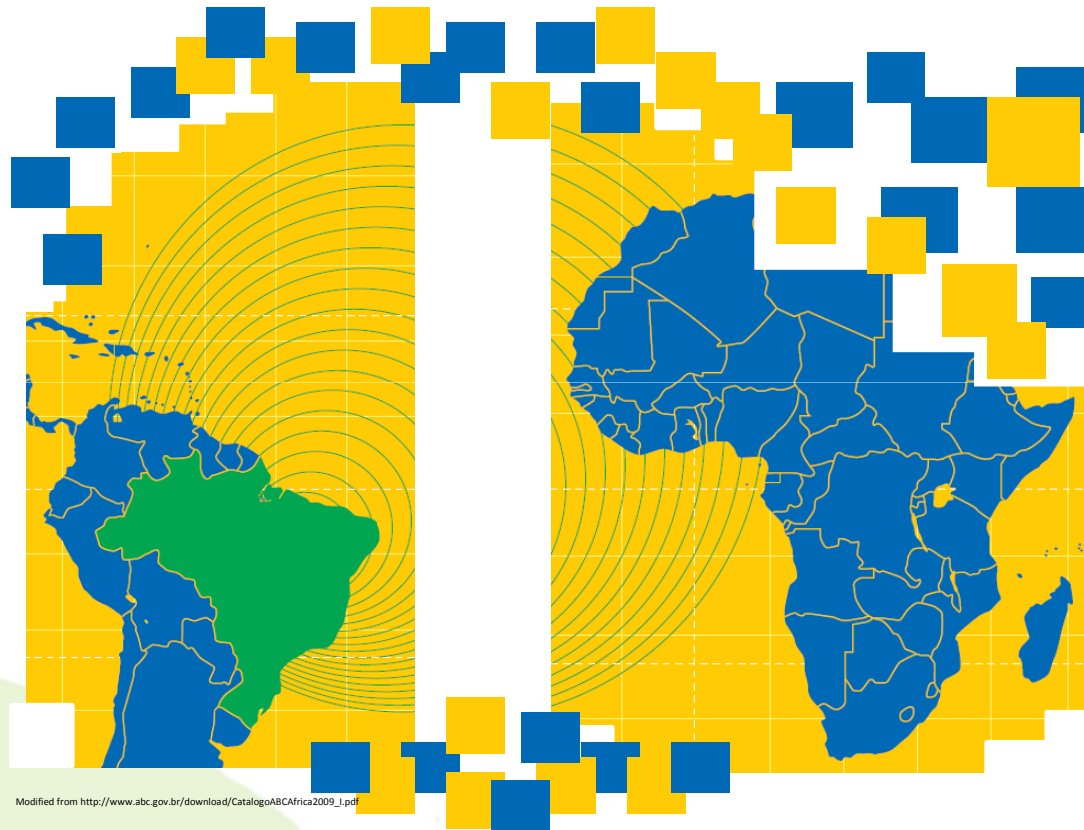


Embrapa Africa

A Brazilian Strategy to Support Agricultural Development in Africa



Mauricio Antonio Lopes, PhD
Embrapa Labex Korea
Rural Development Administration – RDA
Suwon - Republic of Korea

Special Seminar Presented at the International Technical Cooperation Center – ITCC
Rural Development Administration – RDA
19 February 2010, Suwon – South Korea

Embrapa Africa

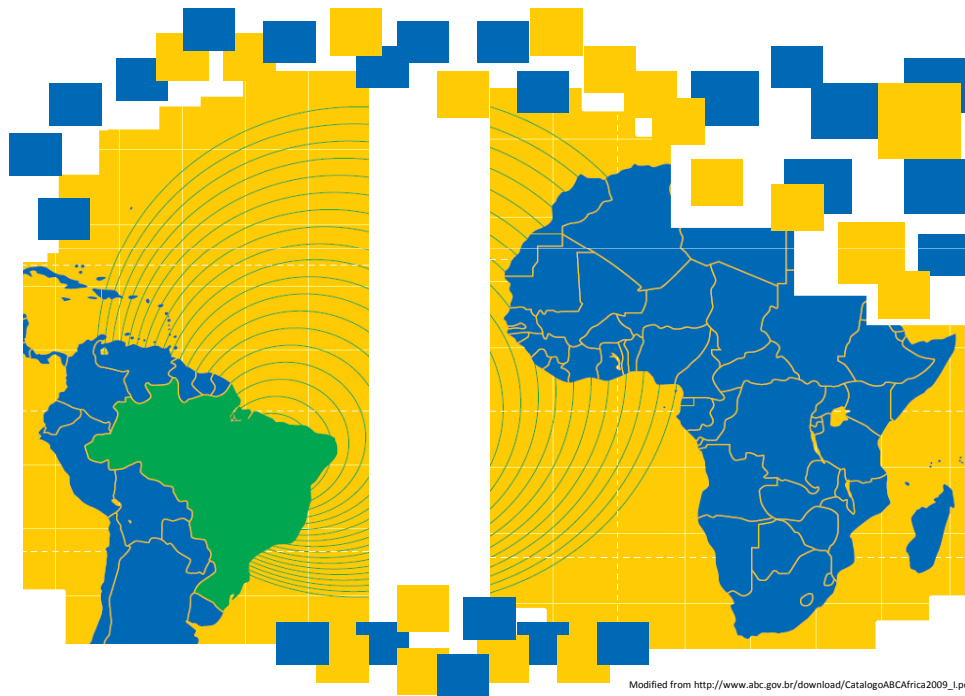
A Brazilian Strategy to Support Agricultural Development in Africa

SUMMARY

Brazil has been broadening its dialog with Africa to strengthen ties with that continent and also as a way of supporting African countries efforts to build capacity for autonomous development. Technical cooperation is a central instrument of Brazil's action in Africa. Brazil's South-South and North-South-South cooperation focuses on transfer of skills, capacity building, empowering local workers and projects adapted to the multiple realities of the continent. Embrapa's Africa office, established in the city of Accra, in Ghana, in 2006, is part of Brazil's foreign policy in Africa and has opened a new phase in the Organization's efforts to transfer knowledge and innovations to African countries. The main purpose of Embrapa Africa is sharing scientific and technological knowledge to contribute to social and economic development, to food security and to combat hunger across the region. The activities emphasize specific demands of each partner country on projects focused in agricultural development. Also, Embrapa Africa develops actions of technical assistance and opportunities for training and development of human resources. Embrapa Africa's work platform cover the areas of agroenergy, tropical fruit production, cassava and vegetables (production and processing), post-harvest technologies, animal beef/milk production and forests. Embrapa experts in planning and managing agricultural projects are working to articulate the interests of African producers, governments, rural development organizations and raw materials and technology suppliers to organize the productive chains. This effort is necessary for the growth of tropical agriculture in Africa, and also opens business perspectives for Brazilian raw materials, processing and logistics industries.

Embrapa Africa

A Brazilian Strategy to Support Agricultural Development in Africa



Similarities Brazil - Africa

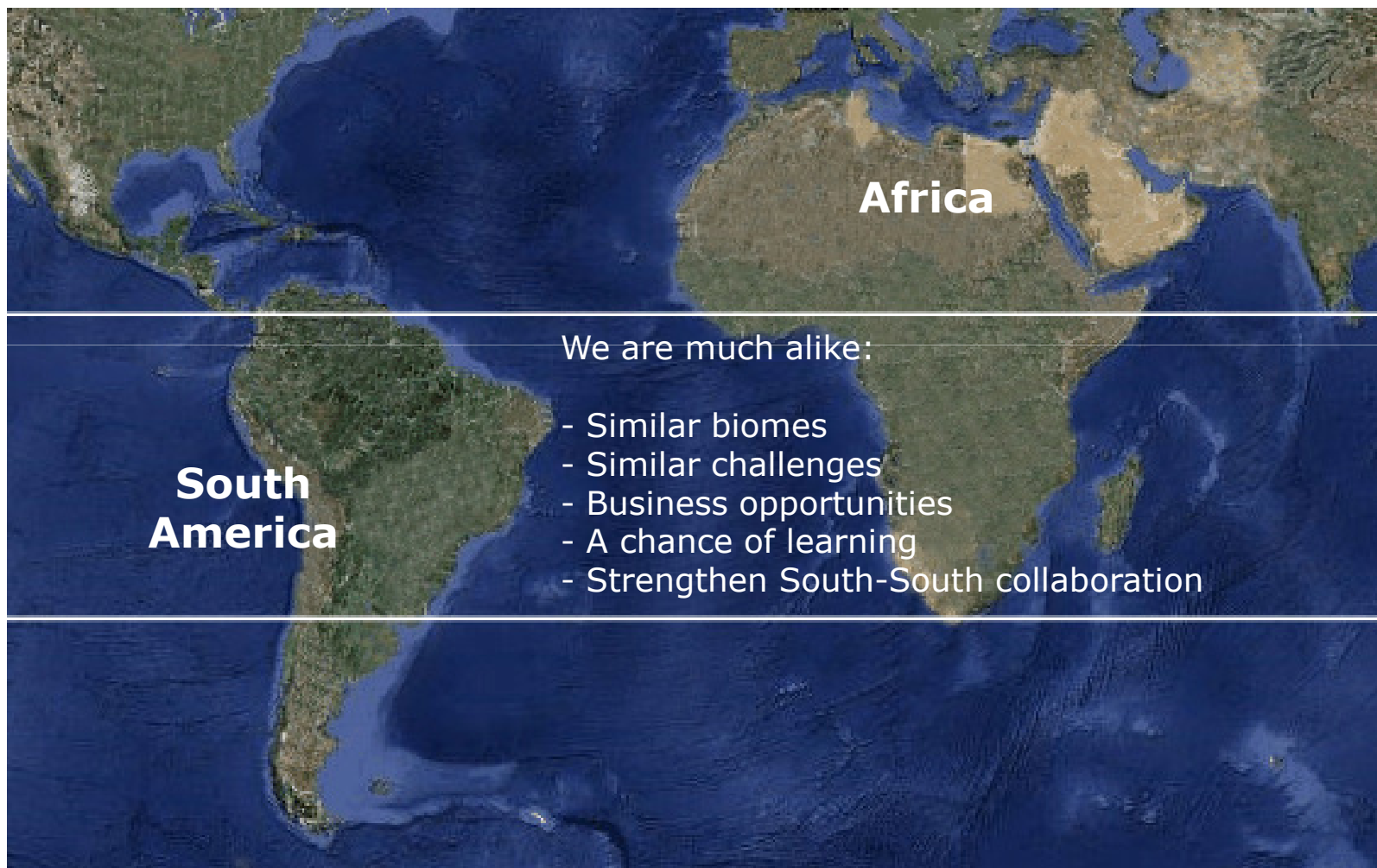
Why Brazil in Africa?

