

Four AICCRA-Ghana partners are using project-generated climate information services to support farmer resilience to climatic shocks| Outcome Impact Case Report (OICR) for PDO 1

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Contributing AICCRA Partners to this AICCRA deliverable

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Outcome Impact Case Report (OICR)

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Title: *Four AICCRA-Ghana partners are using project-generated climate information services to support farmer resilience to climatic shocks*

Short outcome/impact statement: Ghana Meteorological Agency (GMET), Council for Scientific and Industrial Research-Crops Research Institute (CSIR-CRI), Biotechnology and Nuclear Agriculture Research Institute (BNARI), University for Development Studies (UDS), and Center for Agriculture & Biosciences International (CABI), Ghana are using AICCRA's climate information services (CIS) and validated climate-smart agricultural technologies (CSA), which are One-Health Sensitive to train major stakeholders (Extension officers and Lead farmers) to boost farmer's resilience to climatic shocks. Two hundred and nine (209) extension officers, and lead farmers including youth and women from the Ministry of Food and Agriculture, civil society organizations, private sector actors, and community-based farmer organizations were trained on the use of Digital Agro-Climate Advisories tool (DACA), seasonal forecasting and one-health sensitive management of pests and diseases in Central, Bono East, Northern, and Upper East & West regions in Ghana. The training (ToT) targets intermediaries and 28% of beneficiaries were women. Seventy (70) journalists from 65 national, regional and community media organizations were also trained on how to interpret and effectively communicate CIS to farming communities. Beneficiary radio stations dedicate key broadcast times to disseminate this information to farmers.

Media reports on training of extension agents and lead farmers in the Bono East and Central regions:

<https://www.ghanaweb.com/GhanaHomePage/NewsArchive/AICCRA-trains-Agriculture-Extension-Officers-on-climate-smart-agriculture-1572881>

<https://www.modernghana.com/news/1166735/aicra-trains-agriculture-extension-officers-on.html>

AICCRA trains farmers, Agric Extension Agents on Climate Smart Agriculture, One Health
<https://www.youtube.com/watch?v=D0zk8jfEU10>

Outcome story for communications use:

Capacity building is an essential component of climate change adaptation initiatives. Towards increasing the resilience of communities, the Accelerating Impacts of CGIAR Climate Research for Africa (AICCRA) project organized training workshops for extension officers and lead farmers from AICCRA intervention communities. Two hundred and nineteen participants of which 31% and 29 % were females and lead farmers respectively, were trained in June and November 2022 on climate information services, climate smart One Health innovations and sustainable finance. Beneficiaries of these training workshops were from eleven (11) Districts and Municipalities in the AICCRA intervention regions namely; Cape Coast and Komenda Edina Eguafo Abirem in the Central Region, Ga South in Greater Accra Region, Kintampo North, Kintampo South and Techiman North in Bono East Region, Jirapa and Lawra in Upper West Region, Bongo, and Kassena Nankana in Upper East Region and Tolon in Northern Region. Forty-one (41) out of the total of 219 were given additional training on CSA-CIS pilot protocols to guide the community field demonstrations. Training content included basic concepts of climate change and its impact, climate adaptation and mitigation options, sources of climate information, understanding and interpreting historical climate information and graphs, seasonal forecast, and short-term forecast and warnings. The training also focused on getting participants to understand and apply the climate smart One Health concept, conduct One Health risk assessment and action plan, and develop One Health risk register. In addition, participants were introduced to business opportunities and matchmaking, and enablers and opportunities for sustainable financing of bundled services using AICCRA value chains and prioritized technologies. The practical sessions of the workshop helped participants to work in teams to share knowledge and experiences on climate change impact and agriculture-based coping strategies and adaptation options as well as develop initial adaptation activities and future training needs for improved livelihood.

Increased capacitation of beneficiaries in CSA-CIS, One health and DACA will help address the challenges of climate change and climate variabilities of smallholder farmers in Ghana. DACA, empowers farmers to manage risk and adapt to the changing climate by providing farmers /extension officers with site-specific CIS and CSA information.

Elaboration of Outcome/Impact Statement:

Partners of AICCRA Ghana developed CSA-CIS Training Manual with content covering eleven (11) modules. Stakeholders (extension and Lead farmers in all AICCRA intervention Regions participated in three Training of Trainers (ToT) sessions that covered the whole content of the Manual. Other training workshops organized by the project, included capacitation on pilot protocols and bundling Climate Information Services (CIS) and Climate Smart Agriculture (CSA) Practices using the Digital Agro-Climate Advisories (DACA). The expectations of these trainings resulted in step-down capacitation of farmers (at least 30 trainees per participant) at the community levels. The tables below show a gendered representation of these intermediary trainings.

Category of training and number of beneficiaries

Table1: Number of extension and Lead farmers trained

Participants	Training Clusters			Total
	Coastal zone	Transition zone	Northern zone	Total
Male	26	36	21	83
Female	12	9	9	30
Total	38	45	30	113

Table 2: Number of participants trained on AICCRA Protocols

Participants	Coastal zone	Transition zone	Northern zone	Total
Male	10	14	11	35
Female	4	1	1	6
Total	14	15	12	41

Table 3: Number of participants trained on AICCRA Protocols

Participants	Coastal zone	Transition zone	Northern Cluster	Total
Male	26	20	28	74
Female	12	9	11	32
Total	38	29	39	106

Total number of stakeholders trained were 219, exceeding AICCRA Ghana target of 200. The following results were achieved and intended to be transferred to farmers at the community level:

- Participants understood the interconnection between their livelihoods (crop and

livestock) and weather events.

