Photo Report on Africa RISING West Africa: Highlights of field days in Northern Ghana

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Introduction

Africa RISING in West Africa is currently implementing the second phase program since October 2016. During the second year (2018), the project managed to conduct action research with development partners. Africa RISING seeks to offer a range of options that open up opportunities for smallholder farm households to move out of hunger and poverty through sustainably intensified farming systems that improve food, nutrition, and income security, particularly for women and children, and conserve or enhance the natural resource base.

Field days were conducted in Northern Ghana in the Northern Region, the Upper East Region and the Upper West Region in September and October 2018. The key technologies that farmers were assessing were the Cowpea living mulch intercrop, the optimal spacing densities for different groundnut varieties and maize leaf stripping as an agronomic practice. These technologies provide more food to the table and more feed to the stable.

This work is currently led by Dr. Abdul Rahman Nurudeen (IITA)

Women farmers in Upper West Region assess maize leaf stripping at the Goriyiri technology Park. The lower leaves of maize are stripped after tasseling or silking to provide feed during the cropping season without compromising the grain yield. Feed shortages during the cropping season constrain small ruminant production. This practice helps overcome these constraints by increasing household food and feed yields and net income per unit land area. The effect of leaf stripping may vary with the maize maturity type. Other co-benefits may include increased aeration and light penetration as well as reduced humidity which may reduce disease incidence.

Groundnut is one of the most important food and feed crops in West Africa. Grain and fodder yields are low due to limited use of improved varieties and inappropriate agronomic practices such as low planting densities. Africa RISING is validating specific groundnut varieties and different planting densities for both grain yield and fodder quality. Other co-benefits include better soil and nutrient retention from better soil cover.

Top Right:
Female farmer explains the benefit of optimal densities on smothering weeds and reduced labor demands

Extreme Left:
Farmer in Northern Region has groundnut but also practices stone bunding as a soil and water conservation measure.

Africa RISING farmers in the Upper West Region at Goli Technology Park assess ground nut varieties and their planting densities. In the far background is a trial on maize leaf stripping. The farmers were divided into two groups, female on the left side of the picture and males on the right side. Each of the groups conducted variety assessments independently. Notice the raised ridges within the groundnut plots. The raised ridges serve as "micro-basins" which allow for sufficient moisture capture within the crop root zone. The ridges are also used as an erosion prevention measure.

Taking the SIAF to the ground: Africa RISING farmers in the Upper West Region conducting technology preferences with the sustainable intensification assessment framework. The farmers were divided into two groups, female on the right hand side of the picture and males on the left side. Each of the groups conducted their assessments of the indicators in the SIAF independently. To the left is a groundnut variety trial that another women group was assessing. In the background is a maize-cowpea living mulch intercrop.

Maize (Zea mays L.) is a major cereal crop in West Africa, accounting for slightly over 20% of the gross domestic production in the sub-region. Grain yields on farmers' fields are low due to several biophysical and socio-economic factors, including low and erratic rainfall, low soil fertility, and weed infestation. Living mulch of legumes conserves nitrogen in grain crops, reduces soil erosion, weed pressure, and increases soil organic matter.

The maize-cowpea living mulch increases soil cover and reduces soil and nutrient losses and subsequently increases soil moisture storage, carbon sequestration and nutrient availability. Smallholder farmers with mixed crop livestock systems will benefit from increased household food and feed yields and net income per unit land area.

Africa RISING is keen to engage the youth. The project team continually engages students to build their capacity and develop interest in agriculture. To the left of are students from Daffiamah Senior High School. On 25th October, the field day in Upper West hosted 50 students.

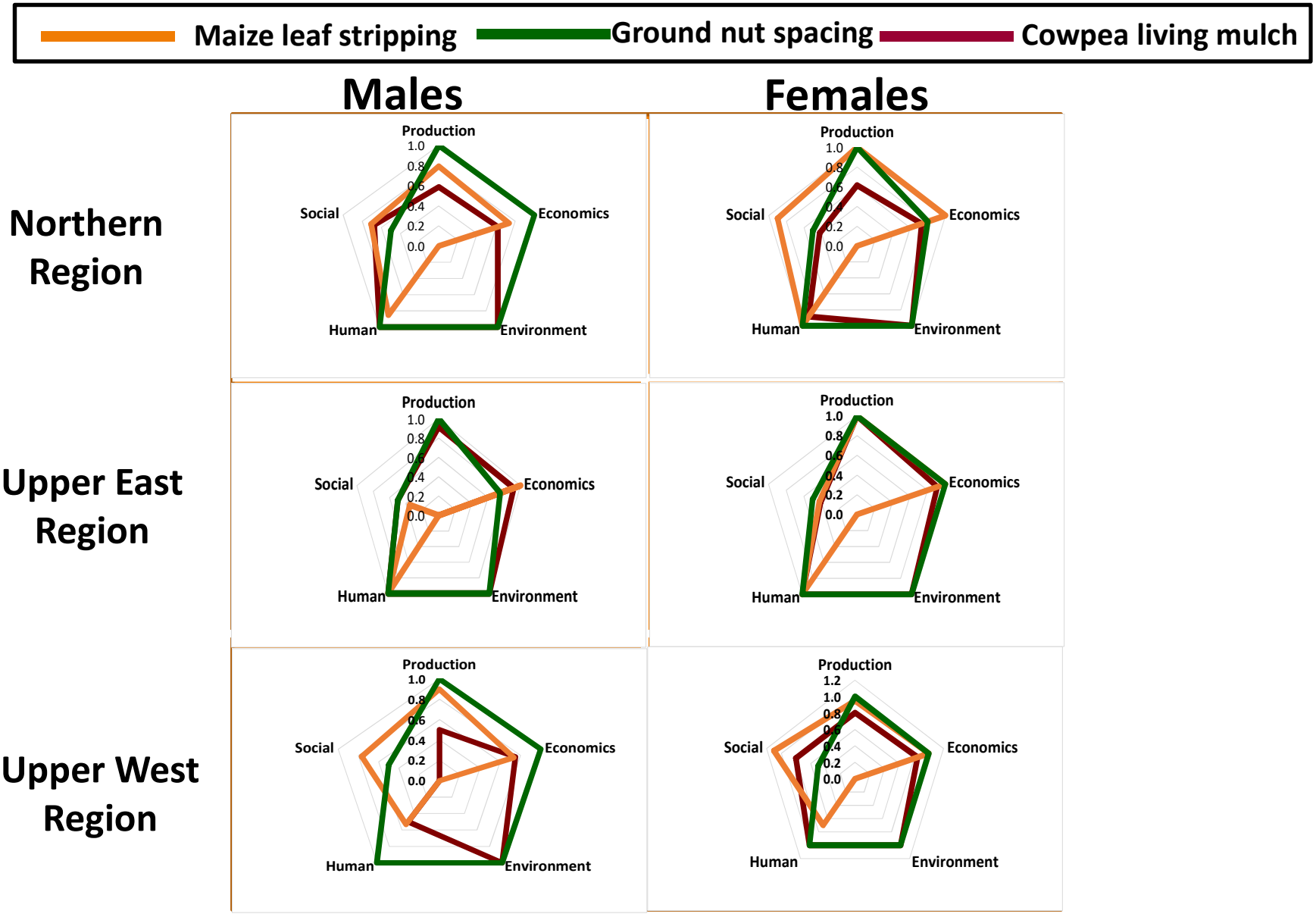
To the right are farmers from the Goriyiri Technology Park. The field day attracted 30 women and 24 men to the technology park. The key activities during the field day included farmer preference ranking in the context of the SIAF.

