



RESEARCH  
PROGRAM ON  
Roots, Tubers  
and Bananas

S e p t e m b e r 2 0 1 7

# Overview of RTB: Staying the best!

GRAHAM THIELE • ISC MEETING, DAR ES SALAAM, TANZANIA





# Outline

- 1. Targets and SWOT analysis**
- 2. Strengths**
- 3. Weaknesses**
- 4. Opportunities**
- 5. Threats**
- 6. Staying the best!**

# **Targets and SWOT analysis**

# Our targets for Phase II - 2022

Number of beneficiaries	Primary target countries
20m people (50% women) increased their income	<b>Africa:</b> Burundi, Cameroon <sup>+</sup> , Congo, Democratic Republic of the Congo (DRC) <sup>+</sup> , Ethiopia <sup>++</sup> , Ghana <sup>+</sup> , Ivory Coast, Kenya <sup>+</sup> , Malawi <sup>+</sup> , Mozambique <sup>+</sup> , Nigeria <sup>++</sup> , Rwanda <sup>+</sup> , Tanzania <sup>++</sup> , Uganda <sup>+</sup> , Zambia <sup>+</sup>
30,000 SME operate more profitably: seed and processing sectors	
8m farm households increased yield: improved varieties and sustainable management practices	
10m people (50% women) improved diet	
0.8m ha of farm land: soil carbon and nutrients content improved	
1.7m ha of current RTB production area converted to sustainable cropping systems	
	<b>Americas:</b> Bolivia, Colombia, Ecuador, Haiti, Peru
	<b>Asia:</b> Bangladesh <sup>++</sup> , China, India <sup>+</sup> , Indonesia, Nepal <sup>+</sup> , Thailand, The Philippines, Vietnam <sup>++</sup>

