



Photo report of Africa RISING West Africa Project Review and Planning Meeting

Accra, 1–2 February 2017





In October 2016, USAID confirmed 5-year funding for phase 2 of the Africa RISING program.

To set the research and scaling agenda for the second phase, partners involved in implementing activities in the Africa RISING West Africa Project (Ghana & Mali) convened in Accra for a review and planning meeting on 1 – 2 February, 2017.

Objectives of the meeting were:

- Review phase 1 outputs, achievements and lessons learnt
- Discuss the phase 2 proposal and implementation guidelines, and review a pre-developed project log-frame
- Draft 2017 work-plans



Detailed notes on discussions and presentation downloads available at http://africa-rising.wikispaces.com/Africa_RISING_WA_planning_meeting_Feb2017



Africa RISING West Africa review and planning meeting participants.

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Agenda

DAY 1

Review of phase 1 achievements

Take – away insights from phase 1

A look at Africa RISING phase 2 program & West Africa proposals

Sustainable intensification indicators

M&E Framework for phase 2

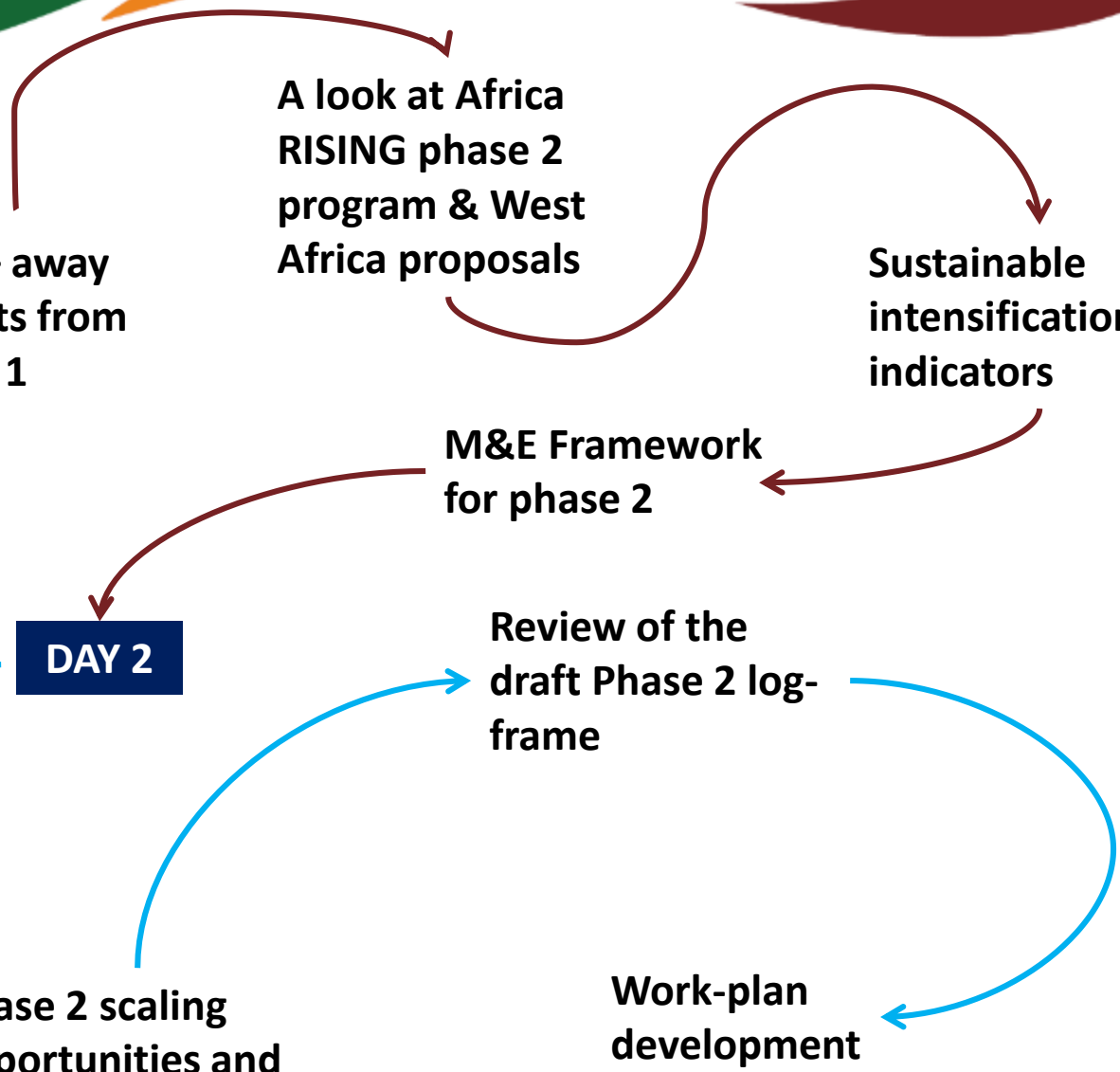
DAY 2

Vision of success for Africa RISING West Africa

Review of the draft Phase 2 log-frame

Phase 2 scaling opportunities and partners

Work-plan development





A poster session organized in 6 bus stops, gave participants the chance to take stock of the progress achieved in Africa RISING West Africa phase 1 in terms of development and validation of different technologies.

Photo credit: Jonathan Odhong'/ IITA



The 6 bus stops visited by participants in different rounds, and which broadly captured the areas of Africa RISING West Africa phase 1 were: (1) socio-economics, (2) crop production, (3) livestock, (4) Land, soil and water management, and (5) nutrition, food safety, mycotoxin, postharvest.

Photo credit: Jonathan Odhong' / IITA



To gain varied insights and fresh perspectives about the technologies presented at each of the bus stops, participants (who were not presenting at the bus stops) divided themselves into 3 interest groups – scientists/researchers, government extension agents, and farmers. Each of these interest groups then toured the bus stops and asked the presenters questions taken from the perspective of the interest group represented. At the end of the exercise, the interest groups gave feedback in plenary about their collective observations regarding the technologies presented at each bus stop.

Photo credit: Jonathan Odhong' / IITA



Theme leader for livestock research work in Africa RISING West Africa phase 1, Augustine Ayantunde (ILRI) explains the implications of the themes achievements.

Photo credit: Jonathan Odhong'/ IITA



Strip cropping

Objectives

