Brazilian South – South Agricultural Cooperation in Africa and Latin America

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Summary

- Embrapa’s International Cooperation
  South – South approach

- Current activities

- Innovation Marketplace

- Partnership with FAO

- Potential collaborations, France, FAO
Why Embrapa is into South – South cooperation?

- Brazilian Foreign Policy “operational arm”
  - Brazilian Cooperation Agency (ABC, www.abc.mre.gov)
    - Africa
    - Latin America
  - High demand from developing countries
Embrapa & South – South Cooperation

• Coordinator, Brazilian Agricultural R&D System
  ✔ State institutes
  ✔ Federal Network of Universities & Professional Education

• Partnerships
  ✔ Private companies
  ✔ International institutes
Brazilian Agricultural R&D System

17 State Ag Research Centers
Large network of experimental stations

47 Embrapa Technology Development Centers

Federal Network of Professional Education

Private Sector
- Technologies
- Technical assistance
- Farm supplies
- Food processing
- Logistics
Climate similarities
Tropical Belt
Brazil and Africa share acidic and nutrient-poor soils

Tropical Soils

- Acid – 84%
- Saline – 2%
- Shallow – 7%
- Flooded – 16%
- No problem – 9%

http://www.nhq.nrcs.usda.gov/WSR/mapindx/metadata/Maps/ORDERS.JPG
Brazilian Ag R&D System, 40 Years
• Science-Based Tropical Agriculture
• Comprehensive Portfolio
  • Technologies
  • Products
  • Services
Moving Towards Sustainability

Changes in Grain Production and Area - 1991 to 2010*

Source: MAPA, 2010

Growth: 157.3% = 5.1% / year Production

Harvested Area
Growth: 24.9% = 1.2% / year

Source: Conab
How we work

Technical Cooperation

- Tested Technologies
- Capacity development
- Institutional Development

Knowledge Exchange

- Global food Security
- Tropical biomes improved knowledge
- Potential pests & diseases

Current Activities, briefly
Exchange of genetic resources

Center of Origin
China

Introduction
USA

Introduction
American varieties

1960

1999

40 years +
Genetic
Improvement = Brazilian varieties
Soybeans in Tropical
Environment

Concepts
✓ Open innovation
✓ Public goods
✓ Intellectual property
Summary Technical Cooperation (2012-2014)

Total 163 Projects, 55 countries

- 17 countries ✔59 projects
- 10 countries ✔30 projects
- 22 countries ✔68 projects
- 4 countries ✔6 projects
Multilateral Cooperation Mozambique

- Ministry of Agriculture of the Republic of Mozambique
- Japan International Cooperation Agency (JICA)
- Brazilian Cooperation Agency (ABC) + Embrapa

Pro-Savannah Project
“Corridor” to Nacala = 14 million ha
Project “Cotton 4” +

✓ Mali
✓ Benin
✓ Tchad
✓ Burkina Faso
✓ From 2014 + Togo
SSC Food Security Projects

- School Feeding Programs
- Purchase From Africans for Africa

Under preparation: Mozambique + Malawi
FAO + Embrapa + Angola (2014 – 2016)
Strengthening Research Capacity and Innovation
SSC Capacity Development Activities

Embrapa’s Centre for Studies and Capacity Development

- Dedicated 2010
- Tailored courses
  - Ag Research
  - Hands-on practices
    - Lab
    - Field
- Average 200-300 Trainees / year (2013)
- Proposal to increase numbers with international partners
The “Innovation Marketplace”

South-South partnerships + Multilateral funding

Promotes

- Agricultural research
- Innovation for development
- Policy dialogue and funding of collaborative projects

www.mktplace.org
Africa-Brazil, LAC-Brazil Platforms
Agricultural Innovation Marketplace

• The platforms provide
• Trilateral partnerships
• Funding joint projects
  • Embrapa and external funds
• Competitive selection procedure, bi-annually
  • Peer-reviewed
• Bi-annual calls
• www.mktplace.org
Embrapa and FAO Partnership

• Common institutional interests
  
• FAO
  - New SSC strategy
  - Capilarity
  - Facilitation roles
  - Platform for national institutions

