Building capacity for plant breeding in developing countries

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National plant breeding capacity

GIPB

Regional consultations

Factors limiting success

Strategies to build national capacity

Conclusions

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Plant Breeding

- Science responsible for the creation of new varieties
  - Productivity increase
  - Resistance to biotic stresses
  - Tolerance to abiotic stresses
  - Adaptation & Mitigation climate change effects
  - Response to new market demands

food security – sustainable economic development
Plant Breeding Capacity

- Word-wide assessment (>80 developing countries)
  - Decreasing or stable
  - Limited education level
  - Focus on major crops
  - Efforts of private sector concentrated on economic crops

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Plant breeding and associated biotechnology capacity assessment (PBBC)

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Creating a Foundation for GIPB

- FAO Survey to assess the plant breeding and related biotechnology capacity in developing countries
  - Plant breeding capacity is inadequate

- The International Treaty on Plant Genetic Resources for Food and Agriculture and its Global Plan of Action

http://km.fao.org/gipb
Global Partnership Initiative for Plant Breeding Capacity Building (GIPB)

- A global partnership platform dedicated to increasing plant breeding capacity building, mainly in developing countries

http://km.fao.org/gipb
GIPB international partnership platform

Global
- CGIAR Centers
- CIAT
- Bioversity
- CIFOR
- ICFR
- ICRAF
- IRRI

Regional/Sub-Regional
- APAARI
- ASARECA
- CACAARI
- CORAF
- SADC
- FARA
- FORAGRO

Regional Nets Near East/North Africa
- AARINENA

Regional Nets in Africa
- Regional Nets in the Asia & Pacific Area
- National Programs in the Asia & Pacific Area
- National Programs in Latin America
- National Programs in the Near East and North of Africa
- National Programs in Africa

Regional/National
- Brasil (EMBRAPA)
- Rep. Dom. (CEDAF)
- Perú (INIEA)
- Colombia (Corpoica)
- Costa Rica (INTA)
- Ecuador (INIAP)
- Panamá (IDIAP)
- México (INIFAP)
- Paraguay (DIA)
- Uruguay (INIA)

Country
- Argentina (INTA)
- Chile (INIA)
- Paraguay (DIA)

Country
- Colombia (Corpoica)
- Costa Rica (INTA)
- Ecuador (INIAP)
- Paraguay (DIA)

Private Sector
- NGOs
- Universities

Government Agencies
- NGOs
- Universities

International Organizations
- UN-FAO, GFAR

Advanced Research Institutions (ARIs),
- CGIAR Centers
- CIAT
- Bioversity
- CIFOR
- ICFR
- ICRAF
- IRRI
GIPB Objectives

- Policy dialogue and development
- Education and training
- Access to technology
- Exchange of PGR
- Sharing information
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Regional Consultations

South and Southeast Asia
Sub-Saharan Africa
Western Asia and North Africa
Latin America and the Caribbean
Regional Consultations

- Decline in plant breeding capacity
- Integrate molecular tools into PB
- Train plant breeders
- Facilitate cooperation among institutes
- Long-term investments
- Rewarding system
- Motivate participation of the private sector
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Factors limiting success

- Inadequate experimental fields conditions
- Inadequate # breeders/crop
- Inadequate access to the literature
- Inadequate knowledge of the plant breeding strategies
- Limited access to genetic resources
- Inadequate investment-friendly legislation and lack of public/private partnership
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- National PGR strategy
- Public awareness about the importance of PGR
- Harmony among the goals of PB and biotechnology tools
- Link PGR, PB and seed delivery systems
- Instruments to stimulate private investments and public/private partnerships
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Conclusions

- Capacities in PB in most developing countries are not sufficient
- The lack of long-term support for national breeding strategies
- Trained personnel and institutional weaknesses, within the PB sector and in its links with seed systems, are key elements that prevent the potential contribution of PB
Conclusions

- Lack of mechanisms to promote public and private partnerships
- This leads to under-developed seed systems and to poor transfer of improved germplasm to rural producers
A global platform dedicated to mobilize education, policy, technology and information resources to help unlock the value of plant genetic resources for all.

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