- To identify and disseminate appropriate maize-cowpea strip cropping systems for improved productivity and intensification of maize-cowpea production in northern Ghana with farmers.

Key results

- The productivity of maize-cowpea strip cropping was better than the sole cropping in both technology park and farmers field at 2nd year (Fig. 1 and 2).
- Maize yield was preferred maize-cowpea strip cropping of 2m x 1m over 1m x 2m (Fig. 3).

Significance

- Improved maize-cowpea strip cropping system which increases grain yield for farmers in low-input and side of access to inputs, irrigation or extension in the cropping systems will increase maize and cowpea yields.

Scaling potential

The maize-cowpea strip cropping technology has potential of reaching 10,000 households.

Fig. 1. Maize-cowpea strip cropping effect on LER from Technology parks

Fig. 2. Maize-cowpea strip cropping effect on LER from farmers field

Fig. 3. Farmer preference for strip-crope strip cropping

Logos: IITA, USAID, FEED FUTURE

Africa RISING West Africa Project

Intensification of maize-cowpea strip cropping system

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Key messages

- Small-scale farmers in the West Africa grow fruit and leafy vegetables (e.g. onion, okra, tomato, pepper and roselle) in either pure or mixed stands with cereals (maize, sorghum or millet) and legumes (cowpea, groundnut and soybean) under rainfed and irrigated conditions for home consumption and cash (Photo 1).
- Yields are low due to several factors including access to improved varieties, poor agronomic practices, limited use of inputs, declining soil fertility and pest and diseases.
- Identification, dissemination and adoption by farmers of good agronomic practices (GAPs) can diversify and sustainably intensify small-holder vegetable production.

Objectives

To identify and disseminate farmer-preferred varieties of okra, roselle, pepper and egg plant and GAPs (spatial arrangements and planting density) to intensify sole and cereal-legume production in Africa RISING intervention communities in Ghana and Mali.

Approach

The Community-based Technology Park (CTP) approach which is a researcher and farmer managed trial and also serves as demonstration fields for farmers to learn good agronomic practices, was used to evaluate different maize-cowpea strip cropping systems.

The main treated four maize-cowpea strip cropping systems (maize/cowpea) replicated in four intervention communities of the Africa RISING project over a period of 3 years. Farmers' preferences for systems within a trial were determine during farmers' field days.

Objectives

To identify and disseminate appropriate maize-cowpea strip cropping systems for improved productivity and intensification of maize-cowpea production in northern Ghana with farmers.

