

SPHI



Sweetpotato  
Profit and Health  
Initiative



# ○ Looking Forward to Phase 2 of SASHA & the SPHI

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12<sup>th</sup> Sweetpotato *Speedbreeders* Meeting  
Blantyre, Malawi  
17 June 2014





**SPHI** is a multi-partner, multi-donor initiative that seeks to reduce child undernutrition and improve smallholder incomes in 10 million African families by 2020 through the effective production and expanded use of sweetpotato.



The Sweetpotato Action for Security and Health in Africa (**SASHA**) Project is a 5 year project led by the International Potato Center that will develop the essential capacities, products and methods to reposition sweetpotato in the food economies of Sub-Saharan Africa. It serves as the foundation for the broader Initiative.

# Two 5 Year Phases



## Phase I (5 years) Proving the Potential



## Phase II (5 years) Achieving the Potential





**17 priority  
countries,  
3 sub-regions:  
890,000 reached  
9 million to go..**

**Partnering  
for Collective  
Action**



## Major Features of SASHA Phase 2

- Focus on Research
- Retains focus on solving bottlenecks impeding the utilization of sweetpotato's full potential
- Major resource allocation:
  - 55% Population development
  - 3% Weevil Resistance
  - 13% Seed systems research
  - 7% Post-harvest management & nutritional quality
  - 22% Supporting the Community of Practice and Governance
- No delivery system projects





## Objective 1: Breeding

**Vision of success:** Sweetpotato breeding programs in SSA working efficiently in conventional breeding (genetic gains of 2% annually in selected traits, such as virus resistance) and new heterosis exploiting breeding schemes (yield jumps of 10-20% in the next five years) contribute towards producing at least 30 new superior varieties. These varieties will serve producer and consumer needs for food and nutrition security, fresh markets, diversified nutrition value chains, processed products for expanding urban populations, and animal feed.

**Good News:** AGRA will continue grant support to sweetpotato breeding. BMGF agreed to limited support (\$20,000/year) to non-AGRA supported countries Burundi & Madagascar to intensify breeding efforts with backstopping from support platforms. Annual *Speedbreeders* meetings will continue but collaboration with “Genomic tools for genetic improvement in sweetpotato”, led by NCSU, will ensure that genetic gains / breeding progress become available for sweetpotato across different regions of the world and marker assisted selection (MAS) for SPVD resistance is used in applied breeding programs.

## Objective 2: Weevil Resistance

To determine whether an improved approach for enhancing cry gene expression in sweetpotato roots and RNAi silencing vital weevil genes succeeds in killing significant percentages of weevils.

One more year to achieve proof-of-concept.

*RNAi silencing work at University of Ghent holds promise, but need to test efficacy of Ingestion.*



*C. puncticollis* larvae at 5 days after injection. Control larvae injected with milliQ water (control). In the treatments, third-instar larvae were injected with 200 ng of dsRNA against ribosomal protein S13e.



## Objective 3: Seed Systems

To ensure the sustained availability of quality, disease-free planting material, at required quantities and in a timely fashion. To demonstrate how quality can be cost-effectively managed through appropriate assurance mechanisms and new diagnostic tools.



**Vision of Success.** Cost-effective technologies and strategies for both male and female farmers to have improved access to quality planting materials.

At least ten SSA countries with effective pre-basic seed programs at NARIs, supported financially by sales of quality planting material, well-linked to multipliers of basic seed. Enhanced sweetpotato yields by at least 30% and factors enabling their integration into a seed system being managed using Quality Declared Planting Material (QDPM) protocols understood.

*Limited support for 3 years to improve foundation seed systems in Mozambique, Rwanda, Kenya, Tanzania, Ethiopia, Zambia, Nigeria, Malawi, and Burkina Faso. Awaiting results of Phase 1 hydroponics research. AGRA may increase support.*

## Objective 4: Post-Harvest Management & Nutritional Quality

**Vision of Success.** Rural households can cost-effectively store fresh roots for two to six months with key nutritional quality traits sustained; commercially oriented farm organizations can supply fresh roots year round and sweetpotato agro-processors can store sweetpotato puree or concentrate for four to six months without refrigeration and without quality loss. Regional capacity exists to support scientists and processors to determine the nutritional content and safety of new varieties and products, and the bioaccessibility of the beta-carotene in the latter.