Tropical Agriculture Adaptable to Africa

Embrapa's Regional Program in Africa

Embrapa Africa Agenda & Strategy

Similarities Brazil - Africa



Similarities Brazil - Africa

Similar Biomes

Sun + Water + Land...



Semi-Arid



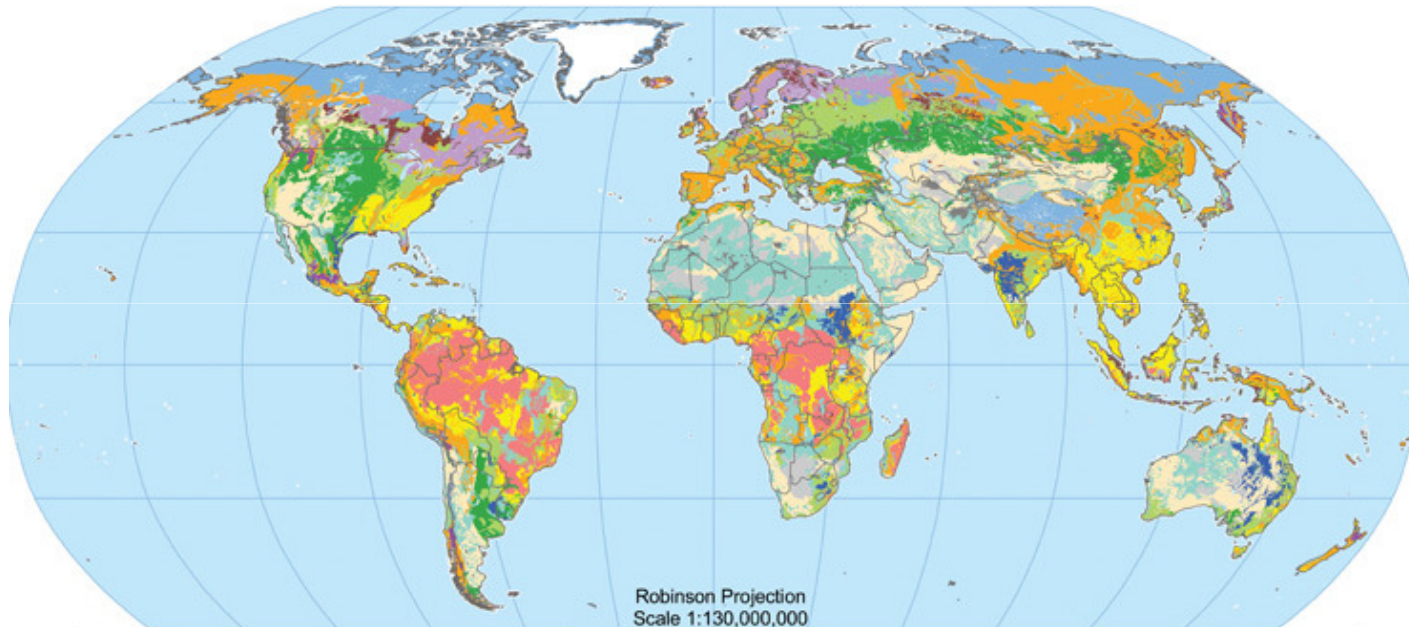
Humid Forest


















Savannas

Similarities Brazil - Africa

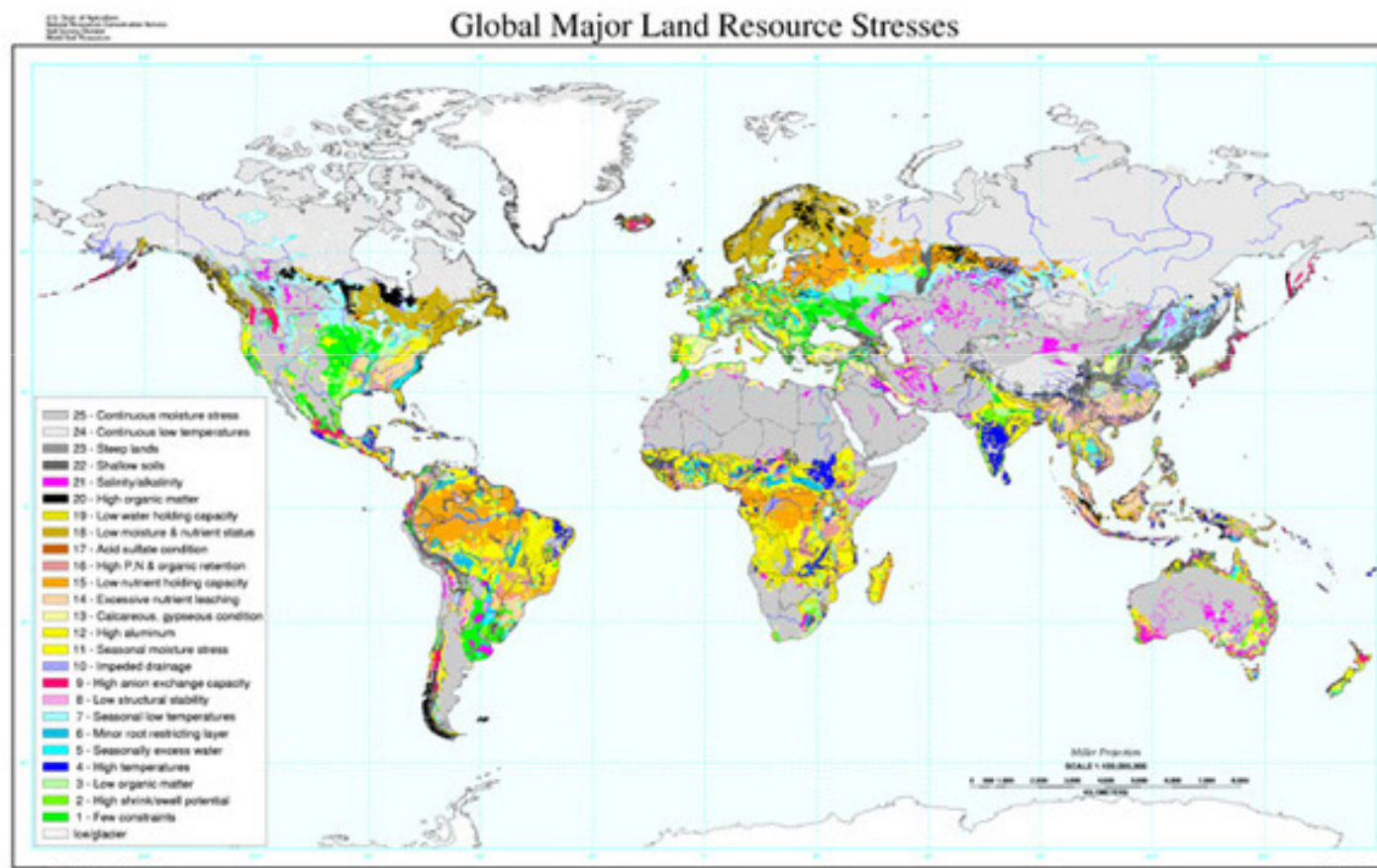
Global Soil Regions



Soil Orders				
 Alfisols	 Entisols	 Inceptisols	 Spodosols	 Rocky Land
 Andisols	 Gelisols	 Mollisols	 Ultisols	 Shifting Sand
 Aridisols	 Histosols	 Oxisols	 Vertisols	 Ice/Glacier

