

Strategies for strengthening the institutionalization of the EGS business by public institutions in SSA

SASHA 

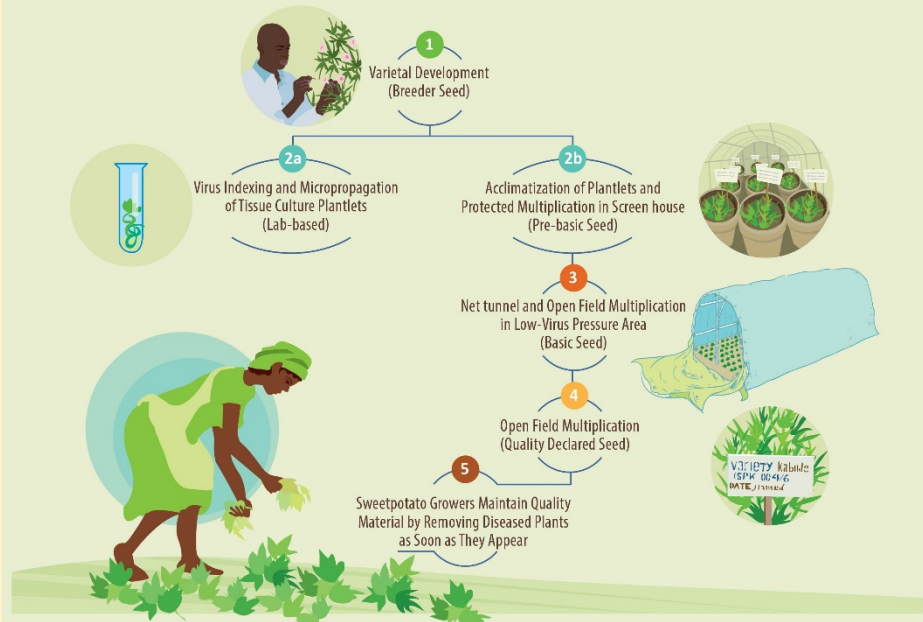
Sweetpotato Action for
Security and Health in Africa



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SEGSBAT: a set of tools to develop a financially sustainable EGS business

Schematic of sweetpotato seed system



11 SSA countries with pre-basic seed production linked to basic seed multipliers and potential links through sweetpotato value chain

- **Multiplication calendar**
 - Customer seed requirements & production planning
- **SEGSBAT**
 - Cost structure & financial analysis
- **Marketing strategies**
 - Market penetration/ development
 - Product development/ diversification
- **Internal & external QA**
 - *I Setosa* & NCM ELISA
 - Seed Standards

Cost structure & cost data collection

Stage 0-3 (4)

Breeder materials – pre-basic (& basic)

Total recurrent costs

Variable costs:

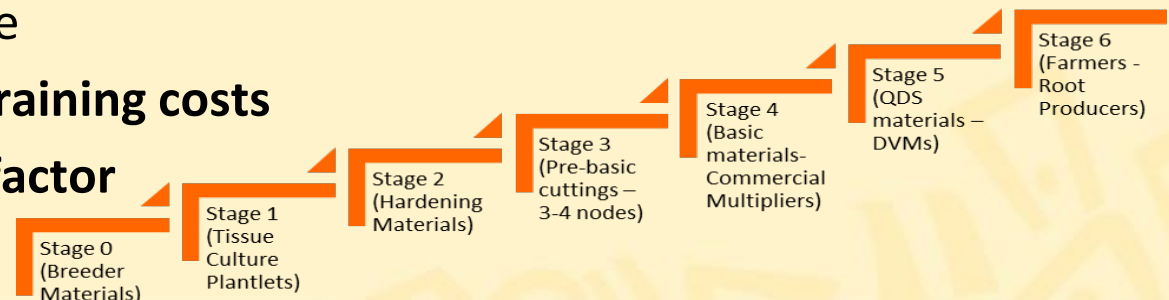
- Daily labour and technician
- Agricultural Inputs
- Goods and Supplies
- Services
- Quality Assurance