# SWOT ANALYSIS

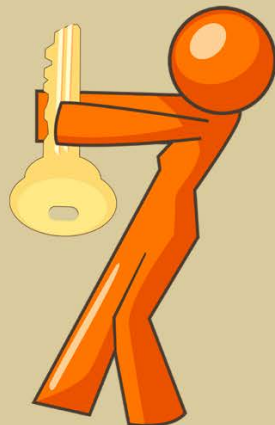
**Strengths**



**Weaknesses**



**Opportunities**



**Threats**



# Strengths





## RESEARCH PROGRAM ON Roots, Tubers and Bananas

# “Alliance” model of governance



- Broad based collaborative platform
- 350+ partners

# Engaged and articulated ISC and CIP BoT

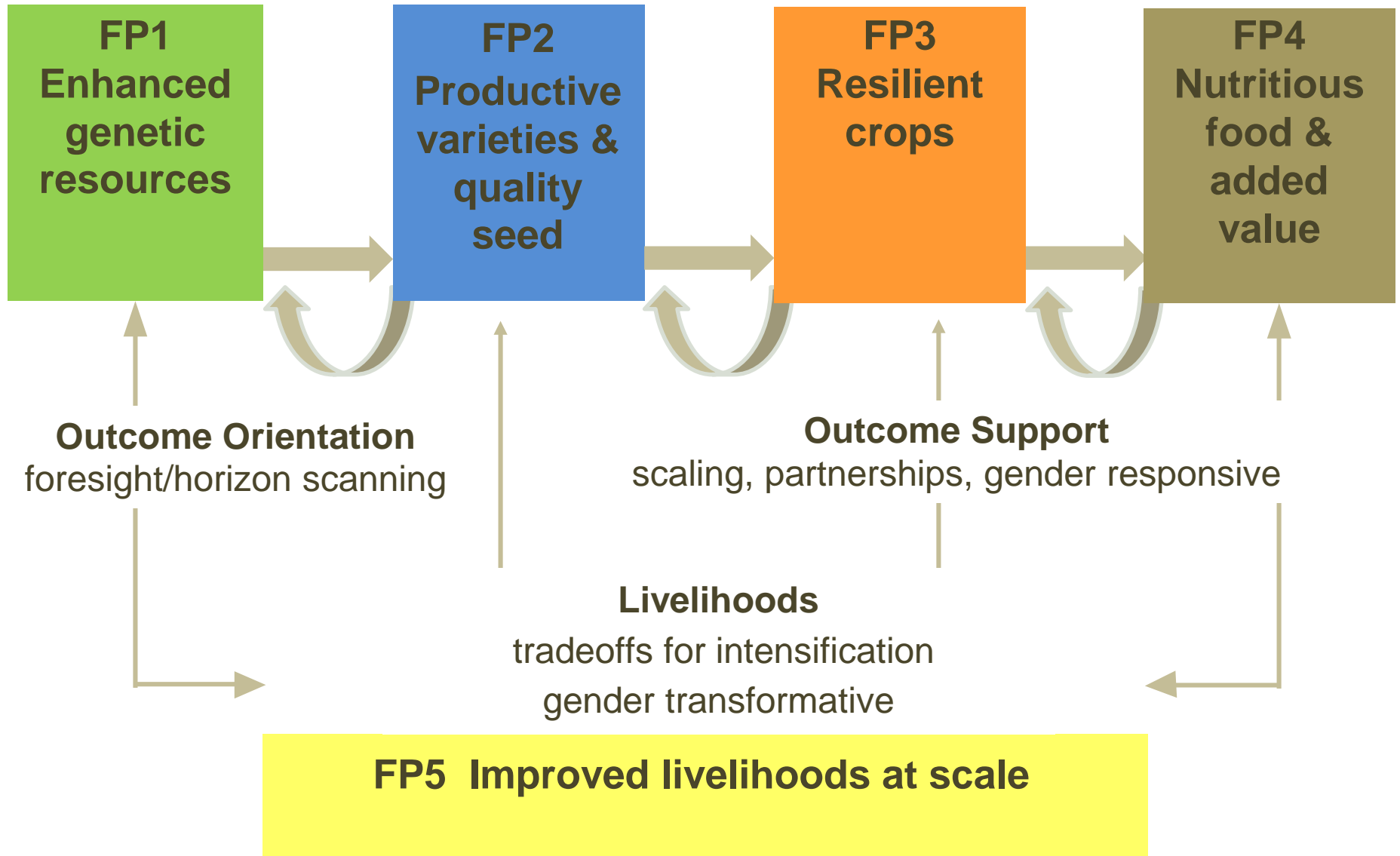


- **ISC**
  - **Programmatic oversight:**
    - **strategic alignment, theory of change, cutting edge science and gender**
  - **Recommends POWB and Annual Report for approval to BoT**
- **BoT**
  - **Fiduciary oversight: budgets, expenditure**
  - **Attention to M&E: attainment of targets and match with investment**
  - **Approves POWB and Annual Reports**





# Program Structure: Flagship Projects (FP)





# Cluster structure: fully operational

**AIM:** Develop prototypes and products that allow the **introduction of new traits**, without disturbing any other traits and characteristics of the original genotype.

**RATIONAL:** Overcome the limitations of conventional breeding for clonal crops to add **new traits to highly preferred existing varieties**.



**PRODUCTS**

**RESEARCH OUTCOMES**

**DEVELOPMENT OUTCOMES**

**Sub-IDs**

Tools and methods for gender-differentiated end-user preferences assessment, more efficient breeding and gender-sensitive participatory varietal selection

Improved RTB candidate varieties, addressing key productivity constraints and incorporating other traits of importance to end-users

Technology and business models for small and private seed producers

NARS and private sector breeders are developing, selecting and releasing RTB hybrids and varieties with high yield potential meeting end-users needs

Regulatory agencies implement appropriate quality control standards and use affordable methods for seed quality assessment

Small and private seed producers increase production and sales of RTB seed using improved rapid multiplication technologies

Male and female seed producers have increased production and profitability

Male and female farmers have equitable access to sufficient quantities of guaranteed high-quality RTB seed at affordable price through local, national and regional delivery systems

Enhanced genetic gain  
Gender-equitable control of assets  
Enhanced capacity to deal with climatic risks and extremes

Closed yield gaps

Increased availability of nutrient-rich foods

Diversified enterprise opportunities

Working with an innovation system perspective (TOC FP5)  
Multidisciplinary and cross-disciplinary approaches in system livelihood contexts (TOC FP5)  
Multidisciplinary and cross-disciplinary approaches in system livelihood contexts (TOC FP5)

Capacity Development interventions (TOC FP5)  
Value chain development and market-oriented approaches for scaling  
Cross collaboration with FP1 to FP4

**Clear impact pathways**

**Innovations and technologies grouped in key research areas**

**Expected changes in partners and organizations working closely with RTB (NEXT USERS)**

**Expected changes at the level of farmers, processors, consumers (END USERS)**

**Alignment with CGIAR SRF**

Strengths



Assumptions and risks



Capacity development activities



Implementation strategy



# Collaboration & approaches for cross-crop synergistic work from Phase 1



- **Priority assessment**
- **Gender research**
- **Discovery research and development of genomic tools for breeding**
- **Comparative framework and tools for assessing seed systems**
- **Pest and disease Risk Assessment**
- **Etc**



# Adding value synergistic research



- Sequencing and phenotyping data
  - Support genomic analyses (GWAS, GS) for complex traits
    - Potato: tuberization and early bulking
    - Sweetpotato: heat tolerance
    - Banana: fertility and fruit quality
- Common Vision RTB data management and bioinformatics
  - Promote linkages CassavaBase, SweetpotatoBase, MusaBase etc with Integrated Breeding Platform and multiple crop/center tools



# Approach for Results Based Management

## Co-constructed impact pathways:

- Results frameworks validated at national/regional level
- Basis for defining roles, engaging partners, synergies and coordination mechanisms
- Key in Phase II Proposal





# MEL platform to support Planning-Monitoring-Evaluation-Learning



POWB, Total 2017 Budget Allocation: \$15,662,350

RTB-FP1 - Enhanced genetic resources - Luis Augusto Becerra Lopez-lavalle - Total Budget Allocation: \$3,312,674

RTB-FP2 - Productive varieties and quality seed - Elmar Schulte-Geldermann - Total Budget Allocation: \$4,109,961

RTB-FP3 - Resilient crops - James Legg - Total Budget Allocation: \$3,329,327

RTB-CC3.1 - Pest/disease management - Jurgen Kroschel - Total Budget Allocation: \$1,323,820

RTB-CC3.2 - Crop production systems - Stefan Hauser - Total Budget Allocation: \$306,791

RTB-CC3.2.1 - Site Specific Crop Managers based on yield gap analyses providing decision support to small holders - Stefan Hauser - Total budget: xxxx

Output Code	Output	Category	Output Responsible	Deliverable ID	Deliverable	POWB	Type	Reporting Scientist	Center	Reported File	Date of submission
RTB-CC3.2.1.4	Diagnostic tools to identify agroecological intensification of banana cropping systems:	Tool	Charles Staver	5121	Desk review: tools for diagnostic of	Yes	Report/Working	Charles Staver	Bioversity	No Report	N/A

Partners Distribution by Headquarter



- Joint Centre (CIP, ICARDA) and CRP solution (RTB, DS, GL, DC)
- Collaboration with IITA, ICRAF, Bioversity, GIZ; CTA-EU interested in using MEL

## ► Stepwise approach

RAAIS supports a stepwise approach to achieving impact:

Strengths



### Step



1

Study of constraints and **opportunities for innovation** in agri-food systems



2

Together with stakeholders identify and design a coherent set of **innovations that guide project implementation**



3

Starting point for **strengthening multi-stakeholder partnerships** for action and impact'



4

Baseline for **monitoring, evaluation and learning** to enhance the effectiveness of research and development

# Building on Humidtropics

IITA

*Transforming African Agriculture*



WAGENINGEN  
UNIVERSITY & RESEARCH



# WORLD CAFÉ – Scaling RTB Technologies

## Dar es Salaam – March 10<sup>th</sup> 2017

Setting the scene...