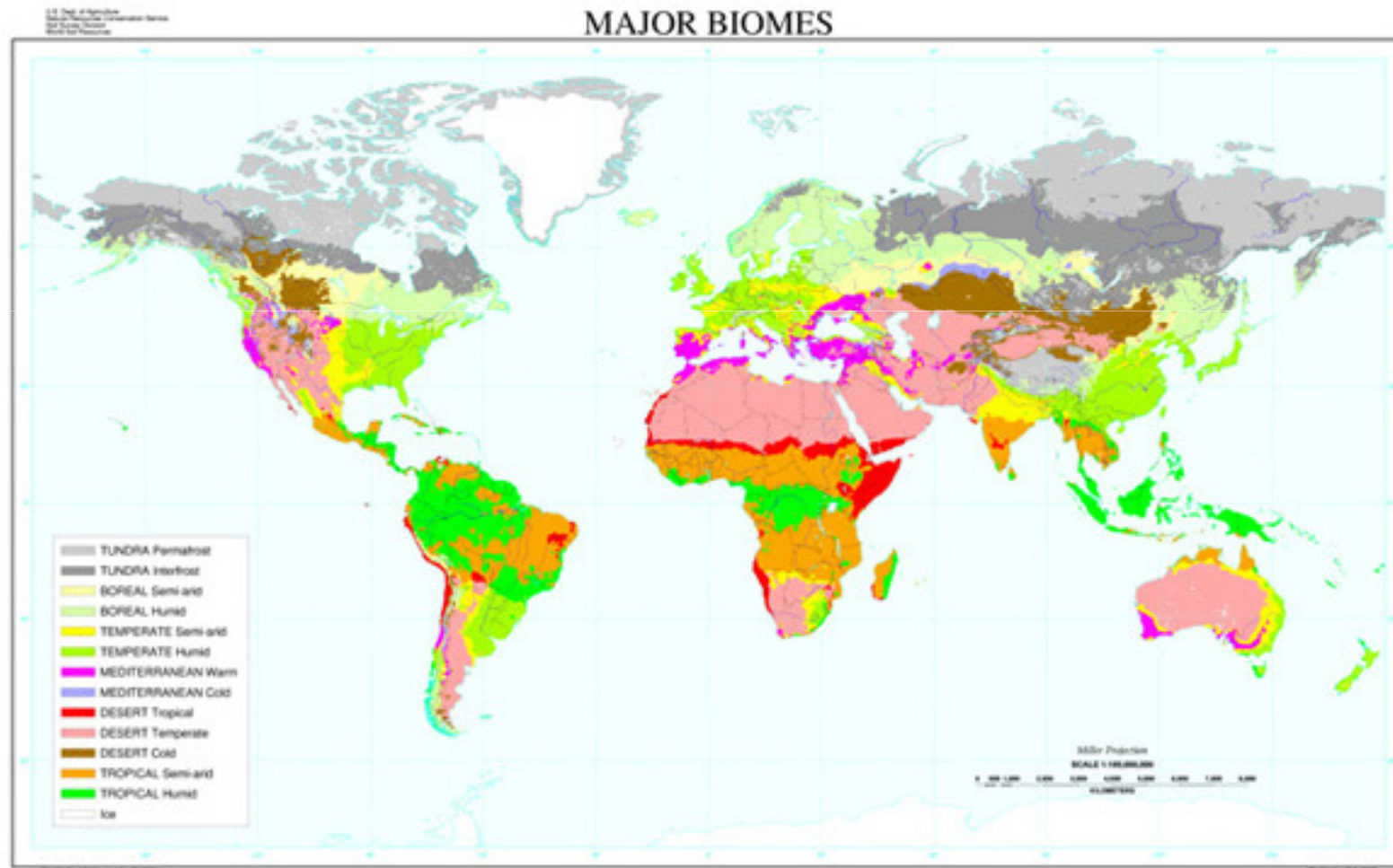
<http://soils.usda.gov/use/worldsoils/mapindex/>

Similarities Brazil - Africa



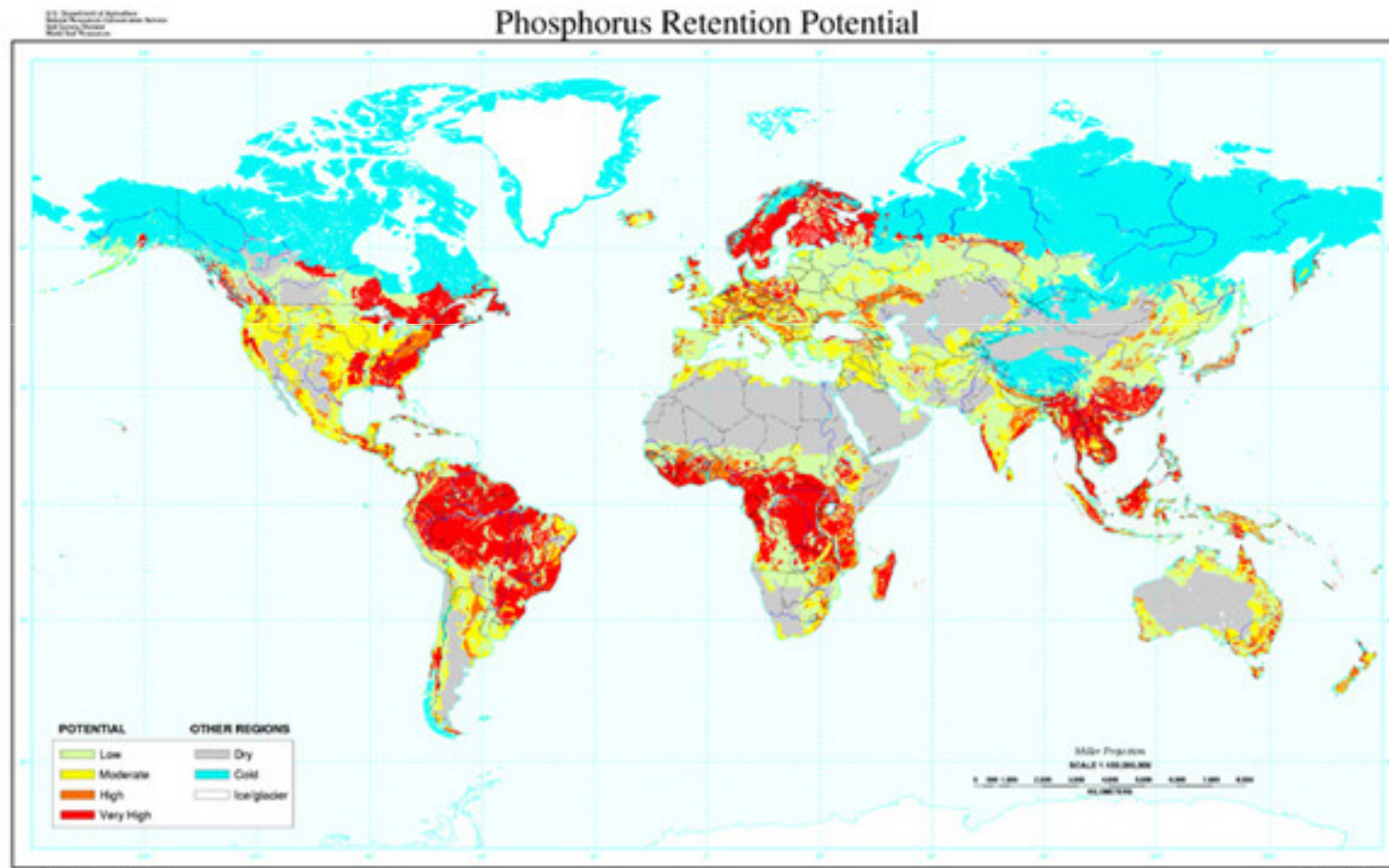
<http://soils.usda.gov/use/worldsoils/mapindex/>

Similarities Brazil - Africa



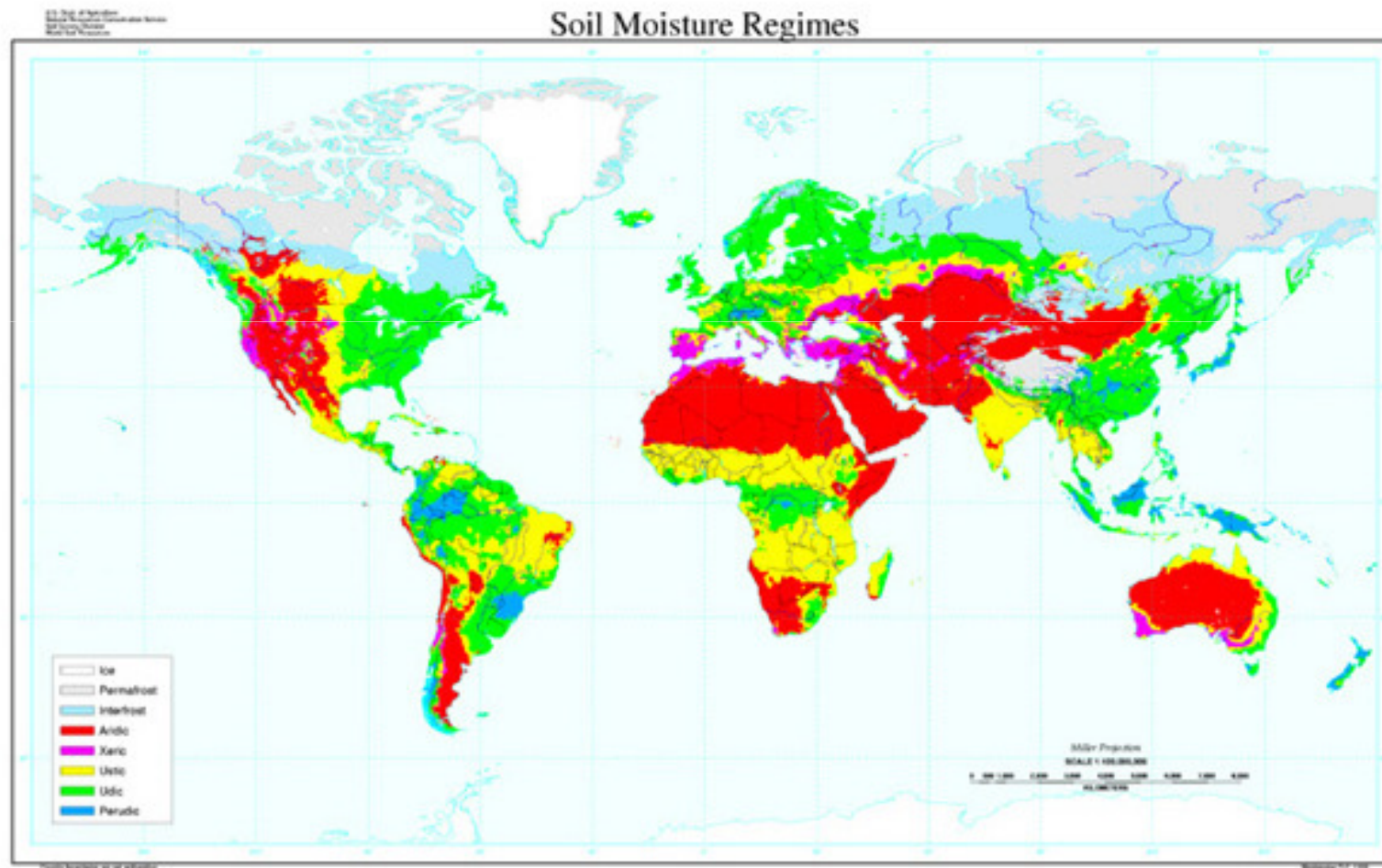
<http://soils.usda.gov/use/worldsoils/mapindex/>