Administration, marketing, training costs

Risk management, inflation factor



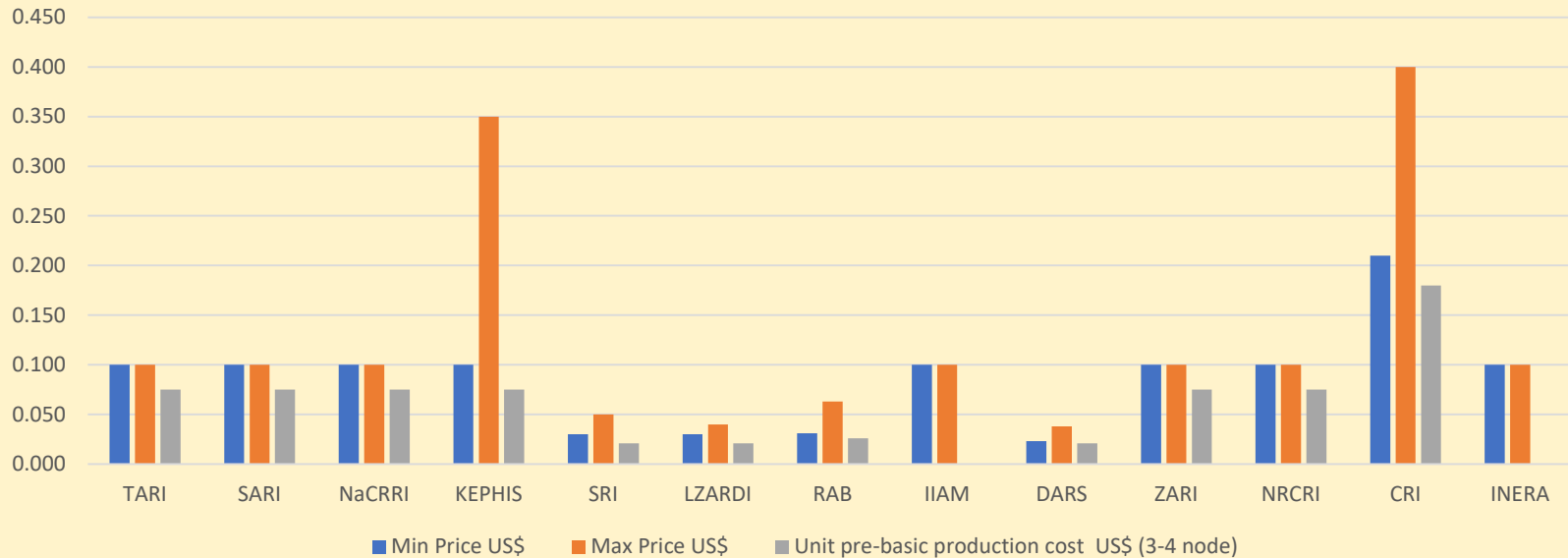
RAB peer to peer review of INERA Credit: S. Rajendran



Pre-basic unit production cost & price



Table 1: Pre-basic unit production cost; maximum & minimum prices across 13 institutions



- Optimize use of resources at each stage
- Increase multiplication rate
- Efficient use of bio-technology resources – focus on varieties with high demand
- Explore use of solar power to reduce electricity cost

Pricing strategies



Table 2: KEPHIS (Kenya) pricing strategy for pre-basic seed (June 2018)

Type of customer	Time of order and payment system	
	Selling price (Ksh) per 3-4 node cutting	
	Early order and advance payment	Late order and payment
Institutional customers	20	35
Private multipliers	10	20
Large volume order	2.5-7	35

- Determining real cost of production allowed KEPHIS to reduce price by half, improving customer relations & satisfaction

Revenue into Revolving Funds



Table 3: Status of NARI Revolving Funds (July 2017 to May 2018) (USD)

NARI	RF O/B	Act. Rev.	Act. c/f
CRI	0	1,511	1,511
IIAM	15,367	3,695	13,587
INERA	1,875	4,279	3,357
KEPHIS	10,226	12,705	12,342
NaCRRI	140	2,190	449
RAB	0	7,001	5,435
SARI	7,500	15,878	1,378
SRI	0	13,294	3,783
TARI	4,444	6,744	8,855
ZARI	3,333	3,722	53
DARS	0	4,332	1,264
NRCRI	n/a	n/a	n/a