Results

The productivity of maize-cowpea strip cropping was better than sole cropping in both technology park and farmers field at 2nd year (Fig. 1 and 2).

Maize yield was preferred maize-cowpea strip cropping of 2m x 1m over 1m x 2m (Fig. 3).

Photo 1. Maize-cowpea strip cropping system

Fig. 1. Maize-cowpea strip cropping effect on LER from Technology parks

Fig. 2. Maize-cowpea strip cropping effect on LER from farmers field

Fig. 3. Farmer preference for strip-crope strip cropping

Key results

- For each maturity group, the highest yields by fertilizer treatments interactions were not significant for any of the components measured or calculated were not significant for any of the maturity varieties had similar grain yields.
- For each maturity group, the highest varieties had higher grain yields and addition of fertilizer P generally showed a better trend for higher grain yields and NPK components than no fertilizer treatment or seed inoculation only (Fig. 1 and 2).
- Aluminum inoculants plus P treatment tended to have higher grain, which seems to suggest some synergy between aluminum inoculation and P fertilization.
- Seed inoculation with Rhizobium alone did not increase grain yield significantly.
- The result of the experiment, in part, informed the release of one early maturing variety Sango Pigeon (TGA 1798-89) and two medium-maturing varieties Sango Pigeon (TGA 1798-89) and two medium-maturing varieties Sango Pigeon (TGA 1834-32) and Sango (TGA 1845-25).

Significance

- Combined use of Rhizobium inoculants and fertilizer P and it will be ideal to optimize southern grain yields in the savanna zone of Ghana, regardless of the soybean variety.

Scaling potential

- It is also evident that institutional issues (e.g. investment in agriculture, government priorities, access to inputs, marketing, machinery for planting and harvesting) are more critical issues in soybean R&D in Ghana at present.

Fig. 1. Maize-cowpea strip cropping effect on LER from Technology parks

Fig. 2. Maize-cowpea strip cropping effect on LER from farmers field

Logos: IITA, USAID, FEED FUTURE

[Crop Production]: Options for intensifying vegetable production

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World Vegetable Center, Bamako-Mali, Sasana Agricultural Research Institute, Tamale-Ghana

Key messages

- Small-scale farmers in the West Africa grow fruit and leafy vegetables (e.g. onion, okra, tomato, pepper and roselle) in either pure or mixed stands with cereals (maize, sorghum or millet) and legumes (cowpea, groundnut and soybean) under rainfed and irrigated conditions for home consumption and cash (Photo 1).
- Yields are low due to several factors including access to improved varieties, poor agronomic practices, limited use of inputs, declining soil fertility and pest and diseases.
- Identification, dissemination and adoption by farmers of good agronomic practices (GAPs) can diversify and sustainably intensify small-holder vegetable production.

Objectives

To identify and disseminate farmer-preferred varieties of okra, roselle, pepper and egg plant and GAPs (spatial arrangements and planting density) to intensify sole and cereal-legume production in Africa RISING intervention communities in Ghana and Mali.

Approach

The Community-based Technology Park (CTP) approach was used. A CTP consists of a series of trials established and managed by researcher and disseminate new technologies to the community. It is used to evaluate, demonstrate and disseminate new technologies, provide hands-on training for farmers and students, and a forum for information exchange among partners. The trials involved a minimum of three SI systems randomly replicated in preferences for technologies within a trial were determine during farmers' field days.

Key results

- Farmer-preferred high-yielding varieties of the various vegetables were identified (Fig. 1).
- Maize-cowpea strip cropping

Photo 1. Vegetable production and marketing systems in northern Ghana.

Table 1. Grain and fruit yields and land equivalent ratio (LER) and land save in maize-roselle intercroops, northern Ghana

Intercrop	Yield (kg ha ⁻¹)	LER
Maize	2437.1	1.0
Maize-Roselle	4237.1	1.74

Figure 1. Variation in fruit yields of tomato varieties, Manisa and land save, northern Ghana

Nurudeen Abdulrahman (IITA), highlights the results of Africa RISING work under the crop production theme in phase 1. Photo credit: Jonathan Odhong / IITA



Saaka Buah (University of Development Studies Ghana) explains what was accomplished by project partners working under the nutrition, food safety, mycotoxin, postharvest theme.