Similarities Brazil - Africa



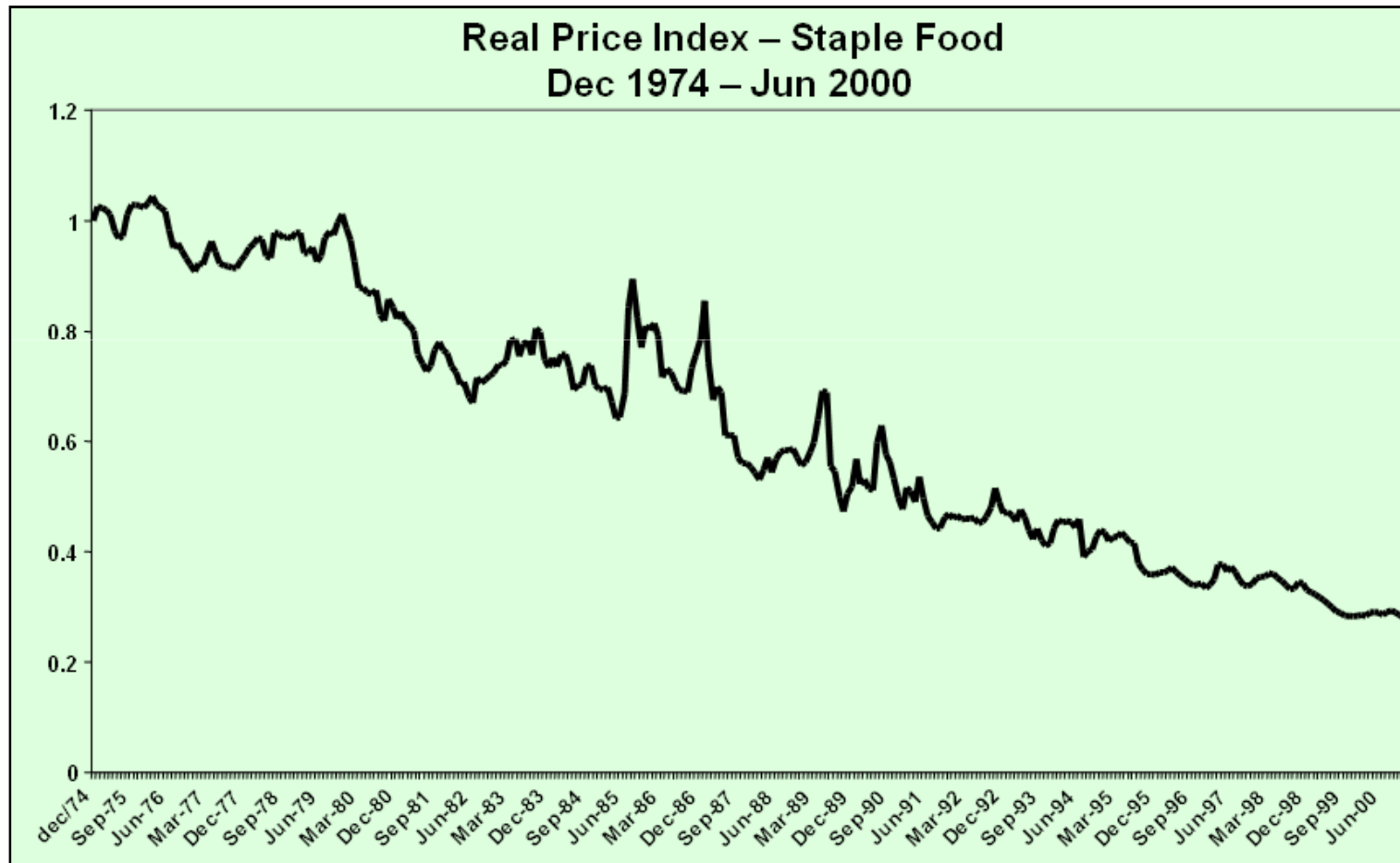
<http://soils.usda.gov/use/worldsoils/mapindex/>

Similarities Brazil - Africa



<http://soils.usda.gov/use/worldsoils/mapindex/>

The Brazilian Experience in Achieving Food Security



Source: Embrapa

The Brazilian Experience in Tropical Agriculture

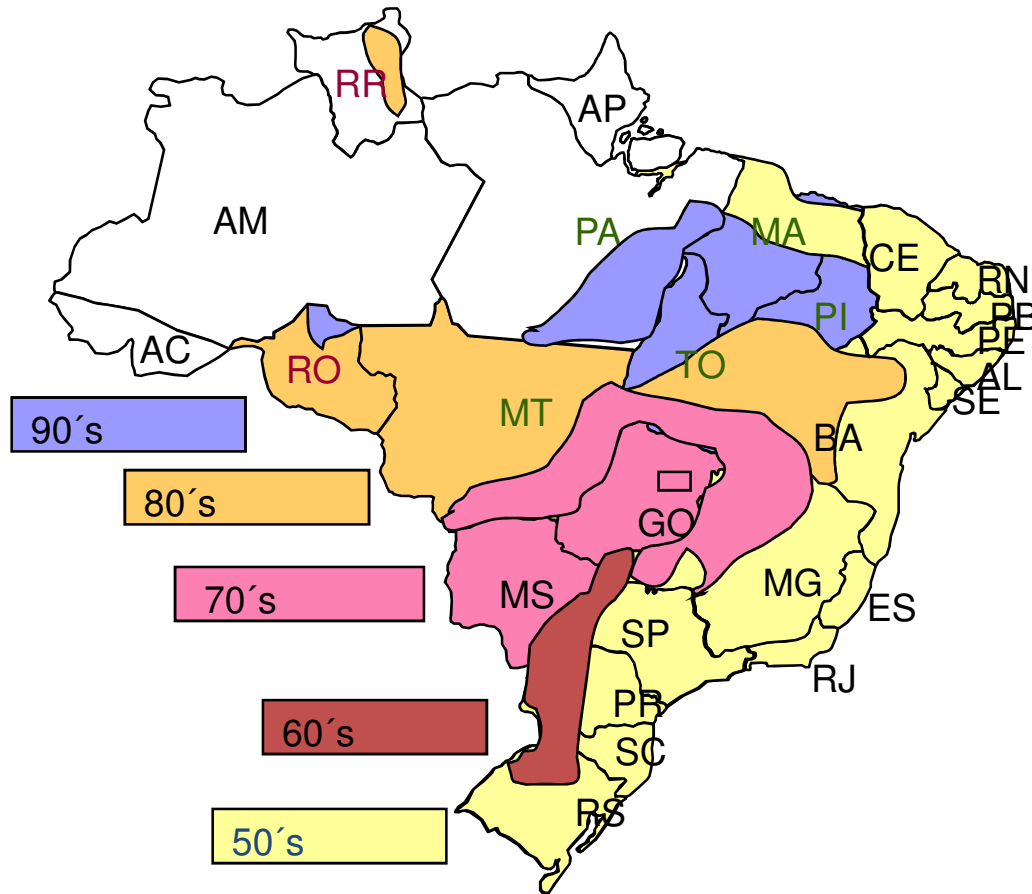


http://www.thedailygreen.com/cm/thedailygreen/images/EM/Cerrado_map-lg.jpg

The conquest of the Brazilian Savannahs “Cerrado”

Source: MAPA, 2002

The Brazilian Experience in Tropical Agriculture



Brazilian Agriculture From the 50's to the 90's



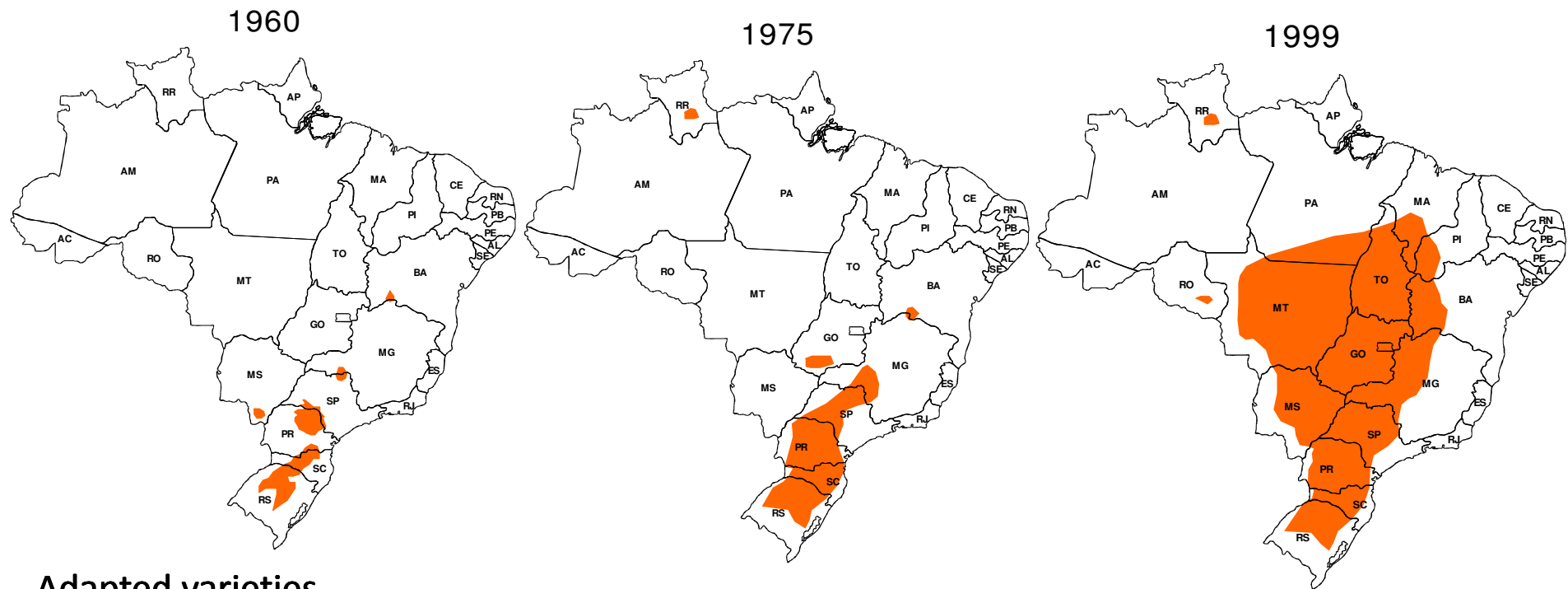
http://www.thedailygreen.com/cm/thedailygreen/images/EM/Cerrado_map-lg.jpg