# Objective 5: Sweetpotato Support Platforms (SSP), Knowledge Management and Governance.



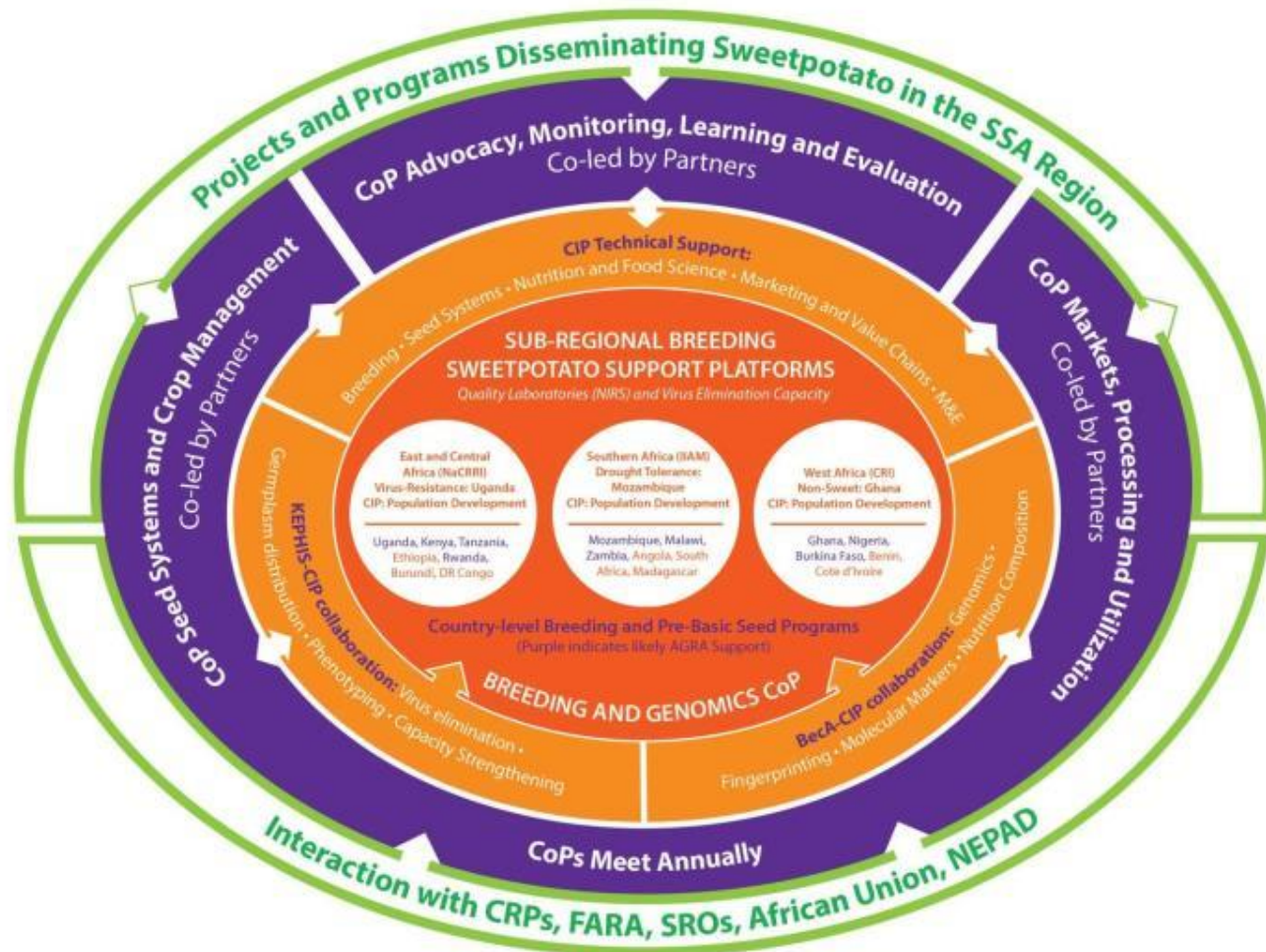
To continue building a gender-sensitive, sustainable Community of Practice (CoP), with a focus on engaging younger scientists and practitioners, through information exchange at regional technical CoP meetings and virtually.

Further, to capacitate and back-stop country level breeding, germplasm management and nutritional quality assessments through sub-regional SSPs.

To monitor, evaluate, learn, and advocate from the research program experiences, achieving significant gains in managing partnerships and exchanging information within SASHA components and between diverse sweetpotato projects and programs under SPHI.



