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# STAPLES VALUE CHAIN NAFKA ACTIVITY

**TASK ORDER NO. AID-623-I-10-0001**

**ACTING PRODUCTIVITY LEAD TRIP REPORT**

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# STAPLES VALUE CHAIN NAFAKA ACTIVITY

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ACDI/VOCA

## **DISCLAIMER**

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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# List of Acronyms

FIPs—Farm Input Promotions

GoT—Government of Tanzania

MAFC—Ministry of Agriculture, Food Security, and Cooperatives

TSP—Tractor Service Provider

USAID—United States Agency of International Development

VBAA—Village Based Agricultural Agent

# I. Executive Summary

This trip report provides the status of all activities included in the scope of work for the Acting Productivity Lead, Daniel White, during the period of his in-country assignment from October 3<sup>rd</sup>—December 20<sup>th</sup>, 2013. During this time period the acting productivity lead reviewed, developed, and implemented the activities outlined for this time period in the Year 3 workplan, assessed the strategic and technical viability of the project's current approach vis-à-vis the outcomes and results for the productivity component, and identified and designed key interventions within the existing activities to provide the foundation of the project's sustainability plan for productivity moving forward.

Broadly speaking, the NAFKA project's training activities in Year 1 and Year 2 have successfully increased farmer awareness of the benefits of improved technologies and practices in its target areas. It is now time for the project to begin more intensively engaging with private sector partners to expand accessibility of these improved inputs in project focus areas, and establish market based mechanisms to continue promotion and capacity building for GAP inputs and resources at the farmer level.

Following a status update on the specific scope of work for the assignment, this report expands on the technical strategy & content for the following IR 1: Improved Agricultural Productivity activities from the 2013/2014 workplan:

I.1.3 Agrodealer Network Development/VBAA-VBASA Grant

I.1.4 Youth Service Provider Groups

I.2.1 Quality Declared Seed (QDS) Seed Network

I.2.2 Urea Deep Placement (UDP) Control Pilot

I.2.3 GAP Demonstration Farms

I.2.4 Develop Providers of New Technology

I.2.6 Monsanto Grant

In activities I.1.3 Agrodealer Network Development/VBAA—VBASA Grant, and I.2.4 Develop Providers of New Technology, this assignment focused on bolstering the sustainability strategy for the project's current activities. Moving into Year 3, the project's direct productivity interventions at the farm level have had measurable impact in terms of expanding farmer awareness and utilization of those improved production technologies and practices that are available. Farmer demand for improved inputs and practices is growing, which has led to numerous opportunities for activities which work hand in hand with input suppliers to strengthen their linkage with farmers directly in a financially desirable and sustainable way.

The VBAA—VBASA Grant, if successful, will be a significant breakthrough for farmer productivity gains in rural areas. Even without significant adoption of other GAP farming practices, simply using improved seed will have potentially exponential impact on farmer production levels. If even one input supplier partner from the program continues the sales agent model after the end of the project, it will provide a sustainable follow-on to NAFKA activities. Similarly, the mechanization grant has the potential to expand market penetration for low-tillage or other mechanized production practices in a market-driven way, opening up the significant percentage of production currently not utilizing mechanized production services to greater efficiencies.

## **Recommendations & Next Steps**

- Follow-on trip in early-mid February, 2014 for onboarding and orientation for the new productivity component lead and follow up on the outstanding activities and grants
- Fast-track development and approvals for the Enterprise, VBAA→VBASA, and Mechanization Grants as they are developed.

