Agricultural Productivity Program for Southern Africa (APPSA)

APPSA Overview

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Background and Context

National Agricultural research systems in Africa often challenged by:

- Complex agricultural production systems
- Low levels of financing, spread over many priorities
- Limited access to improved technologies
- Human resource constraints
- Poor quality of facilities, infrastructure
- Weak technology dissemination systems
- Barriers to transnational technology spillover

........ Regional approaches to R&D offers some solutions to these problems.
What is APPSA?

- APPSA part of a commitment by International Development Association (IDA) to help countries enhance long-term availability of safe & nutritious food
- 6-Yr Project (2013 – 2019) financed by the World Bank using a Specific Investment Loan (SIL)
- Project launched in 2013 => Malawi, Mozambique & Zambia.
- Additional countries in SADC region expected join as APPSA evolves & expands
APPSA Objective

To increase the availability of improved agricultural technologies in participating countries by:

- Establishing RCoLs on commodities of regional importance, thereby allowing regional specialization around priority farming systems;
- Supporting regional collaboration in R&D
- Facilitating increased sharing of agric info, knowledge & technologies among participating countries
APPISA Approach

- Each country establishes a RCoL in its respective commodity area that distinguishes it as a leader in the region & beyond.
  - Malawi: maize-based cropping systems
  - Mozambique: rice-based cropping systems
  - Zambia: food legume-based cropping systems

Regional Project Coordination ⇒ CCARDESA Secretariat
Project design

Component 1: Technology generation and dissemination
- Collaborative sub-projects (research, dissemination)

Component 2: Strengthening Regional Centers of Leadership
- Upgrading facilities, strengthening programs, training scientists

Component 3: Coordination and facilitation
- CCARDESA facilitation function
- Project management
Key Achievements
1. Collaborative technology generation & dissemination around priority farming systems
Regional R&D activities undertaken, covering the following thematic areas:

- Nutrition (vitamin A maize, QPM, high iron/zinc beans, utilization of grain legumes)
- Human health/food safety (aflatoxin, mycotoxin levels in maize and groundnuts)
- Mitigating the effects of climate variability (drought tolerant maize, legumes and rice)
- Soil/water management (soil fertility, CA technologies, water use efficiency)
- Promoting “new” cash crops (soybean, pigeon pea, rice)
Regional R&D activities undertaken, covering the following thematic areas:

- Post-harvest storage (small scale metal silo testing/fabrication, R&D on storage pests)
- Agro-processing, value addition (groundnut, bambara nut, soybean)
- Existing and emerging pest/disease threats (surveillance on MLN, MLN resistance)
- Production and productivity (input use trade-offs, crop rotation)
- Scaling up dissemination (demonstration, field days, media efforts)
### 74 Regional collaborative R&D projects implemented

<table>
<thead>
<tr>
<th>Commodity/Thematic Area</th>
<th>Total # Projects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cassava</td>
<td>5</td>
</tr>
<tr>
<td>Climate Smart Agriculture</td>
<td>8</td>
</tr>
<tr>
<td>Legumes</td>
<td>28</td>
</tr>
<tr>
<td>Maize</td>
<td>21</td>
</tr>
<tr>
<td>Rice</td>
<td>10</td>
</tr>
<tr>
<td>Sorghum</td>
<td>2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>74</strong></td>
</tr>
</tbody>
</table>
Technology Dissemination pathways

- Lead farmers
- Demonstrations
- On-farm Field Days
- Agriculture shows,
- Seed fairs
- Print media
- Electronic media,
- Innovation Platforms
- IEC materials
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- Beneficiaries (F=35%)
  - 41,300 are LEAD Farmers
- TIMPs made available to farmers
- TIMPs shared across countries
- TIMPs generated
  - 4.61 Million
- 68
Agriculture Productivity Programme for Southern Africa (APPSA)

Ministry of Agriculture Irrigation, and Water Development
Department of Agricultural Research Services

Participatory evaluation of improved rice varieties to increase productivity in Malawi, Mozambique and Zambia
Demonstration plot lay out
Data collection
Entrepreneurship, seed production
Plant genetic resource collection and conservation
Seed production and storage
Integrated Crop Management (ICM) technologies
Conservation Agriculture
Good Agricultural Practices
Agro-processing

97,700 farmers trained in:
Participatory variety selection
## Variety release

<table>
<thead>
<tr>
<th></th>
<th>Malawi</th>
<th>Mozambique</th>
<th>Zambia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Legumes</td>
<td>6</td>
<td>8</td>
<td>14</td>
</tr>
<tr>
<td>Maize</td>
<td>14</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>Rice</td>
<td>2</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Sorghum</td>
<td></td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Varieties submitted for release</td>
<td>20</td>
<td>16</td>
<td>27</td>
</tr>
</tbody>
</table>
2. Improved technical capacity to lead national & regional R&D agenda
- Diploma = 8 (3F)
- BSc = 72 (39 F)
- MSc = 75 (26 F)
- PhD = 30 (10 F)