• Embrapa’s internationalization
  - Partnerships, contacts in Europe
  - Platform for cooperation with many institutions
**FAO’s SSC Strategy**

- Broader in scope
- More flexible
- Wider set of modalities
- Greater potential for delivering FAO’s strategic objectives
FAO’S SSC AT WORK

- **Last 20 years**
  - > 2000 long-term experts
  - > 60 countries

- **Impacts**
  - Increased agricultural production
  - Frontline extension staff Hands-on training
  - Hundreds of new crop varieties introduced
  - New technologies demonstrated and adapted
### FAO’s role as FACILITATOR for SSC: Funding Mechanisms

<table>
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<th>Category</th>
<th>Contributions</th>
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| **Host Country Contribution** | • Unilateral Trust Funds (UTFs)  
• In-kind contributions                                              |
| **Provider Country Contribution** | • Government Cooperative Projects (GCPs)  
• In-kind contributions                                               |
| **Triangular Cooperation** | • FAO + Traditional donor (OECD country) + Developing country  
• Or, resources through multilateral organization                     |
| **SSC Trust Funds**       | • National, regional or global or ad-hoc SSC Trust Funds with multiple resource partners                                |
|                           | • Pooled funding from multiple partners through the provision of grants  
• In support of Regional Initiatives  
• Countries national priorities  
• Country Programming Frameworks (CPF)  
• ASTF (Africa-to-Africa)                                                          |
FAO’s role as FACILITATOR for SSC:
Multilateral initiatives

• Source for organized information
• Dissemination of good practices
  ✓ Tropical Agricultural Platform - TAP
  ✓ Comprehensive Information for Agricultural Research – CIARD
  ✓ World Agricultural Watch – WAW
  ✓ Etc...
• Other initiatives
  • Efficiency on cooperative actions
Evolution of Agriculture in Brazil

Great Potential

Joint International Cooperation

Argentina, Brazil, FAO, France, ...
Emphasis in Sustainable Intensification, Conservation Agriculture

Capital-intensive technologies
Capacity Development
Infra-structure

Cultivated area under no-till systems in Brazil

Scientific Cooperation, Bilateral + Multilateral Cooperation
(North – South – South)

• Scientific coop
  ➢ Labex + Labintex + Agropolis International members

• North – South – South Coop
  ➢ FAO facilitation
  ➢ Multilateral fora, etc.
Sustainable Cropping Systems in the Tropics

Biological Nitrogen Fixation

No Biological Nitrogen Fixation

Anual economy: > US$ 5 billion

Biological Nitrogen Fixation with *Bradyrhizobium* strains
Tropical, Intensive, sustainable Agriculture
Integrated Crop-Livestock Systems

Perennial crop (coconut, palm oil, eucalyptus, fruits, etc)

Cross bred, heat tolerant
Holstein x Zebu cattle

African *Brachiaria* grass + N-fixing legume forage(s)
Cultivars Development
Genetics, Conventional & Biotechnology Breeding

Naturally colored Cotton fibers

Tropical Beef, Dairy Cattle Production Systems

More than 30 years of Tropical Cattle Breeding Programmes
Genetic Resources, Breeding and Development of Tropical Grasses

Selection for pest and disease-tolerant animals

High yielding tropical grasses
Etnobiology and Traditional Knowledge

Innovations for family farming, Indigenous groups and traditional communities
Development of Public Policies

Zoning of Climatic Risks
Minimize agriculture losses
- Soils
- Rain
- Crops data

Agroecological Zoning
(Eg., Sugarcane)
Orange: Sugarcane
Planting Exclusion Zone

Low Carbon Agriculture Program
Hollistic policy + funding practices
Minimize Carbon emissions
Embrapa, Brazilian effort to global food security

- Family farming technologies transferred
  - Latin America & Caribbean
  - Africa
  - Some Asian countries

- Increased cooperation with other R&D institutions and FAO
  
  ➢ Improve and expand
    ✓ International scientific and technological development
    ✓ Technologies transfer
    ✓ Capacity development

  ➢ Fundamental to face new global challenges
Thanks
Merci
Obrigado

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