# HOW TO MAKE SCALING OF RTB INNOVATIONS WORK?!



WAGENINGEN  
UNIVERSITY & RESEARCH

Marc Schut  
IITA/WUR – RTB FP5 Leader

# Scaling the new way...

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- **Integral part of project design**
- **Theory of Scaling**
- **Specific set of competencies (not the scientist)**
- **Scaling funds**
- **Scaling partners strategically targeted**
- **Multiple marketing strategies and ‘branding’**
- **New media (e.g. tailor-made adverts, ICT)**
  
- **Increase the likelihood that projects and CRPs deliver!**

# Scaleable technology inventory – varieties and seed

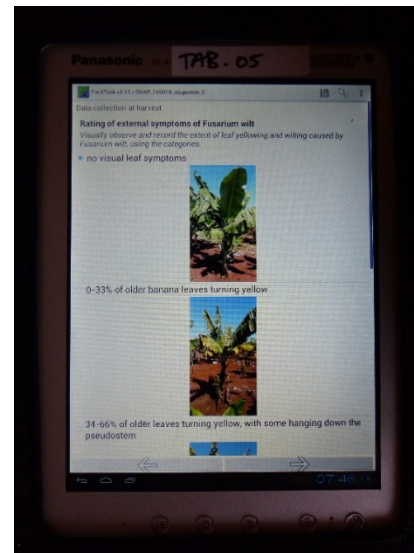


<b>1</b>	Positive selection to improve on-farm seed potato management	J. Andrade-Piedra, et al
<b>2</b>	New heat tolerant, late blight and virus resistant potato varieties	M. Gastelo, et al
<b>3</b>	Scaling out dual CBSD and CMD resistant varieties for mid-altitude agro-ecologies of E. and Cent, Africa	E. Kanju, et al
<b>4</b>	Triple S – Storing Sweetpotato Roots in Sand and Sprouting	S. Namanda, et al
<b>5</b>	Macro-propagation healthy planting material of banana & plantain	E. Njukwe et al
<b>6</b>	Use of low cost Net Tunnels for Management of Sweetpotato Viruses among Farmer-multipliers	K. Ogero and M. McEwan
<b>7</b>	Rooted potato cuttings to transform seed systems in East Africa	M. Parker, et al
<b>8</b>	Climate smart mid altitude potato	H. Lindqvist-Kreuze, et al
<b>9</b>	Addressing vitamin A deficiency through vitamin A-rich banana cultivars in East African farming and food systems	B. Ekesa et al
<b>10</b>	NARITA hybrids for East Africa	Inge Van den Bergh, et al

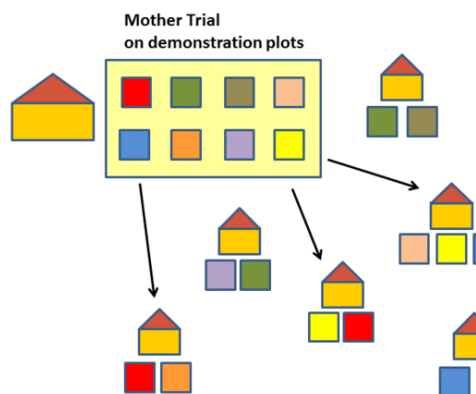
# NARITA hybrids for East Africa



Michael Batta, IITA



## Mother - Baby Trials Concept



## Crowdsourcing crop improvement in Sub-Saharan Africa: a proposal for a scalable and inclusive approach to food security.



Share



Citation

van Etten, J. -2011-Crowdsourcing crop improvement in Sub-Saharan Africa: a proposal for a scalable and inclusive approach to food security.-IDS Bulletin 42-p.102-110

Permanent link to this item: <http://hdl.handle.net/10568/35745>  
DOI: <https://dx.doi.org/10.1111/j.1759-5436.2011.00240.x>

View/Open

VanEtten\_Crowdsourcing.pdf (105.0Kb)

Authors

Van Etten, J

Date

2011

Language

Abstract/Description

In sub-Saharan Africa, modern varieties released by the formal seed sector cover only a small part of the total crop acreage. Participatory approaches to crop improvement and seed production have been developed to overcome some of the barriers to modern variety development and seed distribution, but have not been widely scaled up. Crowdsourcing, such as seen in online citizen science projects, might inspire new approaches to upscale farmer-participatory seed innovation, specifically aiming at household food production. Using mobile technology, African farmers may be engaged in massively evaluating and distributing seeds. It is argued that a crowdsourcing approach to seed innovation would not only be scalable, but also inclusive through the strengthening of crop diversity as an open informational resource.

AGROVOC Keywords



# Scaling fund

- \$1m (scenario \$18.7m W1&2)
  - FP1-4 with FP5 input
  - Engage other CRPs
  - Linked to country coordination
  - Concept notes due September 20<sup>th</sup>



# Communications

## Approach and channels

- Visual, engaging, interactive content with partners
- Involving scientists and researchers in communication
- Communicating evidence of RTB successes
- Improved tracking of metrics shows growth and engagement across all channels
- Strengthening our brand: vibrant, modern, consistent visual identity





# Compelling proposal Phase II

**Almost perfect score card!**

	FTA	LIVESTOCK	MAIZE	RICE	RTB	WHEAT
<b>CRP Overall Score/category</b>	<b>B+</b>	<b>B+</b>	<b>A-</b>	<b>A</b>	<b>A</b>	<b>A-</b>
FP1	Moderate	Moderate	Moderate	Strong	Strong	Moderate
FP2	Weak	Strong	Strong	Moderate	Strong	Strong
FP3	Strong	Weak	Strong	Moderate	Strong	Strong
FP4	Strong	Moderate	Moderate	Strong	Strong	Moderate
FP5	Strong	Weak	Weak	Strong	-\$us 300k	
FP6						