Photo credit: Jonathan Odhong'/ IITA



Significance and scaling potential

- Farmers will produce, consume, and commercialize aflatoxin-free maize and groundnut by employing environmentally friendly biocontrol technology effective in reducing aflatoxin contamination.
- Use of *Aflasafe* will result in: 1) improved health of millions in West Africa, especially children and women, who are at a greater risk of aflatoxin-related illness, and 2) greater trade opportunities as maize and groundnut will meet the stringent aflatoxin standards imposed by local, regional and international markets.

Partners

[Nutrition, food safety, mycotoxin, postharvest]: Biological control of aflatoxins in maize and groundnut through use of *Aflasafe* products developed for Ghana

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Key messages

- *Aflasafe* G102 and *Aflasafe* G103 are safe, cost-effective, environmentally benign biocontrol products containing beneficial (i.e. non-toxin producing, allergen-free) fungi native to Ghana. Both products effectively reduce aflatoxin contamination in maize and groundnut before harvest and until crops are consumed.
- One application of *Aflasafe* (20 kg/ha) 3-6 weeks before crop flowering modulates *Aspergillus* community structure resident in the environment in favor of the *Aflasafe* genotypes used as biocontrol agents.
- Use of *Aflasafe* in maize and groundnut farming systems in Ghana has the potential to enhance crop value, and reduce health and economic burdens frequently posed by aflatoxin contamination in these crops.

Objectives and approach

Influences of both *Aflasafe* products in mitigating aflatoxin contamination of both maize and groundnut were assessed for a second year under farmer field conditions. Three selected 100 farmer field (100 each of maize and groundnut) located in the Northern, Savannah & Volta (Northern region), Brong Ahafo (Northern region) and Upper West (Upper West region) for each treated field, an adjacent field in an area of the same crop served as a non-treated control. *Aflasafe* products were applied 20-40 days after planting. Aflatoxin content of crop samples was analyzed at harvest. Microbial analysis was on-going. Other activities included sensitization and training on aflatoxins and its management of >1,000 key actors in the crop value chain. Although not part of this project, both *Aflasafe* products were also evaluated in maize and groundnut crops planted in the stable (see Orjuela & Brong Ahafo regions).

Key results

- Application of either *Aflasafe* product resulted in significant (90-95%) less aflatoxin content (<50%) in grains from treated fields compared to grains from non-treated fields.
- Even though microbial analysis is not complete, preliminary data indicates that aflatoxin reductions are associated with high proportions of the *Aflasafe* genotypes comprising the *Aflasafe* products.
- Sensitization and training campaigns resulted in increased knowledge on aflatoxins and its management of >1,000 maize and groundnut value chain participants that included farmers, government officials and private sector representatives.

Significance and scaling potential

Results from efficacy trials will be submitted to Ghana's Environmental Protection Agency for registration of both *Aflasafe* products by Dec 2017. Once registered, both *Aflasafe* products will be available to maize and groundnut farmers across Ghana. IITA is both *Aflasafe* products throughout Ghana at scale as a part of the *Aflasafe* Technology Safe and Sustainable Crops. In addition, previous national results in production of and the Ghanaian population is gained.

Partners

Figure 1: Efficacy of *Aflasafe* G102 in groundnut & maize farmers from 10 treated and untreated (control) farmer fields across three regions in Ghana

Table 1: Efficacy of *Aflasafe* G102 in reducing field aflatoxin contamination in groundnut and maize farmers in Northern Ghana in 2016.

Region	Treatment	Aflatoxin concentration (ppm)	
		Groundnut	Maize
Northern	Treated	100	1.0
	Control	200	1.0
Upper West	Treated	100	1.0
	Control	200	1.0
Lower West	Treated	100	1.0
	Control	200	1.0

Table 2: Efficacy of *Aflasafe* G103 in reducing field aflatoxin contamination in groundnut and maize farmers in Northern Ghana in 2016.

Region	Treatment	Aflatoxin concentration (ppm)	
		Groundnut	Maize
Northern	Treated	100	1.0
	Control	200	1.0
Upper West	Treated	100	1.0
	Control	200	1.0
Lower West	Treated	100	1.0
	Control	200	1.0

Daniel Agbatimeh (IITA), explains the scaling potential and the results achieved through Africa RISING support for Aflatoxin mitigation work in northern Ghana.

Photo credit: Jonathan Odhong' / IITA



All at attention. Participants focused on a presentation at one of the bus stops during the meeting.