- Participants could develop Seasonal Calendar to support farm decisions to minimize climate risk.
- Participants understood historical climate information and can interpret climate graphs showing annual rainfall totals, start and end of the season, seasonal length, dry spells, and temperature and their implications for crop, livestock, and other livelihood activities.
- Trainers understood climate graphs and could interpret them. This is important for planning for the season
- Participants can establish whether the data showed climate change or climate variabilities
- Participant could calculate the probability of a season being a specified length and understand the implications of this probability
- Participants understood terciles and how they are used in the seasonal forecasts and from this, how this information may be used to calculate probabilities
- Trainers also understood the advantages and the limitations of the seasonal forecast
- Participants appreciate the interconnection between actors and how their activities affect each other.
- Participants can assess the risk of their farm decisions and develop an action.
- Trainers now understand and appreciate the One health concept and its implication for environmental sustainability
- Participants could assess the sustainable financing potential of AICCRA value chains

In terms of real impact on crop productivity per hectare and crop resilience, the narrative below highlights the differences between the farmers variety and improved variety introduced by the project for maize.

Impact on Yield

- Averagely, it was observed that maize varieties introduced by the project outyielded the local varieties (Figure 1). Mean grain yield of 4868 and 4841 kg were recorded by Opeaburo and Suhudoo respectively. This was followed closely by Denbea and Abotem. The local check produced the lowest grain, which ranged between 38% to 62% less

compared with the AICCRA varieties tested. The farmers expressed a preference for the early maturing variety as compared to the other varieties.

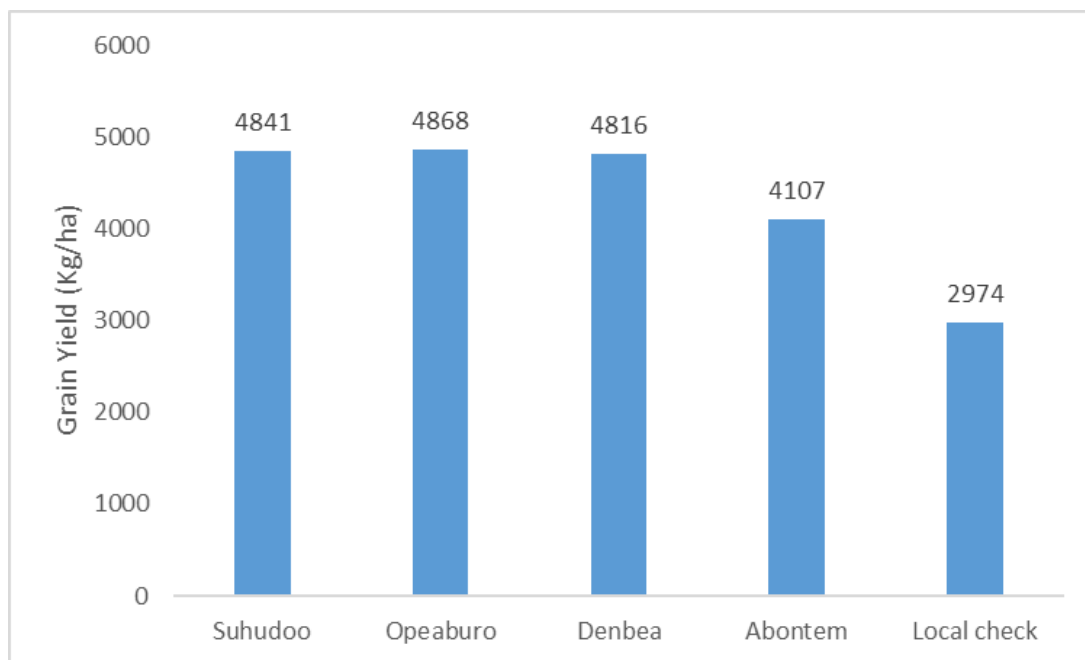


Figure 1: Mean grain yield (Kg/ha) observed during the cropping period

Gender, Youth, Capacity Development and Climate Change:

Gender and youth = 1 (significant)

Justification: This outcome case report is gender sensitive as all CSA-CIS were subjected to gender and youth friendliness before being included as a validated technology. Over 30% of women benefited from the various AICCRA capacitation programs.

Capacity development: 2 (Principal)

Justification: This OICR addresses the capacity enhancements needs of multiple stakeholders (farmers, students extension officers, woman group leaders) towards using CSA-CIS, one-health approaches in their crop production systems to enhance resilience and productivity.

Other cross cutting dimensions; No

Reference

Yeboah et al., (2022). Training Manual on Bundled Climate Smart Agriculture, Climate Information Services, and One-Health Technologies for Priority Value Chains. Accelerating Impacts of CGIAR Climate Research for Africa (AICCRA) Training Manual. <https://hdl.handle.net/10568/126752>

Yeboah et al., (2022). Climate Information Services, Climate-Smart Agriculture, and One Health Innovations for Resilient Food Systems: Capacitation of Intermediaries and Lead Farmers in Ghana. Accelerating Impacts of CGIAR Climate Research for Africa (AICCRA) working paper. <https://hdl.handle.net/10568/126746>

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Appendix

- 1) **Evidence:** See [request for expansion](#) of AICCRA demonstration plots from District Municipal Assemblies



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