**“Moderate” was still worth about \$US 4 million more**



# Increased budget - 2017

System Council indicative allocation for 2017				
(USD Millions)		W1&2	Bilateral/ W3	Total
Agri-Food	FISH	3.8	13.8	17.6
	FTA	8.8	62.3	71.1
	LIVESTOCK	14.0	23.3	37.3
	MAIZE	11.3	54.3	65.6
	RICE	16.1	62.2	78.3
	RTB	22.2	91.7	113.9
	WHEAT	14.8	28.0	42.8
Global Integrating	A4NH	19.4	71.4	90.8
	CCAFS	20.8	36.1	56.9
	PIM	18.3	74.0	92.3
	WLE	7.9	40.0	47.9
Platforms	GENEBANKS	24.9	6.7	31.6
	EIB	2.0	8.0	10.0
	BIG DATA	6.7	0.0	6.7
<b>Subtotal</b>		<b>191.0</b>	<b>571.8</b>	<b>762.8</b>

Source : 2017 FinPlan, 3 April 2017



# Weaknesses





# Reliance on Bilateral/W3

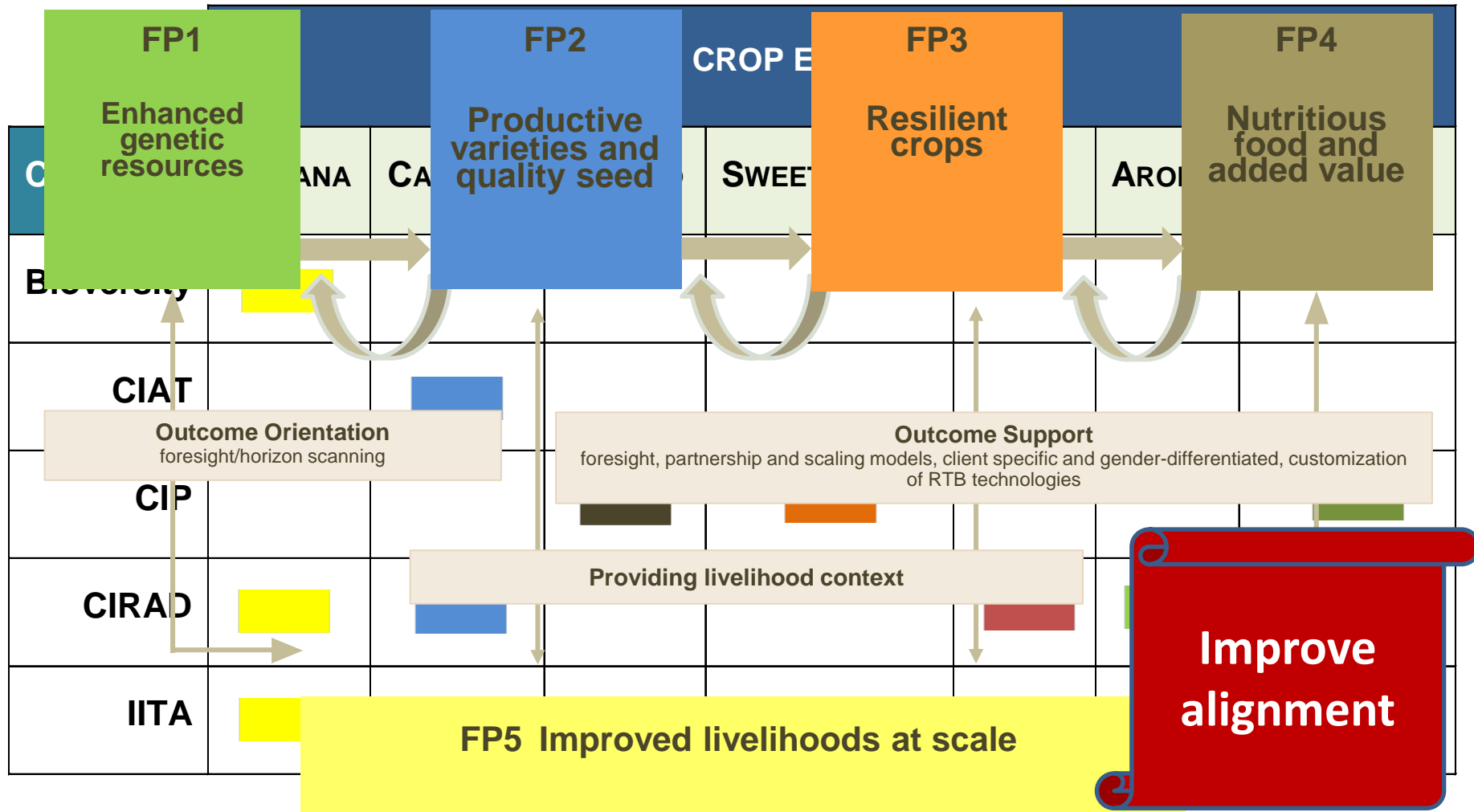
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80%