Dr. Nurudeen Abdul Rahman conducts an evaluation of student preferences Pong-Tamale senior High School. Students were introduced to the work Africa RISING is conducting in the region and the benefits of the technologies for farmers.

Women group in the Upper West Region conducting technology assessment for the cowpea living mulch as a cereal-legume intercrop. The women groups in the community reported that the maize-cowpea living mulch reduces their labor burden substantially by about 40%.

Africa RISING works closely with development partners and volunteers who have the ability to take our technologies to scale.

Dr. Nurudeen Abdul Rahman and Dr. Bekele Kotu discuss with the Peace Corps Volunteers about the work Africa RISING is conducting in the communities in the Upper West Region. Looking on is Mr. Alhassan Danyagri who serves as the community liaison with the PCV. The PCV have expressed interest in the work that AR is conducting and are keen to share these within their communities.



Combination of regional and gendered assessment of farmers preferences using the SIAF results from field days in Ghana which portray interesting trends. Results from this work are being followed and interpreted to enhance the study.

Africa RISING CGIAR partners in West Africa

International Research Institutions		Ghana	Mali	Role
International Crops Research Institute for the Semi-arid Tropics	ICRISAT	+	+	Sorghum/millet–groundnut R4D with IITA and SARI
International Food Policy Research Institute	IFPRI	+	+	Surveys, and Monitoring and Evaluation
The World Vegetable Center	AVRDC	+	+	Leads R4D on vegetable production systems
International Institute of Tropical Agriculture	IITA	+	+	Project coordination and R4D research on cereal–legumes.
International Livestock Research Institute	ILRI	+	+	Leads R4D on livestock, especially ruminants
International Water Management Institute	IWMI	+		Leads R4D on water management
Wageningen University, The Netherlands	WUR	+	+	R4D on farming systems and graduate training
International Center for Tropical Agriculture	CIAT	+		Research on land and soil management

Africa RISING national partners in West Africa

Name	Abbreviation	Ghana	Mali	Role/responsibility
Government Ministries and Entities				
Ministry of Food and Agriculture	MoFA	+		Scaling-out SI technologies and establishment of R4D platforms
Ministry of Health	MoH	+		Household nutrition R4D with UDS and IITA
Ghana Health Services	GHS	+		Household nutrition R4D with UDS and IITA
Veterinary Services Division	VSD	+		Animal health and capacity building of community health workers
Institut d'Economie Rurale	IER		+	Socio-economic and on-farm studies with ICRISAT
Regional Direction of Agriculture in Sikasso	DRA-Sikasso		+	Scale-out provision of secondary data on socio-economics

Africa RISING national partners in West Africa

Academic/National Research Institutions	Abbr.	Ghana	Mali	Role/responsibility
University for Development Studies	UDS	+		Research on livestock nutrition and human nutrition, Graduate training and R4D
Science and Technology Policy Research Institute	STEPRI	+		Policy review and analysis
Institut Polytechnique Rural de Formation et de Recherche Appliquée Katibougou	IPR-IFRA		+	Polytechnic for rural education and applied research
Kwame Nkrumah University of Science and Technology	KNUST	+		Graduate student training, research on soil water dynamics
Animal Research Institute	ARI	+		R4D on livestock production (sheep and goats) with ILRI
Non-governmental organizations				
Fédération Nationale pour l'Agriculture Biologique et Équitable	FENABE		+	Scaling-out, capacity building, community mobilization, on-farm research
Association Malienne d'Eveil et de Développement Durable	AMEDD		+	On-farm field trials and household nutrition studies with ICRISAT
Private Organizations and Development Projects				
Community-based Organizations	CBOs	+	+	On-farm implementation of R4D activities

Acknowledgments

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Thank You

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