Source: MAPA, 2002

The Brazilian Experience in Tropical Agriculture

Tropical soybeans

Technological evolution and crop expansion in Brazil



Adapted varieties

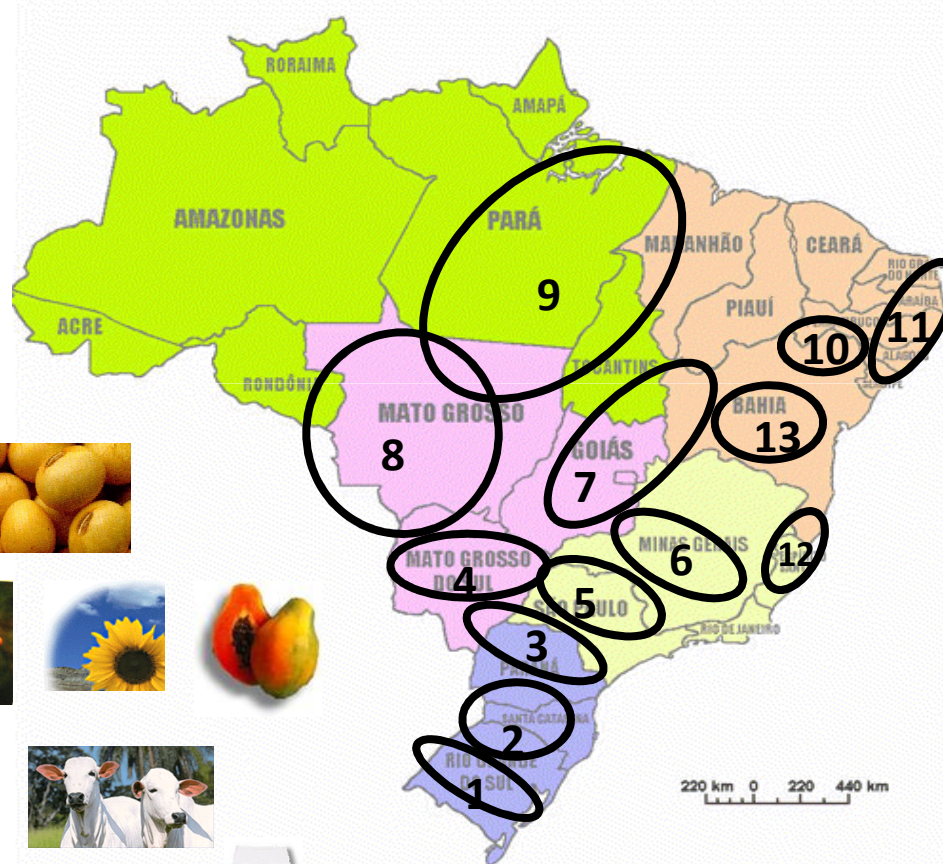
Biological nitrogen fixation

Minimum tillage - mechanization

Source: Embrapa Soybean

The Brazilian Experience in Tropical Agriculture

Great Diversity of Environments and Cropping Systems



AREA/ MAIN CROPS	MM HA
1- FLOODED RICE	0.95
2- SOYBEAN CORN WHEAT	3.30 1.30 0.60
3- SOYBEAN CORN WHEAT	3.20 2.40 0.90
4- SOYBEAN PASTURE	1.20 11.00
5- SUGARCANE COFFEE CITRUS	2.50 0.30 0.70
6- COFFEE	1.00
7- SOYBEAN CORN COTTON DRYBEANS PASTURE	1.80 0.80 0.10 0.20 9.00
8- SOYBEAN COTTON CORN PASTURE	3.30 0.50 0.40 12.00
9- PASTURE	10.00
10- TROPICAL FRUITS	0.07
11- SUGARCANE	0.90
12- COFFEE	0.60
13- DRYBEANS SOYBEAN	0.70 0.90

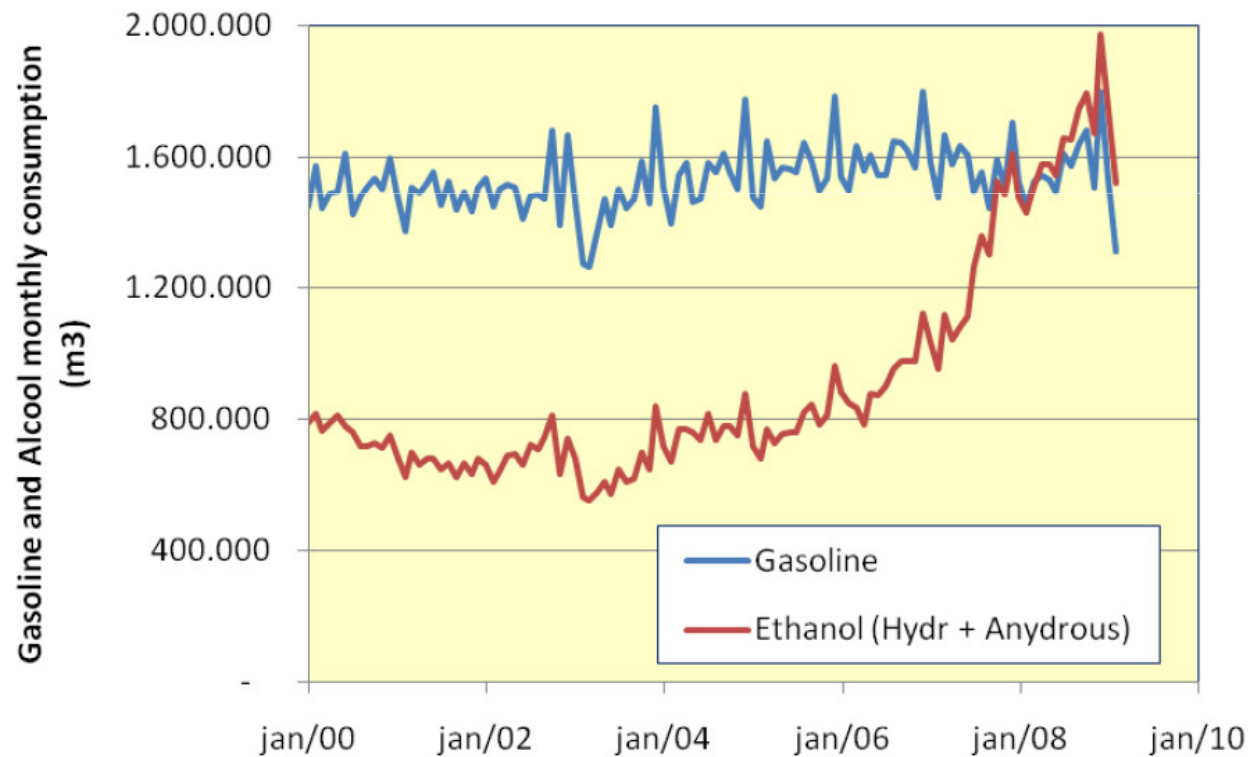
The Brazilian Experience with Smallholders & Family Farming



The Brazilian Experience in Agroenergy

Sugarcane Ethanol as Energy Source in Brazil

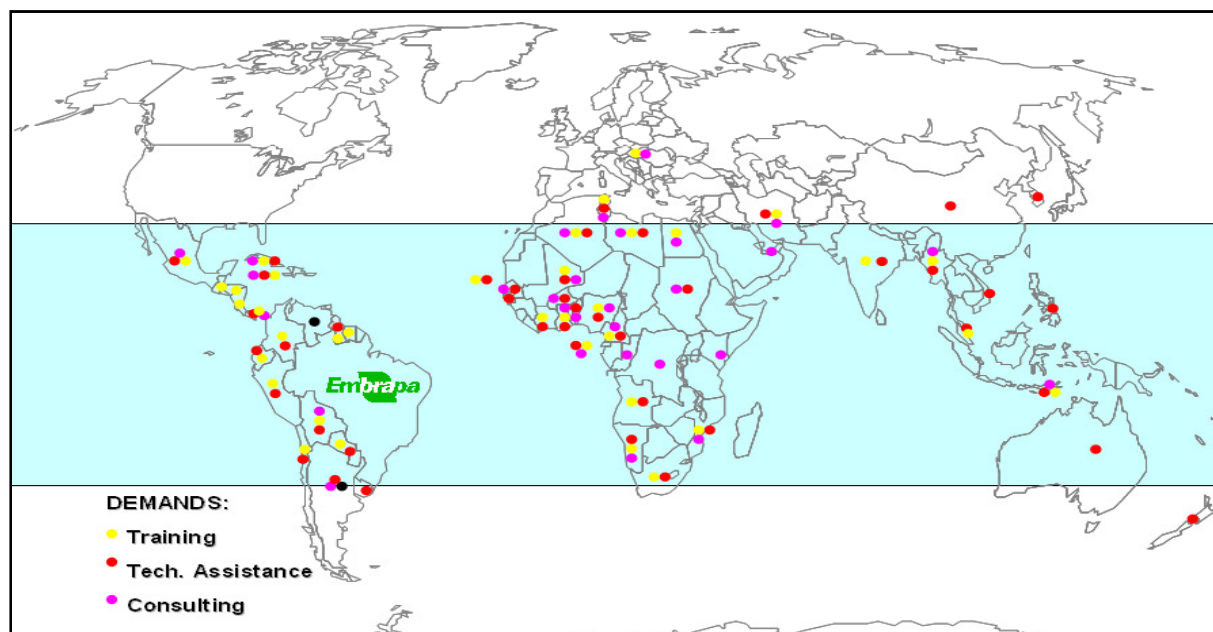
Gasoline is Becoming the Alternative Fuel in Brazil



Source: ANP, 2009 and Brito Cruz, 2009

Embrapa Cooperation Africa

The success of Brazilian tropical agriculture motivates countries with similar problems and challenges to seek information and partnership with Embrapa.



