AVRDC in Vegetable Crops Research and Development in sub-Saharan Africa (SSA)

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Collaborative Research Program (CRSP) Council Meeting

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Outline

• AVRDC – The World Vegetable Center, and its focus areas

• Brief on AVRDC’s achievement in SSA

• Importance of linkage among actors in vegetable sector
AVRDC – The World Vegetable Center

International Agricultural Research Center (IARC) fully focusing on vegetable R&D
AVRDC in various regions of the world

- Uzbekistan
- Korea
- Taiwan
- Indonesia
- Solomon Islands
- India
- Thailand
- Mali
- Niger
- Cameroon
- Tanzania
- Honduras

Madagascar, recently down scaled for financial reason

Madagascar, 2006 recently down scaled for financial reason
Indigenous Vegetables

- Spiderplant
- Eth. mustard
- A. eggplant
- Amaranth
- Vegetable cowpea
- Okra
- Bitter Gourd
- A. Nightshade
Exotic Vegetables

Peppers
AVRDC’s Research & Development
Thematic Areas

Theme 1: GERMLASM
Germplasm conservation, evaluation and gene discovery

Theme 2: BREEDING
Genetic Enhancement and varietal development

Theme 3: PRODUCTION
Safe and Sustainable Vegetable production systems (IPM, ICSWM)

Theme 4: CONSUMPTION
Enhancement balanced diet through increased access to and utilization of nutritious Vegetables
AVRDC involves in the entire vegetable value chain through its various R&D thematic areas.
AVRDC follows Participatory R&D Strategy

PVS in the field

Organoleptic taste
Achievements
## Tomato varieties released from AVRDC lines from 1997 to 2010/11 and commercialized

<table>
<thead>
<tr>
<th>Line code</th>
<th>Commercial name</th>
<th>Year released/Commercialized</th>
<th>Country Released/Commercialized</th>
</tr>
</thead>
<tbody>
<tr>
<td>LBR19-2</td>
<td>Meru</td>
<td>2007</td>
<td>Tanzania</td>
</tr>
<tr>
<td>LBR44-2</td>
<td>Kiboko</td>
<td>2008</td>
<td>Tanzania</td>
</tr>
<tr>
<td>ARP367-1</td>
<td>Khama</td>
<td>2003</td>
<td>Malawi</td>
</tr>
<tr>
<td>ARP366-4-23</td>
<td>Phindu</td>
<td>2008</td>
<td>Malawi</td>
</tr>
<tr>
<td>LBR6</td>
<td>Duluti</td>
<td>2010</td>
<td>Tanzania</td>
</tr>
<tr>
<td>LBR11</td>
<td>Tengeru 2010</td>
<td>2010</td>
<td>Tanzania</td>
</tr>
</tbody>
</table>
Tanya, Det, processing
- Tanzania 1997
- Kenya 2006
- Uganda 2007

Tengeru97, Indet, fresh market
TZ 1997
KY 2006
UG 2007

Mbambande: Malawi 2003

Kiboko: TZ 2008

Meru: TZ 2007, fresh market
Late & early Blight Resistant fresh market tomato varieties released by Horti-Tengeru/Tanzania in 2010

Duluti

346g

468g

297g

Tengeru2010
### Indigenous vegetables released by Horti-Tengeru, Tanzania in 2011

<table>
<thead>
<tr>
<th>Vegetable type</th>
<th>Variety name</th>
</tr>
</thead>
<tbody>
<tr>
<td>African nightshade (<em>Solanum scabrum</em>)</td>
<td>Nduruma</td>
</tr>
<tr>
<td>African nightshade (<em>Solanum scabrum</em>)</td>
<td>Olevolosi</td>
</tr>
<tr>
<td>African eggplant (<em>Solanum ethiopicum</em>)</td>
<td>DB3</td>
</tr>
<tr>
<td>Ethiopian mustard (<em>Brassica carinata</em>)</td>
<td>Rungwe</td>
</tr>
<tr>
<td>Ethiopian mustard (<em>Brassica carinata</em>)</td>
<td>Arumeru</td>
</tr>
<tr>
<td>Amaranth (<em>Amaranthus cruentus</em>)</td>
<td>Madiira 1</td>
</tr>
<tr>
<td>Amaranth (<em>Amaranthus cruentus</em>)</td>
<td>Madiira 2</td>
</tr>
</tbody>
</table>
Other Areas of Contribution

- A large number of germplasm collection and conservation
- Post harvest handling and storage development
- Crop management packages
- Production guidelines development
- Recipe preparation for nutrient bioavailability
- Contribution to the science through publication
Building the Capacity of NARES, Farmers and PSCs

- Short term trainings 1 week – 5 months
- Research interims 1-6 months
- Graduate research
- Farmers/community training; currently a regular program in post harvest handling

Over 30 African countries benefited
Other countries outside Africa
Total over 3000 people

Source: Modified from presentation by Dr. Abdou Tenkouano (2009)
Technical support to PSCs, NARES
Seed Production by East Africa Seeds Company, Tanzania, 2009

Tomato creates on- & off-farm job; over 80% workforce in the field is women

Variety: Tanya, 2009

DARSH Processing company
Enhancing Homestead Vegetable Production
Linkage Among Actors
AVRDC values linkage among the various actors of the vegetable value chain for the vegetable sector to contribute to its potential

- Alleviating poverty
- Diversifying nutrition and income source
AVRDC looks for continuous linkage among actors in the area of:

- Production constraint identification
- Improved availability of seeds
- Technology dissemination
- Post harvest handling and storage development
- Capacity building
- Empowering rural, peri-and urban women in vegetable sector
AVRDC also looks for collaboration among actors in more upstream vegetable value chain

- Germplasm collection, conservation, development and sustainable utilization
- Technology generation
- Fundamental studies especially in indigenous vegetables that did not get proper place by the science world
- In the area of national policy and strategy development for vegetable sector
Fund is very important to keep actors together for a tangible work

- Emphasis from the Donor Community to the vegetable sector
- More emphasis from NARES, government bodies for vegetable R&D programs
- Emphasis from public and private seed and development sectors
Asante

Thanks