Photo credit: Jonathan Odhong' / IITA



Fatimata Cisse (ICRAF), presents on nutritious fruit trees work implemented through the Africa RISING project in southern Mali.

Photo credit: Jonathan Odhong' / IITA

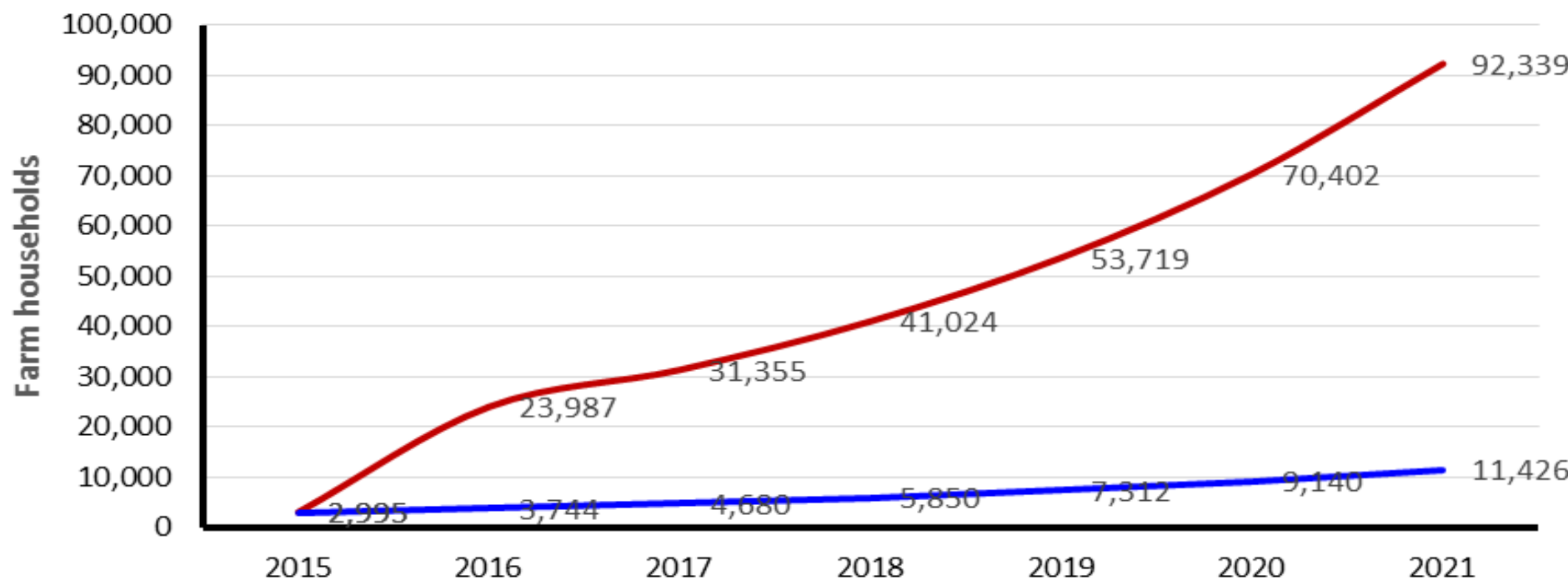


Gundula Fischer (IITA) presents the progress made with integration of gender perspectives into the research activities implemented by project partners involved in the Africa RISING West Africa project.

Photo credit: Jonathan Odhong'/ IITA

Africa RISING West Africa targets for phase II

- Households participating in AR development partner activities
- Households participating directly in AR research



Reaching the Africa RISING scaling targets: Two presentation proposals on how to reach the required target numbers (at scale) in both Ghana and Mali were made at the meeting and participants provided feedback on what more needs to be done. Africa RISING West Africa project has committed to the target of reaching 92, 339 households through partnering with development projects.



Participants also assembled into different groups where they collectively reviewed different parts of the draft Africa RISING West Africa project phase 2 logframe and gave input for inclusion into the final version.

Photo credit: Jonathan Odhong' / IITA



Caroline Sobgui (WorldVeg) contributes to a group round table review of the logframe. Inputs obtained from participants will be used by the project management to finalize the logframe and a final version is to be circulated to all Africa RISING West Africa project partners.

Photo credit: Jonathan Odhong'/ IITA



2017 work plan preparation. Participants also engaged in preliminary work planning for the upcoming field season (2017) where they discussed and proposed sub-activities to be focused on by the project in phase 2. Photo credit: Jonathan Odhong' / IITA



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