## II. Activities & Recommendations

### A. Scope of Work Status

Assignment	Status
<b>Coordinate roll out of 2014 Productivity activities</b>	
Ensure team integration of a large productivity team, which includes service providers, as they lay the foundational work for expanding outreach to farmers in the 2014 season.	Complete. The productivity team has been left with clear protocols for primary activities, and activity plans for developing protocols for all remaining activities.
Work with the team to develop detailed and individualized action plans for productivity component.	Complete.
Oversee the process of team integration as new members of the team are recruited and come on board.	Agricultural Productivity Component Lead: Nearly Complete. Final Candidate identified. Finalizing internal review and offers, will submit for approval before end of December, 2013.  3 new Agronomists: Complete. 3 new agronomists have been hired, one of which has begun work, and the other 2 will begin work within the next 2 weeks.
Coordinate input procurement and distribution across the project zones in a manner which is environmentally compliant.	Nearly complete: Inputs have been secured and delivered to the project warehouse;  Protocols for demonstration plots and distribution plans have been finalized and distributed to the field team. Demonstration plots will be finalized and in production by mid-January 2014.
Identify additional on the ground training service providers with which NAFKA can partner or provide capacity building.	Underway: Being completed by catalyst specialist focusing on Farming as a Business (FaaB) training.
Work with team to develop demonstration budgets for different systems of rice and maize production; Develop cost/benefit analyses for direct seeded, transplanted and irrigation systems; Develop cost/benefit analyses for utilizing different seed varieties, fertilizers, and the use of non-till and other production technologies.	In Process: Established data collection protocols with field agents during and at end of season to track actual costs incurred over course of 2013/2014 season.  NAFKA is currently pursuing an internship partnership for graduate students at Sokoine University with the iAgri program to leverage

	graduate students to conduct cost/benefit analyses for improved inputs at the end of season in collaboration with project productivity staff.
Work with M&E team to identify innovative mobile platforms for information dissemination and collection.	Complete: M&E team working with HQ M&E specialist to expand mobile data collection capacity.
<b>Coordinate GAP Material Development</b>	
Coordinate the finalization of the GAP training materials and ensure all agronomists are fully versed in these new materials. Coordinate the development of farmer field pamphlets or materials which include key GAP messages and tools for crop budgeting .	Completed for first round of training materials.  Mid-season and late season training curriculum will be finalized
Ensure GAP training materials have M&E functionality in terms of data collection	In Process: Testing evaluation methods.
<b>Capacity Building</b>	
Mentor the Agricultural Productivity Manager when s/he is identified and on-board in team management and field operation coordination.	Pending hiring of productivity manager: Will involve a second trip in early 2014 for onboarding and training.
Train and mentor the procurement and asset manager when s/he is identified and on-board in input distribution and environmental compliance.	Pending hiring of procurement and asset manager: To be conducted during the second trip in early 2014.
Train and mentor the Training Coordinator when s/he is identified and on-board in training review, schedule maintenance, quality control.	In process, to continue remotely: training protocols established with training team. Main focus has been on training productivity team in timely and accurate use of the training event planning process.
Train and mentor the team in the use of planning tools.	Ongoing, to continue remotely: Conducted planning exercise for 2013/14 start of season in October, 2013 with productivity team. Will revisit and revise these plans with team during return visit in early 2014.
Participate in review of training institutes to assess capacity building needs.	In process (see above).
Work with team to integrate M&E into daily activities and to identify key results associated with activities.	Ongoing—have developed productivity site visit data collection form for testing during January 2014. Will roll out revised version after testing complete.

## **B. 2013/2014 Workplan Activities**

### **1.1.3 Agrodealer Network Development/VBAA—VBASA Grant**

The project is currently conducting training and capacity development to improve the business and input provision services of 109 retail agrodealers in the project areas. In addition to the current trainings for existing agrodealers, the project will release a RFA for a pilot program cluster of grants with major wholesale input suppliers for next season in which the VBAs will be managed directly by the wholesalers as village-based sales agents. They will work on commission, and the project will work with the wholesalers to deliver training messaging and materials through their promotional materials. For further information, see Annex 1, draft scope of work and implementation plan for the VBAA Sales Agent.

### **1.1.4 Youth Service Provider Groups**

To-date NAFKA has trained and established 3 youth service provider groups with equipment and technical training to deliver pesticide spraying services to farmers in their areas. By mid-January 2014 the project will increase the number of youth group service providers through releasing an Enterprise Development Grant to eligible youth groups & associations.

