speculate that some possible explanations for the stakeholders' optimism are the following:

- Rent seeking: Insurance companies stand to earn rents if they succeed at obtaining subsidies for agricultural insurance, making ag insurance mandatory for borrowers, or extracting similar types of concessions at the expense of the government or other sectors. To the extent that efforts to maintain such hopes alive are subsidized (e.g., by funds from development organizations), insurance companies will stay interested in pursuing them.
- Misinformation: The recent focus on the development of agricultural insurance was largely driven by the development community (e.g., IPA and GIZ). A review of the information materials put forth by the development community reveals an overwhelming emphasis on the positive aspects of agricultural insurance and why it "has to be" successful. As a result, stakeholders may have been misled into believing that agricultural insurance has a much better chance of success than it actually has.

[16]For example, the cost of a farm visit to verify damages is largely the same regardless of the size of the farm, which puts smallholders at a distinct disadvantage.

- Poor (or lack of) business plans: It is unclear to what extent GAIP and other stakeholders have prepared sound business plans, showing the market penetration levels needed to achieve profitability, and appropriately assessing the costs of the efforts required to achieve such levels of penetration. Without high-quality business plans, it would be difficult for stakeholders to appropriately assess the likelihood of achieving success.
- Overconfidence: According to the Financial Times (http://lexicon.ft.com), overconfidence is, "In business or trading, an overestimation of one's abilities and of the precision of one's forecasts." Numerous recent studies in behavioral economics have focused on overconfidence, because it is a cognitive bias that can explain common "irrational" behaviors. In the present context, if stakeholders are overconfident about their skills to make agricultural insurance succeed, or put undue weight on the favorable forecasts while discarding unfavorable evidence, they would exhibit unwarranted optimism.

Each of these tentative explanations can reconcile the stakeholders' optimism with the existing evidence on agricultural insurance. However, the list is not exhaustive, and further research is needed to determine whether the above explanations reflect reality or not.

On the positive side, current initiatives undertaken by GAIP focus on outgrower/nucleus farmer arrangements being promoted by MoFA. The focus on outgrower/nucleus farmers should result in a more efficient use of GAIP's resources. Because of the larger acreage controlled by individual outgrower/nucleus farmers, delivering agricultural insurance to them should be less expensive on a per-acre basis, thus enhancing the chances of success. In addition, outgrower/nucleus farmers could help organize and promote insurance education among their farmers, and provide the trust that smallholders need to buy into insurance schemes.

In addition, the macro-environment is generally improving, providing conditions more favorable toward the provision and adoption of agricultural insurance. For example, the mobile telephone network operator is in discussions with MoFA to improve agriculture information dissemination, including weather data, to farmers through use of standard handsets. Also, the liberalization of the financial markets has resulted in the establishment of many more insurance

companies in the country over the last decade, which has increased competition in the industry and generally driven down premiums.

VII. Concluding Remarks

The present report reviews the research that has been conducted on agricultural insurance in Ghana, and examines recent developments and prospects regarding agricultural insurance programs for that country. As part of the study, numerous stakeholders were interviewed to gather their opinions about the possible reasons for the disappointing takeups that have been observed, and their suggestions for improving the likelihood that agricultural insurance will become more widely adopted.

According to the stakeholders surveyed, the extremely limited adoption of the WII insurance programs in Ghana was largely due to (a) expensive premiums, (b) lack of awareness and financial literacy, (c) insufficient commitment by insurance companies, (d) lack of trust by farmers, (e) poor infrastructure, (f) basis risk, and (g) low participation of lenders, input suppliers, and processors. In addition, the consensus among interviewees was that the ABYI program failed because of unreliable yield data, and lack of farmers' trust in the yield data. In the opinion of stakeholders, important actions that need to be taken to improve the likelihood of a wider adoption of agricultural insurance include: (a) bolstering marketing efforts, (b) obtaining government support, (c) promoting education/awareness, (d) expanding the number of agricultural insurance products, (e) reducing basis risk, (f) changing the form of the insurance pool, and (g) modifying the composition of the agricultural insurance steering committee.

Absent large subsidies, the prospects for agricultural insurance to become a major risk management tool in Ghana are not encouraging. Elsewhere, named-peril has been the only type of insurance that has succeeded without relying on subsidies. But, as indicated by its designation, named-peril insurance only covers a limited range of risks. Further, named-peril insurance is typically too expensive to deliver to small holders, which implies that it is unlikely to be economically viable without subsidies for most of Ghana's producers. Multi-peril and revenue

insurance, while providing better protection for farmers, have proven to be unsustainable in the absence of heavy subsidies. As per index-based insurance, which in the last two decades has been advocated as the most promising way to provide coverage to small farmers in developing nations, it is highly unlikely that it will be widely adopted without resorting to substantial subsidies. Index-based insurance has been piloted in many countries, including Ghana. However, no index-based program has been successfully scaled up without subsidies, and there is little evidence that Ghana will prove to be an exception.

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Appendix: Interviews

Interviews were conducted between May 5, 2015 and May 8, 2015, with the following individuals:

- Kwam-Gazo Agbenyadzie, Chief Executive Officer; MET Insurance
- Michael K. Andoh, Head of Supervision; National Insurance Commission (NIC)
- Ebenezer K. Asante, National Administrator; Ghana National Association of Farmers and Fishermen
- Joseph Boamah, Chief Director; Ministry of Agriculture
- Emmanuel Dormon, Chief of Party; Advance, A USAID Feed the Future Initiative
- Alhajj Ali Muhammad Katu ACII, General Manager; Ghana Agricultural Insurance Pool (GAIP)
- Kwame Ntim Pipim, Marketing Manager; Ghana Agricultural Insurance Pool (GAIP)
- Isaac Osei-Akoto, Senior Research Fellow & Head, Statistics and Survey Division; Institute of Statistical, Social, and Economic Research (IISSER), University of Ghana
- Fenton B. Sands, Senior Food Security Officer, Office of Economic Growth; U.S. Agency for International Development (USAID)
- Eric Sosu, Protocol Officer; Ghana National Association of Farmers and Fishermen
- Branko Wehnert, Project Manager, Insurance Services; German Agency for International Cooperation (GIZ)