W2  
stewardship

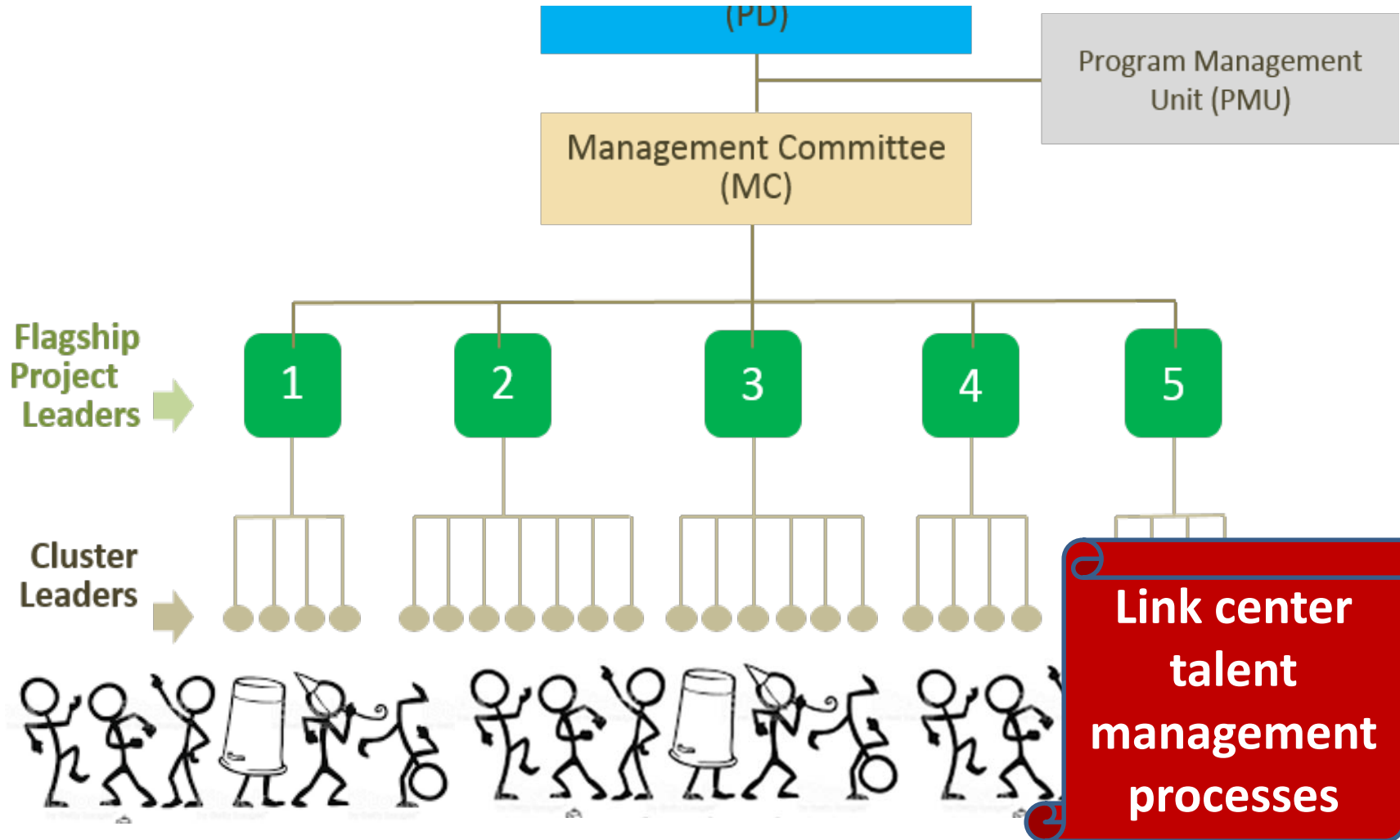


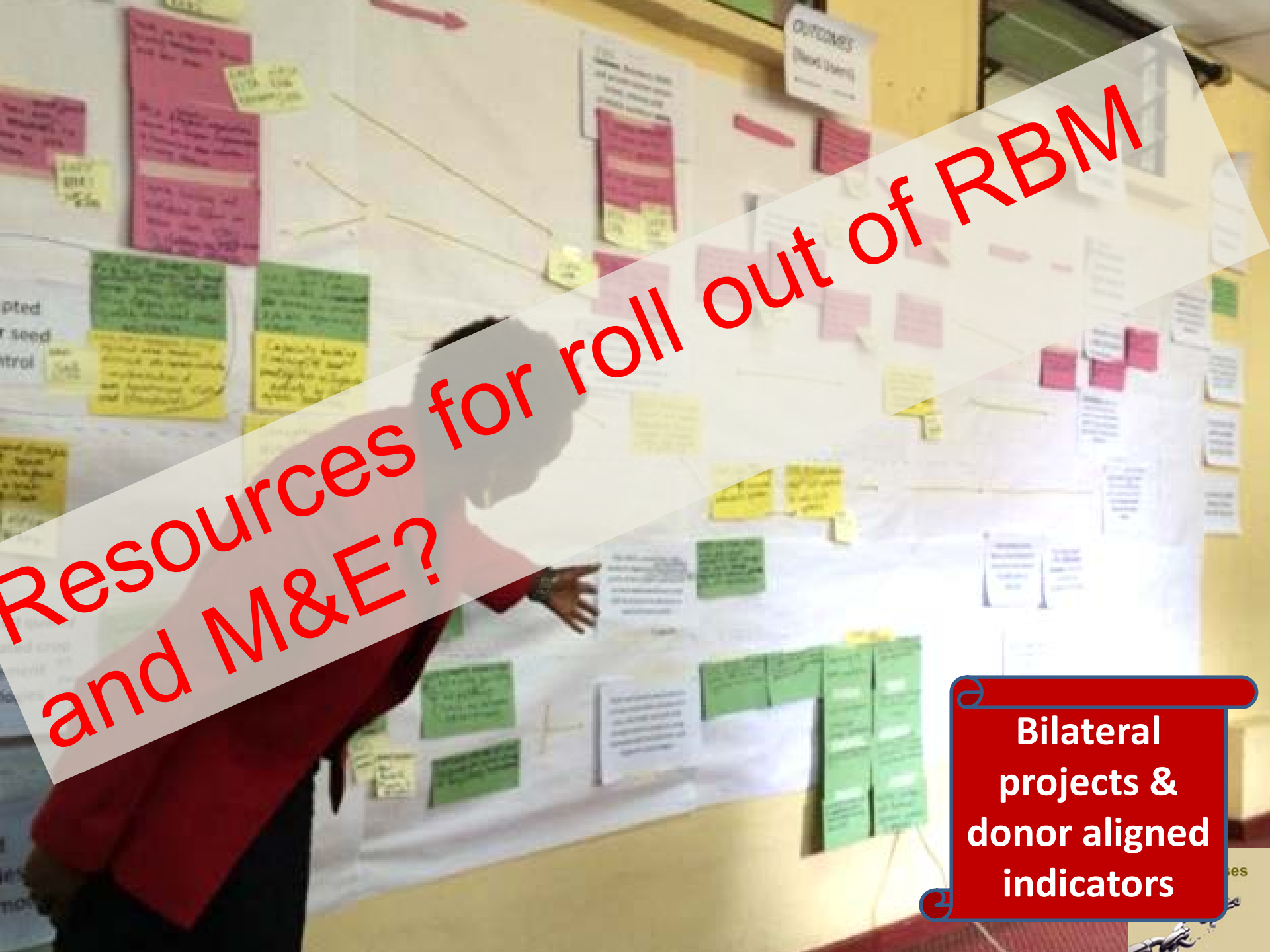
# Complexity increases coordination costs (center and FP both important)