### **1.2.1 Quality Declared Seed (QDS) Seed Network**

As of December 20<sup>th</sup>, 2013 the QDS seed network has identified & trained 27 producers for rice and maize QDS. The interim productivity lead began strategic planning with IFDC staff to expand the QDS production network, and explore a graduation program for the strongest current QDS producers to move on to certified seed production. Certified seed producers will have much stronger prospects for financial sustainability through the ability to engage private sector company clients. This expansion and graduation plan will be finalized and begin implementation in quarter 2 of Year 3 (Jan-Mar 2014).

### **1.2.2 Urea Deep Placement (UDP) Control Pilot**

Rice requires substantial nitrogen amendments to reach peak yield capacity. Granulated and prilled nitrogen easily dissolves into water. As a result, repeated flooding of the rice paddy substantially diminishes the granulated nitrogen utilization potential for rice plants through run-off and evaporation. It is estimated that only 30% of applied granulated nitrogen is made available to plants for utilization. A large percentage of the remainder escapes through run-off, contributing to excess nitrogen pollution downstream.

Urea Super Granules (USG) were developed to solve this problem. Urea is pelletized into larger briquettes, and planted below the root zone. This method leads to greater uptake of nitrogen in soil

and reduced run-off and evaporation. In turn, this leads to less urea required for the same levels of production, less environmental damage, and increased yields.

The NAFKA project is conducting control pilots with the Katrin rice research institute to confirm its production benefits and obtain GoT authorization to promote and sell USGs in the commercial market.

NAFKA has developed the research protocol with Dr. Gerome Mghase & Mr. Gosbert Msogoya from Katrin. Research plots will be located at Katrin and at CHOLIMA in Dakawa. Trials plots will measure 10 meters by 10 meters, and will conduct panel comparisons for USG versus prilled urea applications for 4 different rice varieties: TXD306, TXD88, TXD85, and Supa India.

Demo sites are being prepared and the production trials will begin by mid-January, 2014.

### **1.2.3 GAP Demonstration Farms**

Building on the extension training program from last season, NAFKA is deploying an extension training program centered around demonstration plots this year.

This training program is primarily focused on increasing farmer awareness of the benefits of improved inputs and GAP production practices. Demo plots are run and trainings with beneficiaries conducted by Village Based Agricultural Advisors (VBAs) and Lead Farmers from the farmer groups in associations. Through NAFKA GAP training, disseminating promotional seed packs, and maintaining demonstration sites, VBAs and Lead Farmers are stimulating awareness of the agronomic benefits of improved seed and fertilizer to community farmers. The project has successfully leveraged this increased demand from past seasons to increase market penetration by private sector wholesalers in villages they previously had not entered. Agrotech, a wholesale input supplier based in Dodoma, has increased its sales in some villages by up to 3 tons this year versus last year through the demand created and aggregated by the NAFKA VBAs.<sup>1</sup> Through this approach the project is expanding demand-led access through private sector vendors in new villages, with VBAs as the broker for organizing and compiling village-level demand, and facilitating purchase of services and inputs.

The acting productivity standardized the training & demonstration plot content, protocols, and implementation plan for the 2013/2014 season across all NAFKA implementing partners.

#### **Content & Protocols**

The training programs in maize and rice (hereafter referred to as NAFKA GAP) focus on a farmer-friendly approach to promoting a core set of critical action-based practices to maximize impact on yields and quality. The program is broken into three modules:

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<sup>1</sup> Interview with Agrotech Owner/Manager, Dodoma, December 12<sup>th</sup>, 2013.