185 Staff supported for Long Term Training
### Infrastructure Development/Rehabilitation

<table>
<thead>
<tr>
<th>Infrastructure</th>
<th>Malawi</th>
<th>Mozambique</th>
<th>Zambia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Offices/houses/sheds/hostels rehabilitated</td>
<td>3- Bvumbwe, Chitedze &amp; Kasinthula</td>
<td>5 - Sussundenga, Nametil Nampula, Chókwe &amp; Umbelúzi</td>
<td>2 - Kabwe &amp; Mt-Makulu</td>
</tr>
<tr>
<td>New construction works</td>
<td>3- Bvumbwe, Chitedze &amp; Kasinthula</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Rehabilitated Irrigation systems</strong></td>
<td>1 - Kasinthula</td>
<td>3 - Chókwe, Umbelúzi &amp; Ribaué</td>
<td>2 - Kabwe &amp; Mt-Makulu</td>
</tr>
<tr>
<td><strong>Rehabilitated &amp; equipped laboratories</strong></td>
<td>1 - Bvumbwe</td>
<td></td>
<td>9 - Mt Makulu, Kabwe, Msekererb, Nanga, Mochipapa, Misamfu, Mutanda, Mufulira &amp; Mansa</td>
</tr>
<tr>
<td><strong>Securing of experimental fields</strong></td>
<td></td>
<td></td>
<td>5 - Mt-Makulu, Kabwe, Nanga, Mochipapa &amp; Msekererb</td>
</tr>
<tr>
<td><strong>Road Infrastructure</strong></td>
<td>1 – Bvumbwe, Chitedze &amp; Kasinthula</td>
<td></td>
<td>2 - Mt-Makulu, Mochipapa</td>
</tr>
</tbody>
</table>
The APPSA Regional Centre of Leadership for Maize and maize based Research, Chitedze
Chitedze Road Rehabilitation works
Infrastructure rehabilitation in Mozambique
Civil works at the new Regional Centre of Leadership for Rice at Namacurra

Construction of water tank and water hole

Laboratory of Biotechnology and Seed lab
Agricultural Equipment
Agricultural Equipment
Mobile soil testing laboratory - Zambia
Strengthening Seed Systems

- Facilitating multiplication of certified seed
  - Farmers linked with seed companies;
  - Training of seed growers;
- Training of seed inspectors to decentralize seed quality control service
- Establishment of satellite seed certification laboratories
- Revision of seed policy / Seed Act taking cognisance of SADC HSRP
3. Effective structures & systems for regional collaboration & R&D management
Functional coordination systems developed:

- National APPSA Secretariats, Technical committees established
- Regional Steering Committee established
- Regional M&E system developed
- Commodity lead scientists identified
- R&D peer reviews
- Support in short-term capacity building
- Support in alignment of national seed regulations with SADC harmonized Regional Seed Policy
  - National & regional sensitization meetings on harmonized seed laws
  - Strengthening national phytosanitary measures
  - Aligning seed regulations to regional seed policy
Development of learning & knowledge sharing mechanisms

- Knowledge sharing mechanisms developed:
  - Commodity D-groups
  - M&E WG
  - Communication WG
  - Success stories

- Networking => Study tours

Benchmarking visits
Key Challenges

- Weak collaboration among scientists
- Ensuring R&D is of high quality
- Moving knowledge & technologies “off the shelf” to farmers at appropriate scales
Key Challenges

- Ensuring seed systems functional enough to make new varieties available to farmers
- Ensuring effective farmer-extension-research feedback mechanisms
- Balancing investment in new technology generation when existing technology is still under-utilized
Lessons Learnt

- **Collaboration / Partnerships**
  - Enhanced quality diversity in project execution
  - Promotes efficiency in resource use
  - Easier for R&D projects working under Regional Networks & with CG Centres to share technologies across boarders

- **Monitoring & Evaluation**
  - National reviews, ISMs, MTRs – enhanced learning in the project
  - Regional M&E system enhanced harmonised reporting
Lessons Learnt

- Mentorship:
  - Skills, inspiration & motivation to young scientists.
- National & Regional Committees
  - Improved implementation, governance & monitoring.
- Organisation & management of commodity teams
  - Use of Lead Scientists enriched the technology development process.
Thank You

Obrigado

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