- NARIs use different types of RF mechanisms

Cash flow

Table 4: Cash flow for a selected NARI (USD)

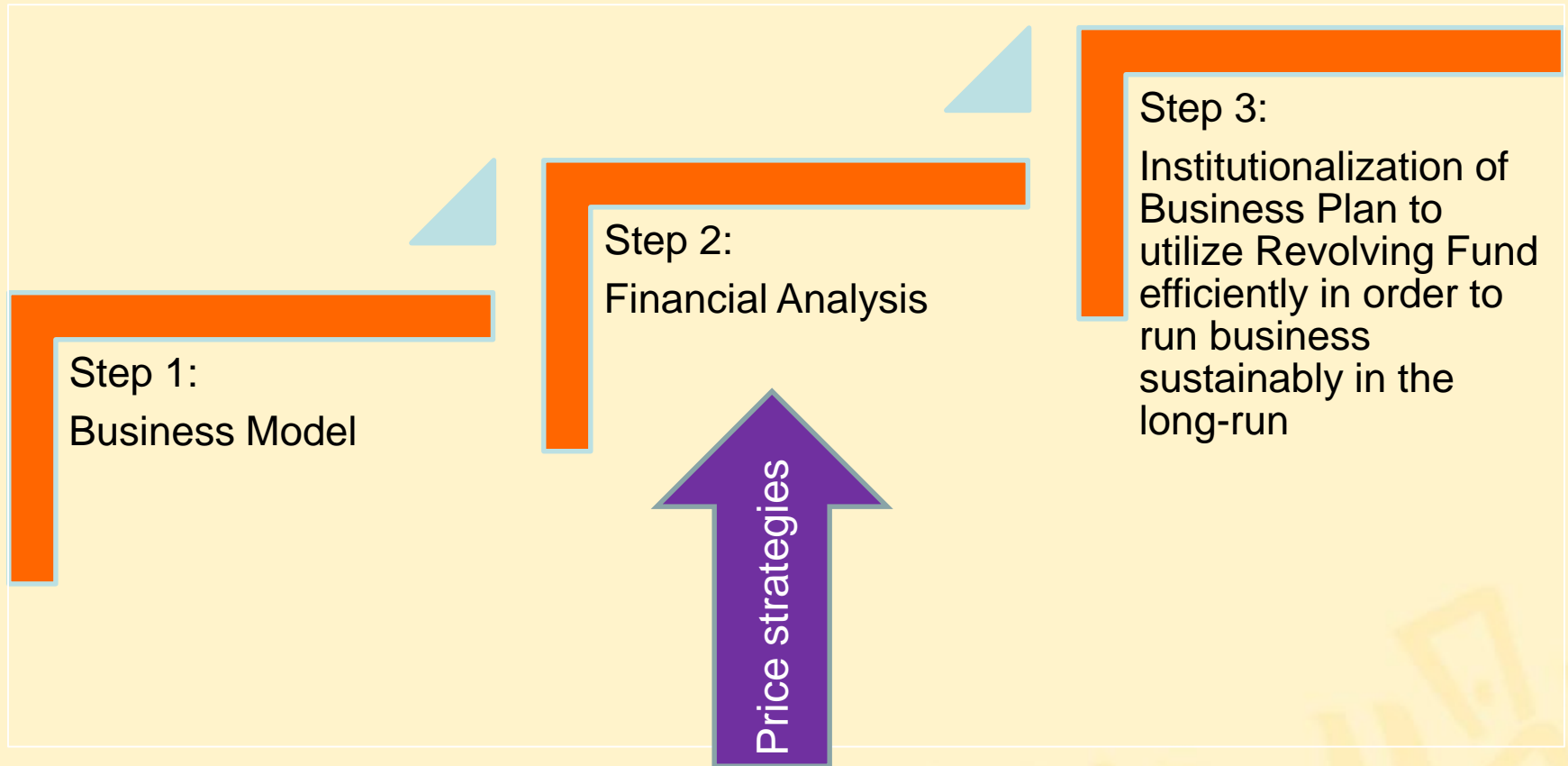
	2017- 2018	2018- 2019	2019- 2020
	Actual	Targeted	Targeted
<u>Demand of cuttings</u>	109,117	126,000	145,495
Average sale price	0.12	0.10	0.10
Cash inflows			
Cash B/F	10,379	12,545	14,855
Sale of cuttings from screen house	12,896	12,600	14,550
Subtotal	23,275	25,145	29,405
<u>Cash Outflows</u>			
Cost of production of total Pre-basic seed	8,047	7,718	8,912
Overhead expenses (15% of total costs)	1,609	1,544	1,782
Other Expenses (10% of total costs)	1,073	1,029	1,188
Subtotal	10,729	10,290	11,882
Net cash	12,545	14,855	17,523