Source: Embrapa

Today Embrapa has:

78 bi-lateral agreements with
89 institutions in 56 countries;

Multilateral Agreements with 20
International Organizations;

At project level, there are
numerous agreements involving
several countries, organizations
and research networks.

Interest in Cooperation with Embrapa

Access Multiple Capacities in one Organization

Embrapa Network for R,D&I

- ✓ 41 Research Centres and Services Units
- ✓ 3 Virtual Laboratories Abroad (Labex)
- ✓ Offices for Technology Transfer:
14 in Brazil and 2 abroad (Africa and Venezuela)

North

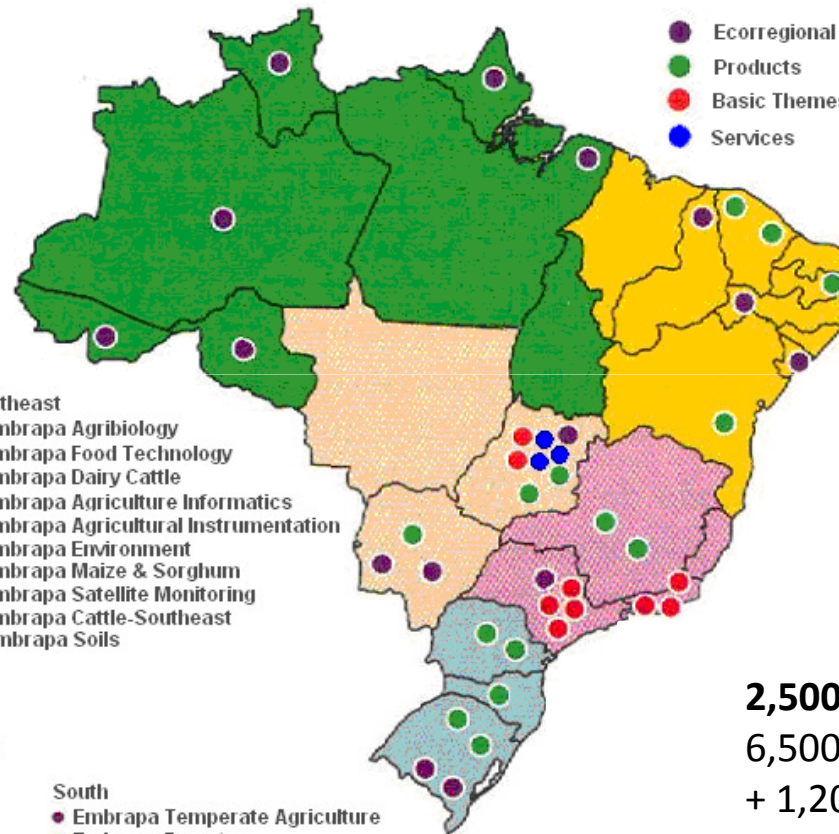
- Embrapa Acre
- Embrapa Amapa
- Embrapa Western Amazon
- Embrapa Eastern Amazon
- Embrapa Rondonia
- Embrapa Roraima

Northeast

- Embrapa Mid-North
- Embrapa Tropical Semi-Arid
- Embrapa Coastal Tablelands
- Embrapa Goat and Sheep
- Embrapa Cassava & Tropical Fruits
- Embrapa Cotton
- Embrapa Tropical Agroindustry

Mid-West

- Embrapa Agrienergy
- Embrapa Western Region Agriculture and Livestock
- Embrapa Rice & Beans
- Embrapa Coffee
- Embrapa Cerrados
- Embrapa Beef Cattle
- Embrapa Vegetables
- Embrapa Technological Information
- Embrapa Pantanal
- Embrapa Genetic Resources & Biotechnology
- Embrapa Technology Transfer



Southeast

- Embrapa Agribiology
- Embrapa Food Technology
- Embrapa Dairy Cattle
- Embrapa Agriculture Informatics
- Embrapa Agricultural Instrumentation
- Embrapa Environment
- Embrapa Maize & Sorghum
- Embrapa Satellite Monitoring
- Embrapa Cattle-Southeast
- Embrapa Soils

South

- Embrapa Temperate Agriculture
- Embrapa Forestry
- Embrapa South Animal Husbandry & Sheep
- Embrapa Soybean
- Embrapa Swine and Poultry
- Embrapa Wheat
- Embrapa Grape & Wine

2,500 Researchers
6,500 Staff
+ 1,200 new hirings (2013)