# Cluster leaders lack supervisory oversight





# Resources for roll out of RBM and M&E?

**Bilateral projects & donor aligned indicators**

**PRODUCTS**

**RESEARCH OUTCOMES**

**DEVELOPMENT OUTCOMES**

**Sub-IDs**

Tools and methods for gender-differentiated end-user preferences assessment, more efficient breeding and gender-sensitive participatory varietal selection

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Technological innovations and business models for small and private

NARS and private sector breeders are developing, selecting and releasing RTB hybrids and varieties with high yield potential meeting end-users needs

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Male and female seed producers have increased production and generate income and profit in a profitable environment

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Enhanced genetic gain

Closed yield gaps

Increased availability of nutrient-rich foods

Diversified enterprise opportunities

Gender-equitable control of assets

Enhanced capacity to deal with climatic risks and extremes

**Critical gap strategic CapDev**

working with an innovation system perspective  
Multidisciplinary approaches  
Suitability of technologies

Capacity Development interventions (TOC FP5)  
Value chain development and market-oriented approaches for scaling  
Cross collaboration with FP1 to FP4

Innovations and technologies grouped in key research areas

Expected changes in partners and organizations working closely with RTB (NEXT USERS)

Expected changes at the level of farmers, processors, consumers (END USERS)

**Resource mobilization**



Assumptions and risks



Capacity development activities



Implementation strategy



# Women underrepresented in Management Roles

- **0/1 CRP leader**
- **0/5 Flagship project leaders**
- **4/25 Cluster leaders**
- **13% women overall**