- Business has positive cash flow
- Dependent on marketing
- Dependent on institutional overhead
- \$12,000 needed to cover recurrent production costs of 145,500 pre-basic cuttings

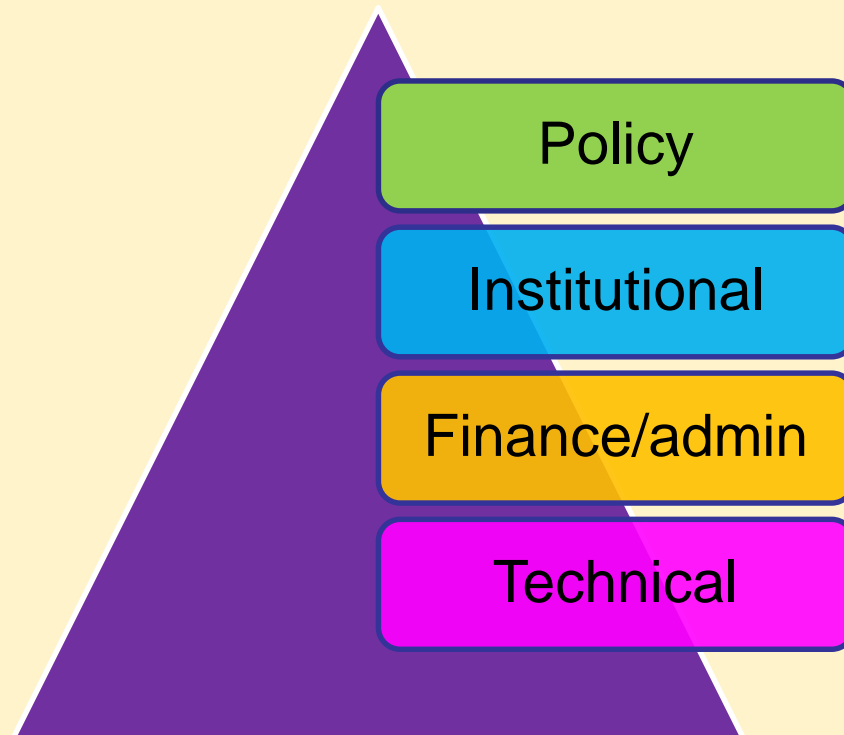
Business plans



Development of business plan & implementation



Sustainable EGS production



Institutionalization of EGS business through 4 pillars

Assessing level of institutionalisation of the business plans

- Participatory self assessment & peer-to-peer NARI review:
 - 7 countries; 12 institutions; 88 respondents (m: 54% f: 46%) from: technical, admin/finance, senior management
 - Key informant interviews, focus group discussions, observations,
 - Likert based scoring for extent of institutionalisation:
 - Scores above 3 indicate that the NARI is on-track but may require guidance to run business in a sustainable manner.
 - SWOT analysis and TOWS strategy development



IIAM DG Dr Olga Faftine and colleagues discuss SWOT of IIAM's Sweetpotato EGS Business Plan. Credit: S. Rajendran