- Module 1—Mwanzo: Input selection, land preparation, planting, first top-dressing (December, 2013)
- Module 2—Nufaisha: Weed & pest identification and management, second top dressing (February, 2014)
- Module 3—Imarisha: Pre-harvest, harvest, and post-harvest practices (April/May, 2014)

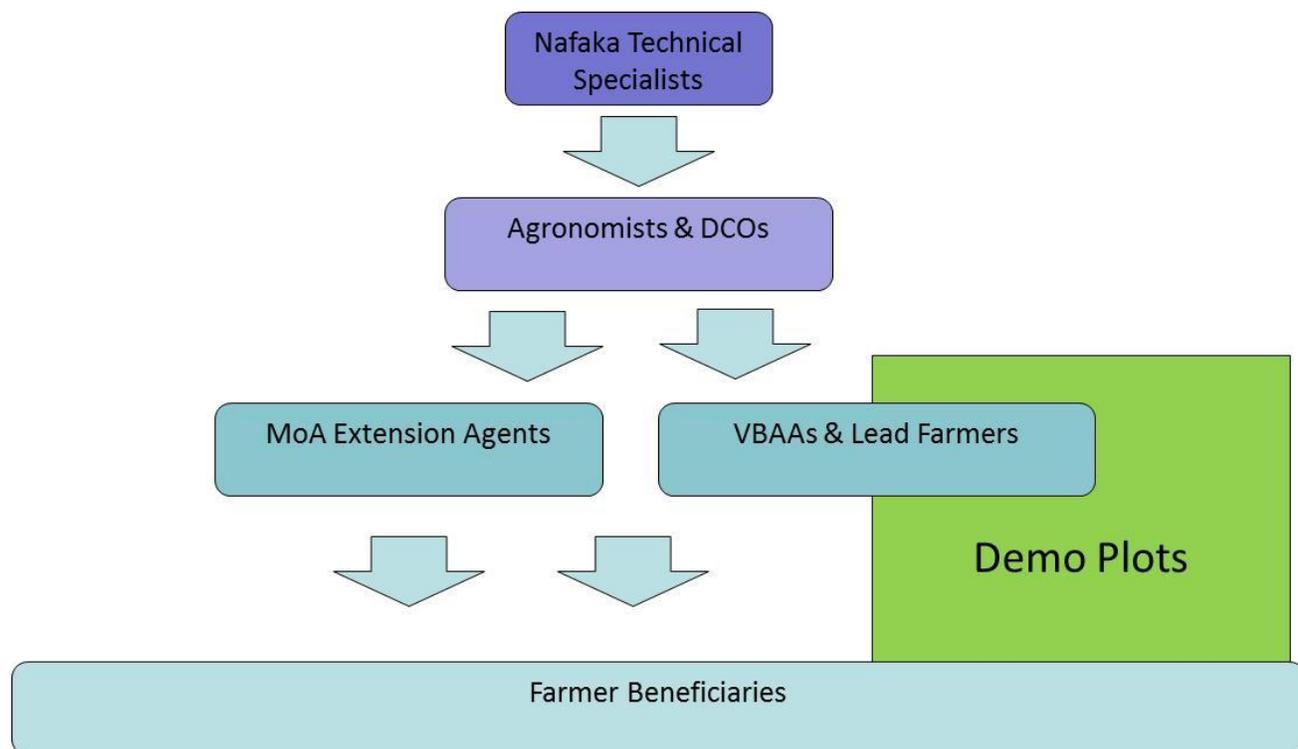
Each module focuses on promoting a cluster of discrete improvements on the production practices farmers currently employ, instead of promoting an ‘ideal’ production approach at all stages. For example, module 1 focuses on the following discrete practices:

1. Prepare land early (with specific guidance on how to prepare the land for maize and rice)
2. Buy quality seed & fertilizer
3. Plant using correct spacing

These practices are promoted because each carries a stand-alone benefit to yields which does not depend on the farmer’s ability to afford or employ any other changes to their current practices. This ensures that even partial adoption of the NAFKA GAP approach will garner positive impact.

Module 2 and 3 are currently being designed in conjunction with the behavior change communication team to ensure consistency in aesthetic design, messaging across platforms at the same time of the year, and efficient division of labor in material production and design.

### Cascade Framework



## Figure I. NAFKA Cascade Training Model

Each module is delivered through a ‘cascade’ training-of-trainers approach. The acting productivity lead finalized design of the ToT and direct training for module I, and delivered the first round ToT to the project agronomists and district coordination officers in October and November, 2013.