**Recruitment  
& retention  
incentives**

# Opportunities







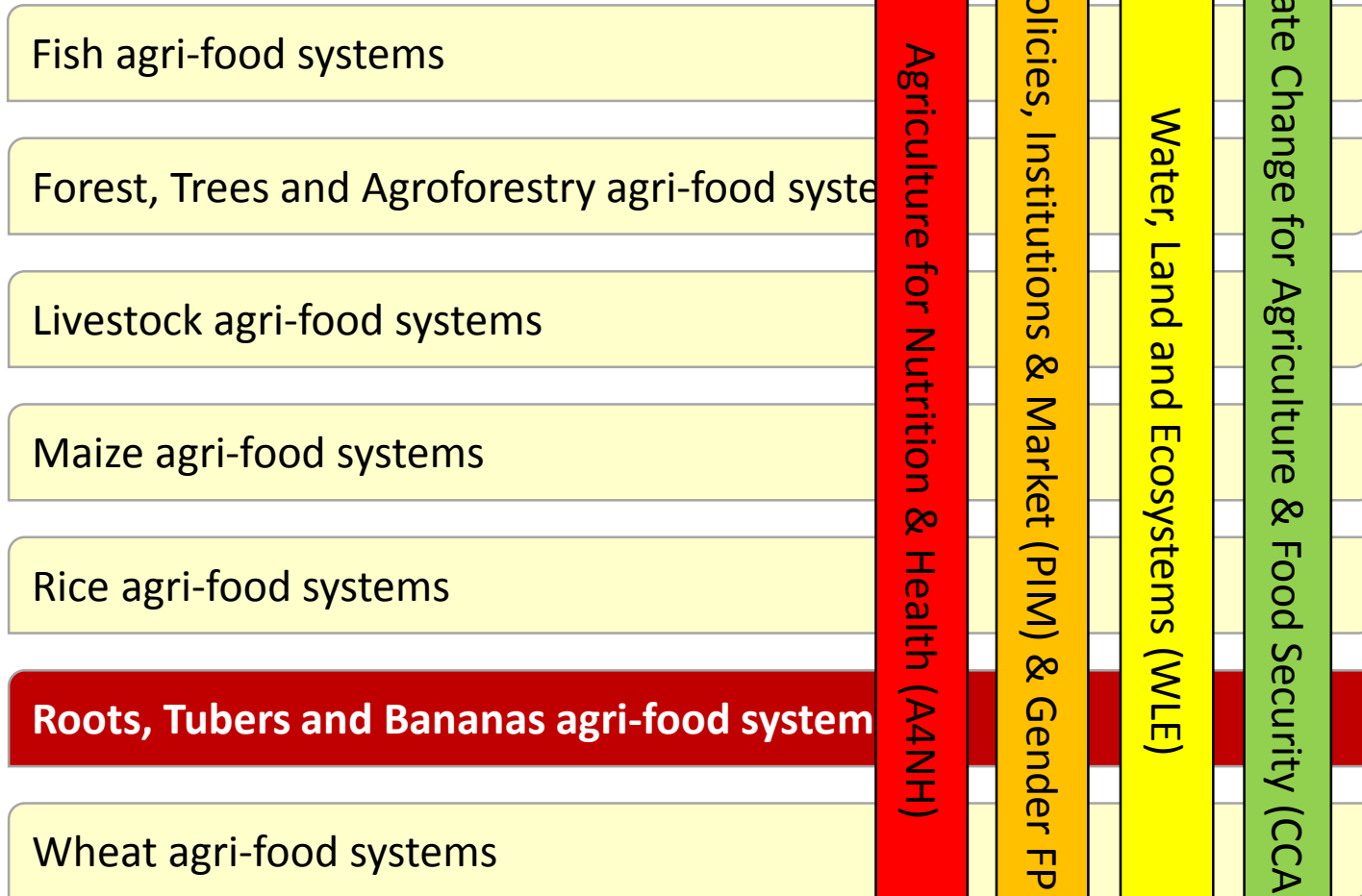
# Funding: major leverage points

- **Climate change**
- **Transboundary pests and diseases**
- **Migration**
- **Gender equity**



# Portfolio of CGIAR Research Programs

## 7 Agri-Food System programs



## 4 Global Integrating programs

## 3 Platforms



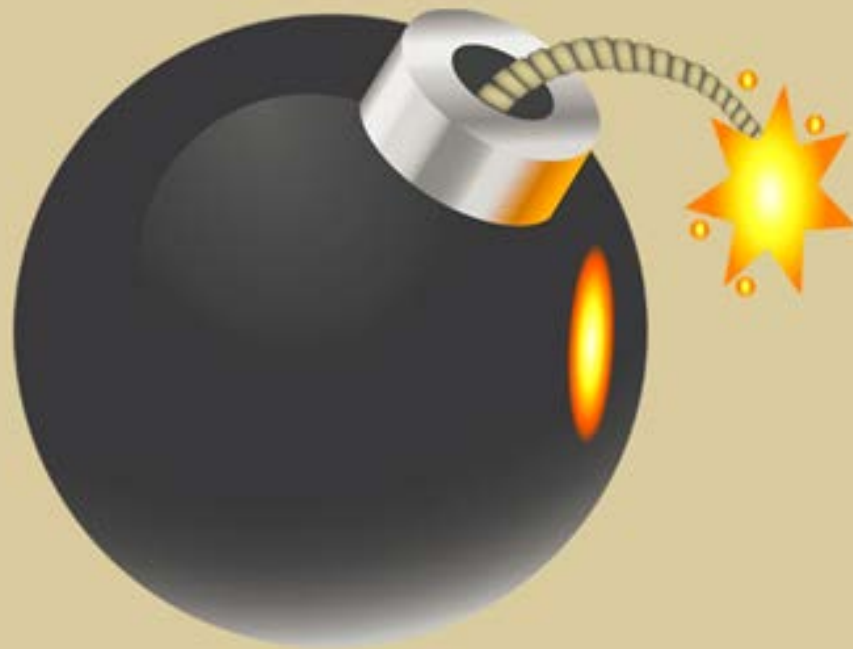


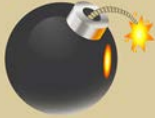
# Site Integration to Country Coordination

Region	CGIAR++ target countries	CGIAR+ target countries
Africa	Ethiopia, Nigeria, Tanzania	Cameroon, DRC, Ghana, Kenya, Malawi, Mozambique, Rwanda, Uganda, Zambia
L. America & Caribbean	Nicaragua <b>Peru</b>	none
Asia	Bangladesh, Vietnam	India, Nepal

- **Sustainable intensification**
- **Social context (youth and migration)**
- **Cross CRP collaboration**
- **Link with scaling**

# Threats





# **(Over) Ambitious and hard to measure development targets may lead to donor frustration**

**20,000,000 people (50% women) increased their income**



# (Excessive) Emphasis on Intermediate Development Outcomes shifts resources from Discovery

SDGs			SLOs	IDOs	Sub IDOs	Flagship projects contribution						
						1	2	3	4	5		
 1 NO POVERTY	 2 ZERO HUNGER	 3 GOOD HEALTH AND WELL-BEING	1 Reduced Poverty	1.3 Increased incomes and employment	1.3.1 Diversified enterprise opportunities		x		x	x		
					1.3.4 More efficient use of inputs				x			
				1.4 Increased productivity	1.4.1 Reduced pre- and -post production losses, including those caused by climate change			x	x			
					1.4.2 Closed yield gaps through improved agronomic and animal husbandry practices		x	x		x		
1.4.3 Enhanced genetic gain	x	x										
1.4.4 Increased conservation and use of genetic resources	x	x										
 5 GENDER EQUALITY	 8 DECENT WORK AND ECONOMIC GROWTH	 10 REDUCED INEQUALITIES		2 Improved food and nutrition security and health	2.1 Improved diets for poor and vulnerable people	2.1.1 Increased availability of diverse nutrient-rich foods		x				
						2.1.3 Optimized consumption of diverse nutrient-rich foods				x	x	
			 12 RESPONSIBLE CONSUMPTION AND PRODUCTION	 17 PARTNERSHIPS FOR THE GOALS								