Results

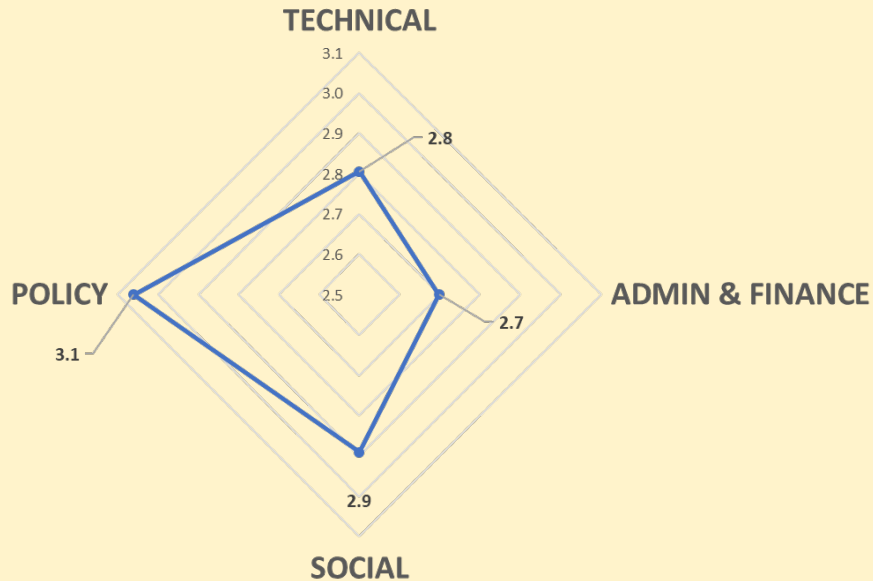
Table 6: Overview of relative strength & weakness of institutionalization of EGS business & revolving funds in 7 public institutions

NARI	TECHNICAL	ADMIN & FINANCE	SOCIAL	POLICY
KEPHIS	2.9	3.0	3.2	3.2
RAB	2.8	2.5	2.9	3.0
INERA	3.0	1.9	2.1	2.8
DARS	2.6	3.1	3.4	3.2
NaCRRRI	3.1	2.7	3.3	3.3
IIAM*	2.5	3.0	2.5	2.9
Average score	2.8	2.7	2.9	3.1
STATUS				
No. in weakest pillar	3	3	1	0
No. in strongest pillar	1	1	3	3

NB: Study designed to assess relative strength of pillars within an institution; not to compare across institutions

Strong & weak pillars

Fig 1: NARIs average score for each pillar



Policy: strengths

- Management hold staff accountable for implementation of RF
- Institutional rules allow for RF

Admin/finance: weaknesses

- Extent to which NARI reports on business plan and RF at institutional level
- Extent to which NARI budgeted/used RF to cover EGS production costs

TOWS - strategies



Fig 2: TOWS matrix

		External	
		Opportunities	Threats
internal	Strengths	<p>SO</p> <p><i>"Maxi-Maxi" Strategy</i> Strategies that use strengths to maximize opportunities.</p>	<p>ST</p> <p><i>"Maxi-Mini" Strategy</i> Strategies that use strengths to minimize threats.</p>
	Weaknesses	<p>WO</p> <p><i>"Mini-Maxi" Strategy</i> Strategies that minimize weaknesses by taking advantage of opportunities.</p>	<p>WT</p> <p><i>"Mini-Mini" Strategy</i> Strategies that minimize weaknesses and avoid threats.</p>

Strategy examples - RAB



Use strengths to capitalize on opportunities (SO)

- Utilize available capacity (facilities and sites) with proper multiplication calendar to maximize production of good varieties adapted to different climatic conditions.

Minimize weaknesses and avoid threats (WT)

- Minimize effects of shortage of inspectors through prioritizing government investment in long term plan for staff training at decentralized levels to reduce disease spread

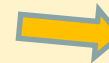
Next steps



- Building teams fit for business:
 - Technical, admin/finance & senior management
- Institutions using SEGSBAT for other crops
- Financial feasibility for cross RTB crop EGS enterprise
- Landscape analysis of Public-Private-Partnerships for EGS business

Acknowledgements

- TARI, SARI (Ethiopia)
- NaCRRRI, BioCrops (Uganda)
- KEPHIS (Kenya)
- SRI, LZARDI, U-ARI, (Tanzania)
- RAB (Rwanda)
- DARS (Malawi)
- ZARI (Zambia)
- IIAM (Mozambique)
- NRCRI (Nigeria)
- CSIR-CRI (Ghana)
- INERA (Burkina Faso)



TC, Screen house, net tunnel, open field production multiplication, root production, harvesting and value addition. Credit: M.McEwan & T.Muzhingi.