The second round ToT is being implemented by the agronomists and DCOs to the Lead Farmers and VBAs from December 10<sup>th</sup> through December 20<sup>th</sup>, 2013.

From December 20<sup>th</sup> onwards the VBAs and Lead Farmers will be delivering the training program directly to farmers, with a target of finishing the trainings by mid-January, 2014.

### Geographic Distribution & Targets

The project has expanded its presence across all major regions.

Number of Beneficiaries Reached 2013/14 Season					
Crop	District	Lead Farmers	VBAs	From	To
Maize	Kiteto	41	45	5,525	10,025
Maize	Kongwa	61	50	6,525	11,525
Maize	Mvomero	35	28	3,675	6,475
Rice	Mvomero	22	23	2,850	5,150
Rice	Ifakara North	61	24	3,925	6,325
Rice	M'limba	32	19	2,700	4,600
Rice	Mangula	49	19	3,125	5,025
Rice	KVTC	50		1,250	1,250
<b>TOTAL RANGE</b>				<b>29,575</b>	<b>50,375</b>

Based on the project's current projections, we expect to reach between 29,575 and 50,375 beneficiaries through the extension training program this season. This includes a combination of repeat and new beneficiaries.

### 1.2.4 Develop Providers of New Technologies

During the first two seasons of the NAFKA project, and again during this season, the NAFKA extension program has promoted low-tillage ripping as a superior land preparation practice in maize

production areas, particularly those with low rainfall. Disc-plowing or hand-hoe preparation breaks up top soil structure and cover for water, increasing evaporation and soil erosion throughout the season. Additionally, disc-plowing develops a hard pan layer in the soil, reducing water infiltration capacity for the soil and stunting root growth. In contrast, ripping leaves the majority of the top-soil structure intact, while breaking planting rows through the hard pan, maximizing water infiltration and root access to soil nutrients.

The NAFKA team has facilitated provision of ripping services through local tractor service providers (TSPs) These promotion activities have succeeded to the extent that currently farmer demand exceeds supply for ripping services in Kongwa, Kiteto, and Mvomero.

As part of the overall sustainability strategy for the project, NAFKA is currently in negotiations with tractor & mechanized agricultural input suppliers to promote awareness and supply of ripping services next season.

The promotion campaign will take the form of a competition. NAFKA will facilitate a grant of rippers through the tractor supply company to 10-20 eligible TSPs before the beginning of next land preparation season. During the land preparation season, the tractor supply company will keep track of the number of fields ripped and overall customer satisfaction for each TSP. The TSP with the highest scores on both fields will win a brand new tractor.

As part of the grant the tractor service provider will provide training in proper ripping technique to the TSP and to farmer customers to address concerns raised in the most recent BCC survey regarding farmer skepticism of mechanized farming practices.

In addition, the project will give updates on the NAFKA weekly radio program and in field trainings on which tractor service providers are ahead in the competition each week, discuss the benefits of ripping, conduct interviews with the tractor company staff, TSPs, and farmers who have had their fields successfully ripped.

Negotiations are currently underway with potential tractor supply company partners. The most promising potential partner NAFKA has met with was Praveen Chandra, Country Manager for Mahindra Tractors' local distributor arm, ETC Agro Tractors and Implements, Ltd. based in Dar es Salaam. ETC is looking to expand its tractor sales at the medium-scale farmer and TSP level, and recently opened a sales, service, and repairs office in Kibagwa.

NAFKA will be providing a RFA to all potential partner companies in January, 2014.

### **1.2.6 Monsanto Grant**

The NAFKA project was awarded a grant of \$15,000 for improved seed promotion. This grant will be used to supplement the VBAA→VBASA program outlined under 1.1.3 above.

## C. Recommendations & Next Steps

- Follow-on trip in early-mid February, 2014 for onboarding and orientation for the new productivity component lead and follow up on the outstanding activities and grants
- Fast-track development and approvals for the Enterprise, VBAA→VBASA, and Mechanization Grants as they are developed.

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