2009 Budget: US\$ 1 Billion

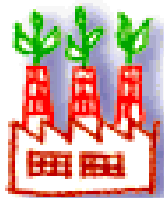
Interest in Cooperation with Embrapa

Access Multiple Solutions in one Organization

Contributions of Embrapa



Advanced Production Systems



Agroindustry



Environment

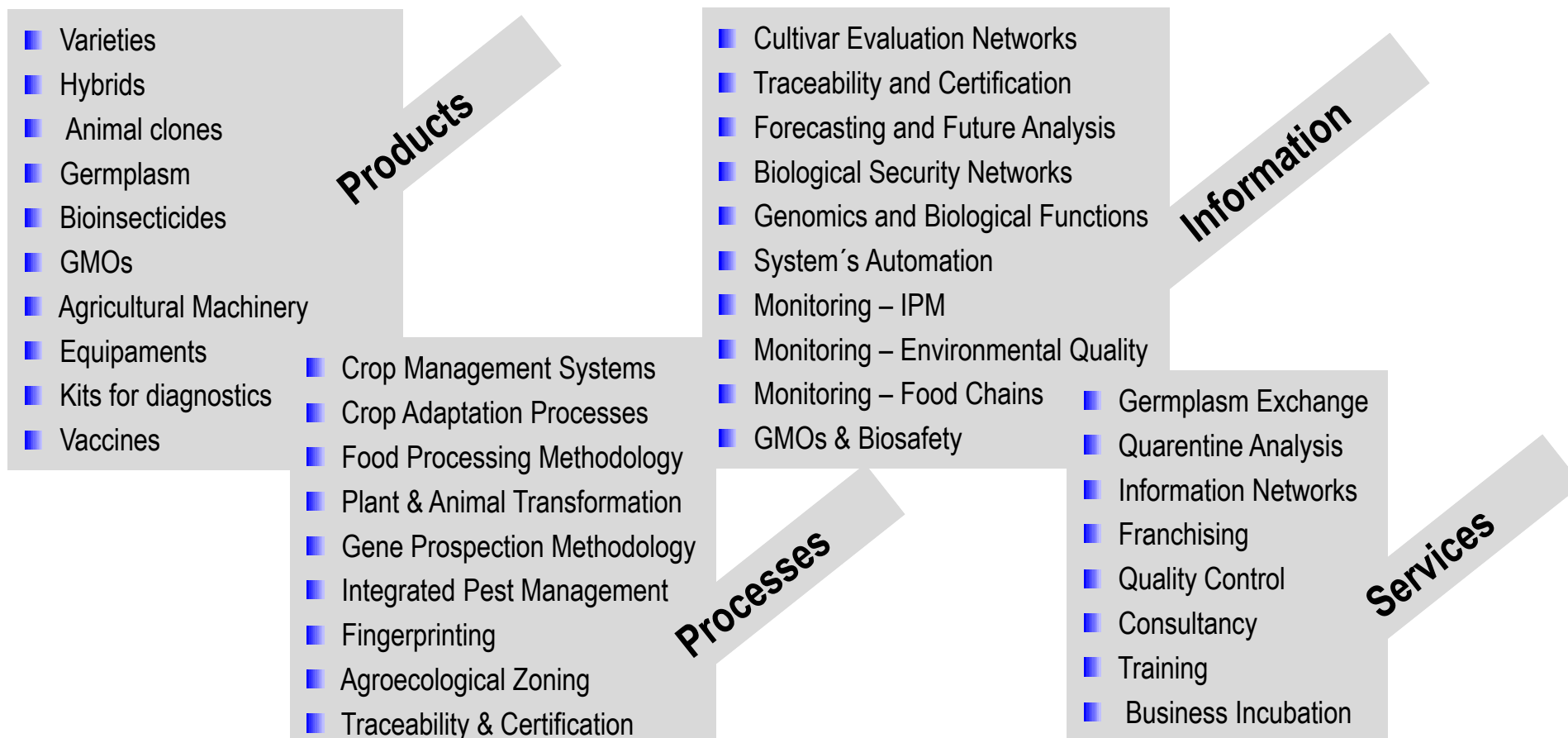


Regional Development

Interest in Cooperation with Embrapa

Access Multiple Solutions in one Organization

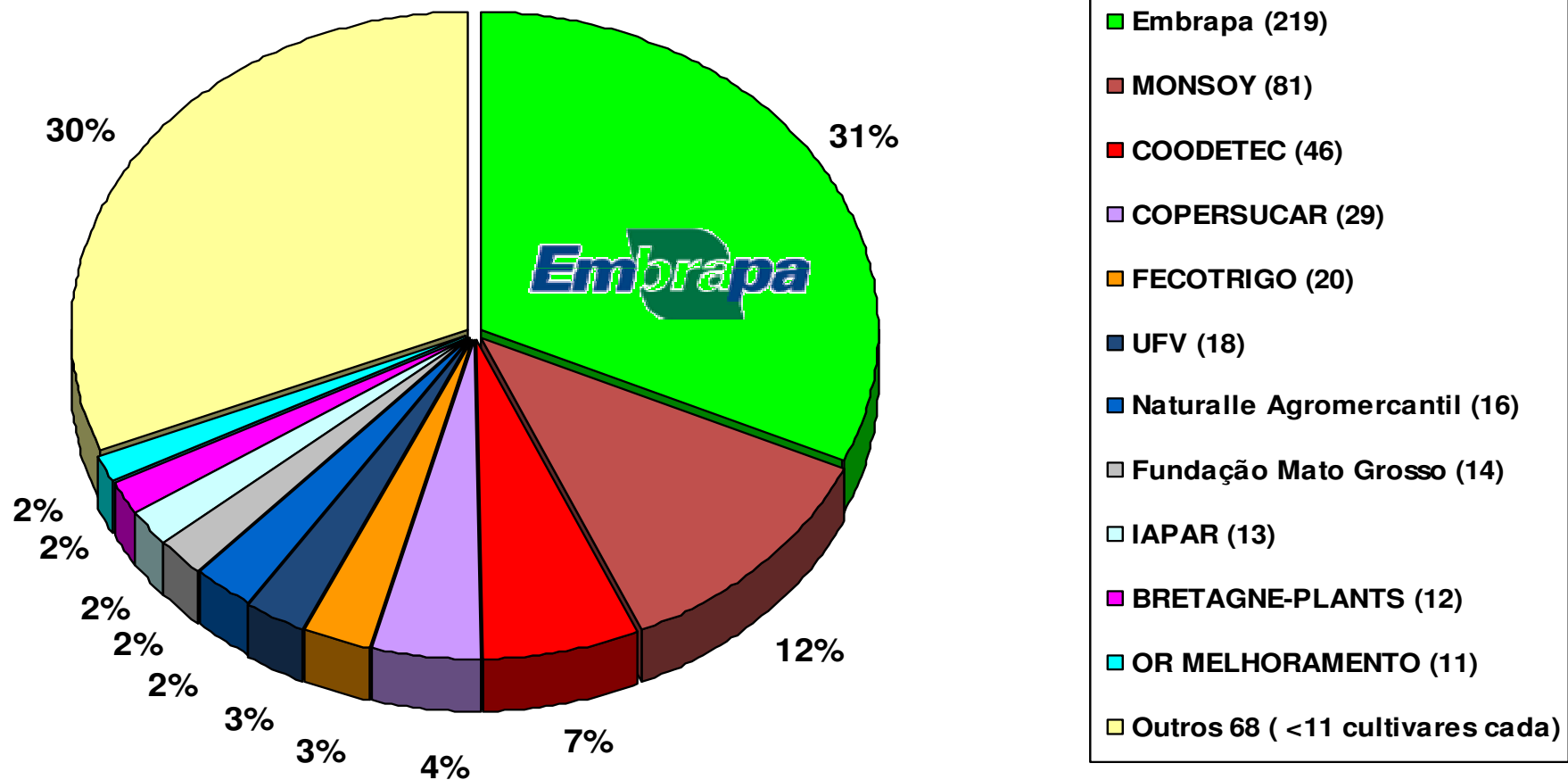
A comprehensive portfolio to meet the needs of the users



Interest in Cooperation with Embrapa

Access Multiple Solutions in one Organization

Embrapa's Share in Crop Variety Protection in Brazil (em %)



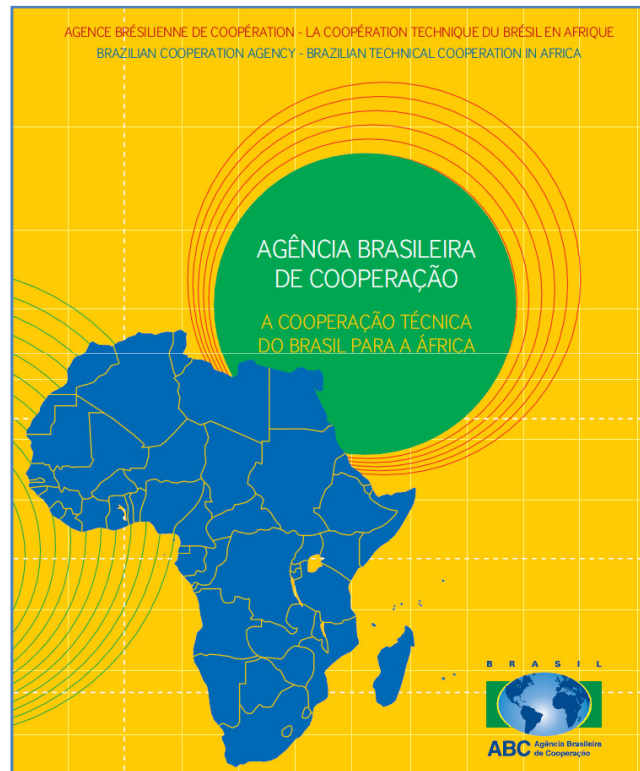
(August 2005)

Total protected cultivars: 699

Source: Embrapa

Brazilian Cooperation in Africa

Brazil has a Comprehensive Agenda of Technical Cooperation in Africa



http://www.abc.gov.br/download/CatalogoABCAfrica2009_1.pdf



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Embrapa is a Component of the Brazilian Foreign Policy

Political Will

As the world becomes more interconnected and challenges become more complex, it will be increasingly necessary to work through intense cooperation.

Scientific Organizations are becoming important components in foreign policy.

President Lula: “The Internationalization of Embrapa is a State Policy”

September 11, 2009 · Leave a Comment



Source: Embrapa

The Brazilian President Luiz Inácio Lula da Silva welcomed the new President of Embrapa during the inauguration ceremony, last July. He said that “the mark of Embrapa has always to be the technical expertise, no other” and that “Brazil is a plural country and Embrapa has to be plural and capable to attend many, as well as to increase its

contribution to the world.” President Lula spoke about the expectations for the new management and one of his most emphatic remarks was that “the internationalization of Embrapa is not only a desire for the government, but a state policy, which will be a constant in the future.” Read more (in Portuguese) [here](#).

<http://labexkorea.wordpress.com/>

Embrapa Africa

Embrapa's Regional Program for Africa



Establishment of Embrapa's Regional Program for Africa in July 2006
Agreement between Brazil and Ghana

Embrapa Africa started its activities on 25.11.2006

Facilitation of articulation and better response to received requests according to the needs of each country in Africa

Embrapa Africa

Embrapa's Regional Program for Africa



Mission:

Facilitate the transfer of agricultural technologies to be tested and adapted to the conditions of each country, as needed, focusing on the social development, economical growth and environmental sustainability.

Embrapa Africa

Embrapa's Regional Program for Africa



Vision:

Embrapa-Africa envisages to make Brazilian agricultural technologies available to African countries and to promote its use for the benefit of all African agricultural sectors

Embrapa Africa

Embrapa's Regional Program for Africa



Team:

Claudio Bragantini:
General Coordination

Paulo Roberto Galerani:
Technical Coordination

José Luiz Bellini Leite:
Agribusiness Coordination

Amelle Ghnani:
Bilingual Secretary

Victoria Sakordi:
Secretary

Many Efforts on Agricultural Development in Africa



IBAS
India - Brasil - África do Sul



The African Union



The Forum for Agricultural
Research in Africa



The African Union



The New Partnership for
Africa's Development



FAAP - Framework for African Agricultural Productivity



Where do we fit?



Embrapa Africa - Agenda & Strategy

Transfer of technologies which contribute to:

Agricultural and socio-economic development

Environmental sustainability

Food, fiber and energy security



Embrapa Africa - Agenda & Strategy

Align and Synergize with Important Development Initiatives for Africa

New Partnership for Africa's Development

NEPAD/AU – CAADP pillars for African development

- 1 - Land and water management;
- 2 - Rural infrastructure and market access;
- 3 - Food supply and reducing hunger; and
- 4 - Agricultural research, technology dissemination and adoption.

The Comprehensive *Africa* Agriculture
Development Programme

Embrapa Africa - Agenda & Strategy

Align and Synergize with Important Development Initiatives for Africa

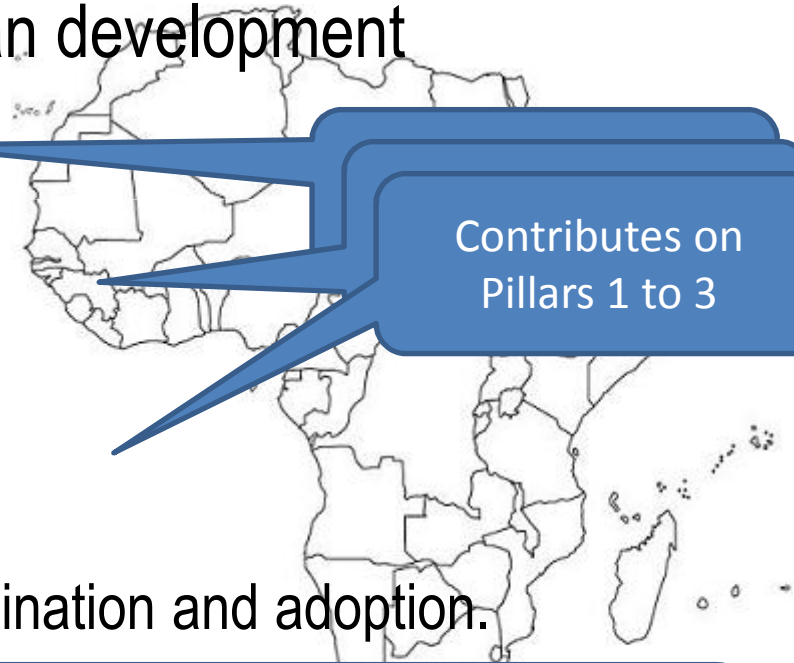
NEPAD/AU – CAADP pillars for African development

1 - Land and water management;

2 - Rural infrastructure and market access;

3 - Food supply and reducing hunger; and

4 - Agricultural research, technology dissemination and adoption.