## 5.1 REGIONAL TECHNICAL SUPPORT PLATFORM



**AGRA:** Alliance for a Green Revolution in Africa  
**BecA:** Biosciences for eastern and central Africa  
**CRRI:** Crops Research Institute (Ghana)  
**IAM:** Agrarian Research Institute of Mozambique

**KEPHIS:** Kenya Plant Health Inspection Service  
**NaCRRRI:** National Crops Resources Research Institute (Uganda)  
**NIRS:** Near Infra-Red Spectrometer

**CoP:** Community of Practice  
**CIP:** International Potato Center  
**CRPs:** CGIAR Research Programs

**FARA:** Forum for Agricultural Research in Africa  
**NEPAD:** New Partnership for Africa's Development  
**SROs:** Sub-regional Organizations (ASARECA, CORAF, CARDESA)

# Objective 5: Sweetpotato Support Platforms (SSP), Knowledge Management and Governance, cont.



**Vision of Success.** A vibrant and growing sweetpotato CoP, in which knowledge advances are shared through virtual media and meetings, field visits, trainings and services for key functions of germplasm exchange, virus diagnostics, comprehensive training on sweetpotato. Further, nutritional quality data are available and utilized, and dissemination data are gathered consistently across countries, with policy makers clearly realizing that sweetpotato is a healthy food for all, not just a food for the poor.

# Delivery System & Dissemination Work Currently Funded or On the Horizon



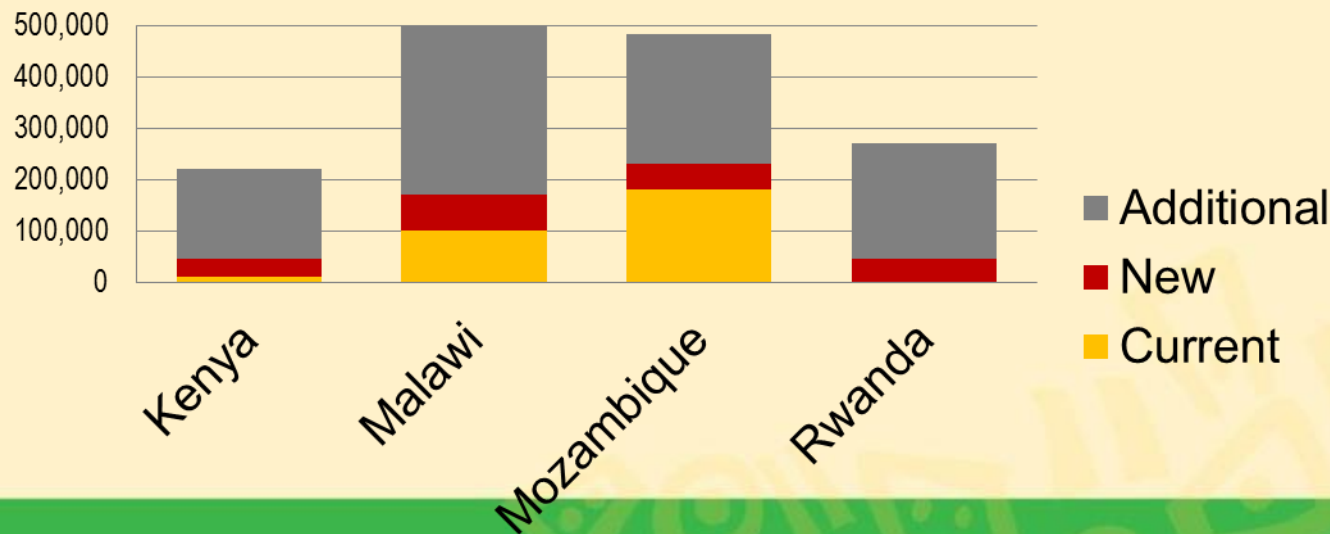
## Targets by July 2018:

Sweetpotato for 1.2 million new households

200,000 households: Integrated Ag-Nu-Ma Approach

1 million households: lighter approaches by partners

SUSTAIN Household Targets



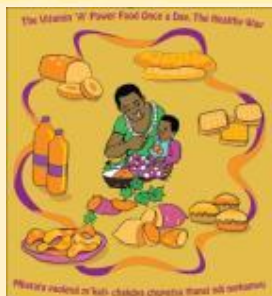


# Dissemination focused work, cont.

## Enough to reach 1.8 million by Dec 2016



*Uganda*



*Malawi*



*Zambia*



*Commercializing Seed in Uganda & Tanzania*



*Mozambique*



*Net Tunnels*



*Ethiopia*



# Onward & Upward! Zikomo!



## **2<sup>nd</sup> Global Biofortification Conference**

Kigali, Rwanda

31 March – 2 April 2014

300 participants

## **Micronutrient Forum**

Addis Ababa, Ethiopia

2-6 June 2014

1000 participants