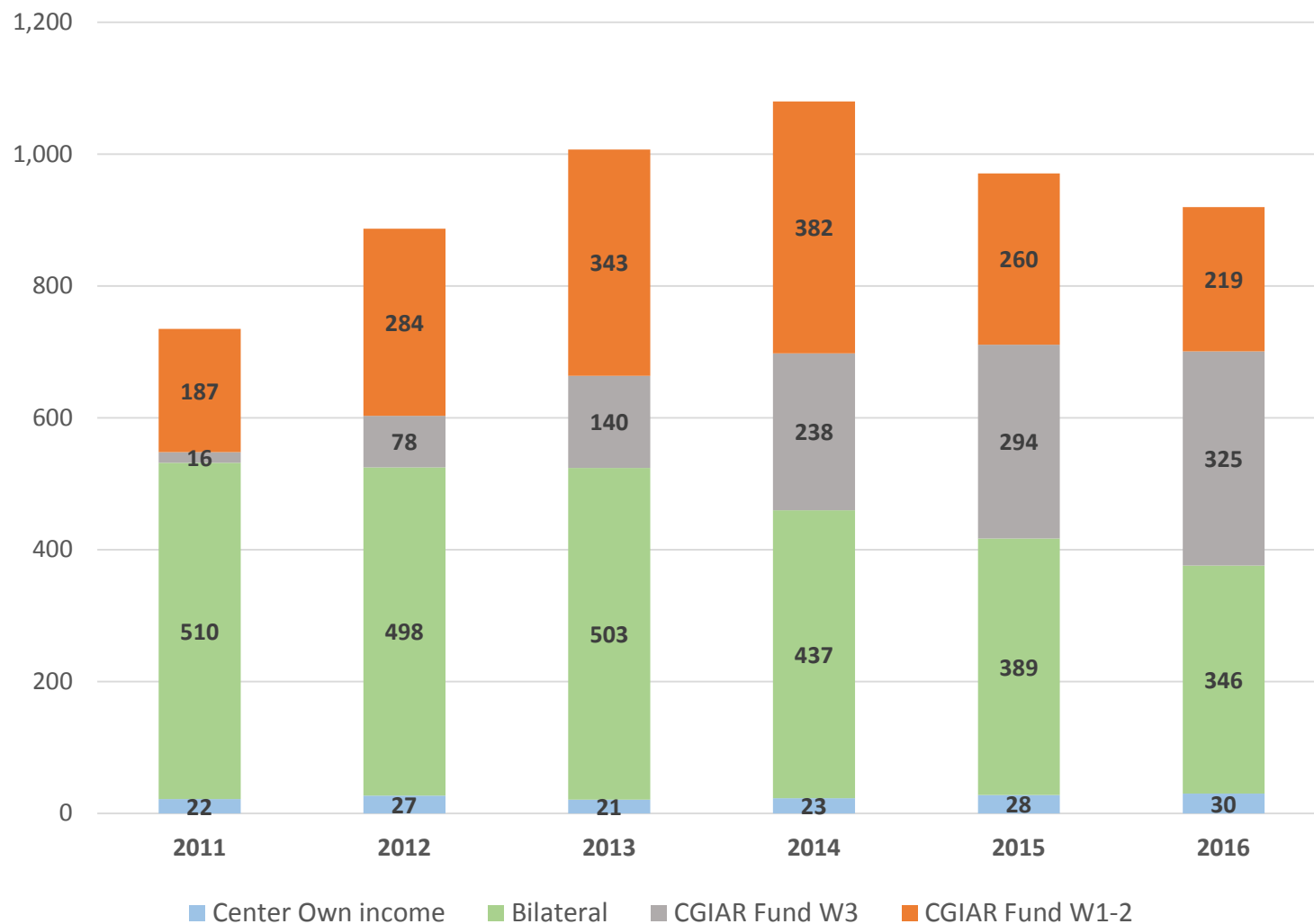


# Can't keep up with rat race of performance evaluation of CRPs





## Analysis of System Revenue by Source of Funding (US\$ million)





# Staying the best!



## Strengths:

Glue  
Impact pathways  
Proposal Phase II  
Alliance model  
Budget

## Weaknesses

Coordination complexity/cost  
Reliance on W3/bilateral  
Resources: RBM & CapDev  
Women underrepresented  
Cluster leaders manager role

## Opportunities

Leverage points funding  
Donor interest scaling  
CRP/Platform Portfolio  
Site integration

## Threats

Performance rat race  
(Over)Ambitious targets  
Too much focus IDOs/SDGs  
Declining unstable W2

# Governance

- 1. Deepening and strengthening collaboration among RTB implementing centers towards achievement of common objectives not possible as independent entities**

# **Governance: ISC action points**

- 1. IEA #16 (alliance compact): agree strategy statements which could improve governance and management**

# **Program Management**

- 1. Review and improve alignment between Centers and RTB Program**
- 2. Strengthen FP leaders: knowledge mgmt., partnerships**
- 3. Strengthen Cluster leaders: project mgmt**
- 4. Link staff evaluation with roles in RTB**
- 5. Simplify/improve planning & reporting**

## **Program Management: ISC action points**

- 1. Build on excellent alignment exercise of 2016**
- 2. IEA #15: reformulation of ToR of FP and cluster leaders to bring clarity**

# Research Management

- 1. Maintain collaboration in cross cutting areas – RTB value added (“glue”) - earmarked**
- 2. Scaling as new cross cutting area**
- 3. M&E to measure outcomes with next users– shared metrics with W3& bilateral projects**
- 4. Evaluative approaches: evidence about contribution to development outcomes**
- 5. Metrics for discovery research and breeding pipelines (breeding CoP)**

# Research Management: ISC action points

1. **Contribution to framework for QoR4D**
2. **Criteria for performance based evaluation**



# Funding

- 1. Stewardship of W2 donors**
- 2. Improve Website and social media to build visibility and support for RTB**
- 3. Promoting collaboration with ARIs in W2 donor countries**
- 4. Donor intelligence and managing financial risks**
- 5. Options for resource mobilization W3  
- cross cutting projects in RTB?**

## **Funding: ISC action points**

- 1. Oversight on risk management**
- 2. IEA #16 (alliance compact): agree strategy statements which could improve governance and management – joint resource mobilization**



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# Thank you