Contributes on
Pillars 1 to 3

Partner of FARA - Forum for Agricultural
Research in Africa on the commitment of
Pillar 4 accomplishment

Embrapa Africa - Agenda & Strategy

Align and Synergize with Important Development Initiatives for Africa

SRO – Subregional research organizations

- **SADC-FANR** – Southern Africa development Community – Food, Agriculture and Natural Resources - Botswana
- **CORAF/WECARD** – Conseil Ouest et Centre Africain pour la Recherche et le Développement Agricole / West and Central African Council for Agricultural Research and Development - Senegal;
- **ASARECA** – Association for Strengthening Agricultural research in Eastern and Central Africa - Uganda
- **AARIRENA** - Jordania



Embrapa Africa - Agenda & Strategy

Align and Synergize with Important Development Initiatives for Africa

African Economic Communities

- The East Africa Community – **EAC**
- Southern Economic Development Community – **SADC**
- Economic Community of West African States - **ECOWAS**



Embrapa Africa - Agenda & Strategy

Align and Synergize with Important Development Initiatives for Africa

Important donors in the Region:

ADB - African Development Bank

Foundations - (Melinda & Bill Gates Foundation)

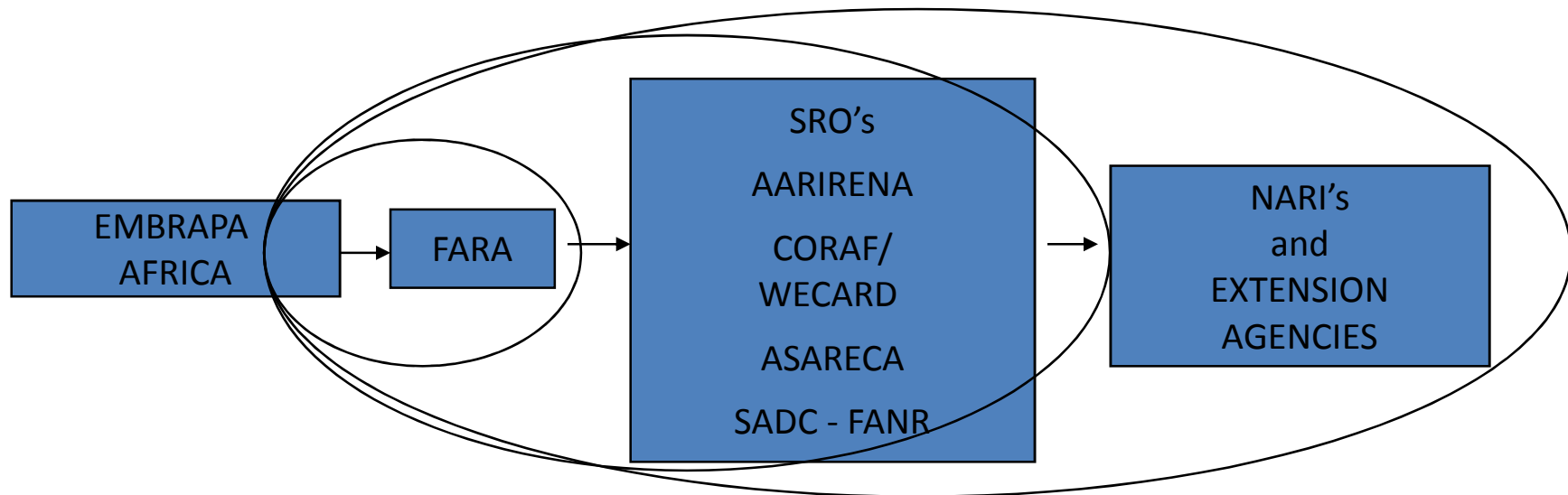
AGRA – Alliance for Green Revolution in Africa



Embrapa Africa - Agenda & Strategy

Align and Synergize with Important Development Initiatives for Africa

Strategy for reaching the agricultural sector



Embrapa Africa does not operate alone

Embrapa Africa - Agenda & Strategy

Embrapa Africa does not act like a donor agency

- **Embrapa's contribution:**
 - Technologies & knowledge**
 - Human resources**
 - 40 research centers
 - 2500 researchers
 - Partner organizations in Brazil and abroad
- **Financial support:**
 - Donors** – governments, foundations, development agencies...



Embrapa Africa - Agenda & Strategy

- Africa's Main Areas of Interest:
 - Agriculture:
 - Grain production
 - Staple food production
 - Livestock
 - Beef Cattle and poultry
 - Small Animals
 - Forestry
 - Bio-energy



Embrapa Africa - Agenda & Strategy

- Embrapa-Africa mode of operation
 - Understand country's needs
 - Identify available technologies
 - Prepare joint proposals with stakeholders
 - Facilitate access to financial resources
 - Implement projects
 - Evaluate results and measure impacts



Embrapa Africa - Agenda & Strategy

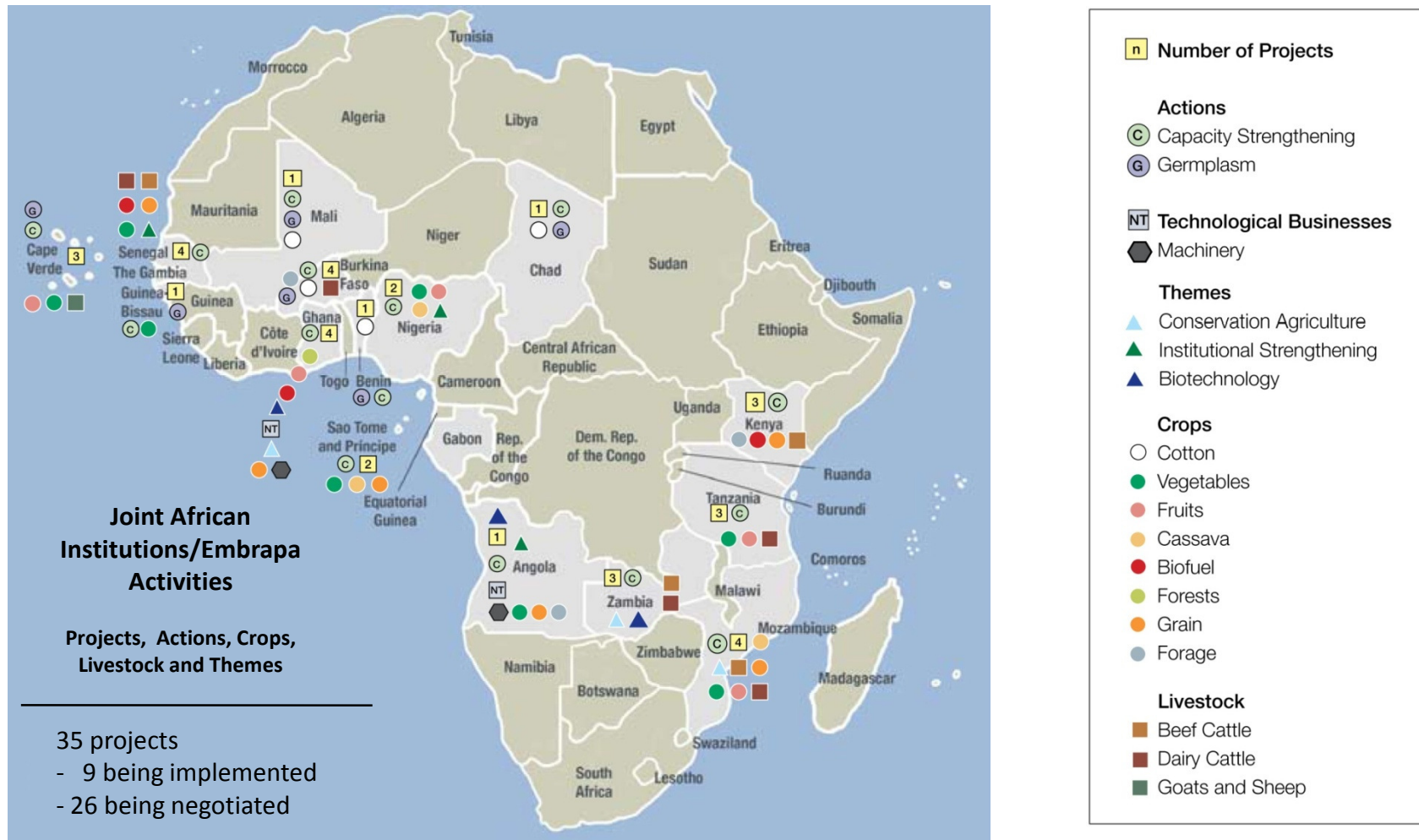
“Core” of the Technology Transfer Process

- Project Formulation and Implementation
- Capacity Building



Embrapa Africa

Dialogue with 35 countries and 61 institutions



Source: Embrapa

Embrapa Africa

Long term/structuring projects

- **Mali/Regional** - Support to development of the Cotton-Four Countries (coordination and finance by ABC-Brazilian Cooperation Agency)
- **Angola** - Strengthening the National Research Institute
- **Angola** - Two projects supporting private companies in the development of major investments in commercial farming
- **Mozambique** - Strengthening the National Research Institute, **triangular coop. project** developed in partnership with ABC and USAID
- **Mozambique** – ProSavana – A regional development project, based on ProCerrado. **Triangular coop. project** between ABC and JICA, with Embrapa being responsible for the agric. technology component
- **Senegal** – Support for the development of the rice sector (coordination and finance by ABC)

Embrapa Africa

Short term projects/activities (Coordination and Finance by ABC)-2009

- 13 projects (TCPs) in execution, or signed, with 6 countries: Cape Verde, Mozambique, Nigeria, Senegal, Tanzania, Togo (training and capacity building projects involving National Agric. Research Institutions)
- 16 projects (TCPs) in negotiation and final adjustments, with 9 countries: Burkina Faso, Congo/Brazz., Ghana, Guine Bissau, São Tome & Principe, Mozambique, Kenya, Senegal, Zambia (training and capacity building projects involving National Agriculture Research Institutions)
- Isolated Activities - short term training: Gabon, Sierra Leone
- TCTPs (Third Country Training Projects) with JICA, and ABC: for Portuguese speaking African countries (every year since 1995)

Embrapa Africa

A Brazilian Strategy to Support Agricultural Development in Africa



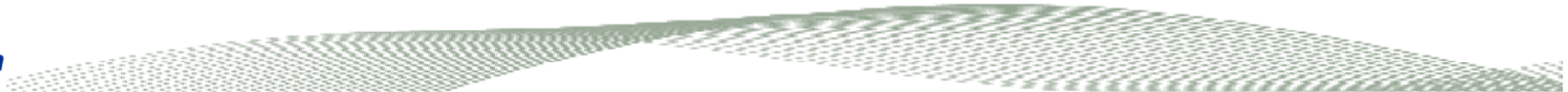
Adapting
cultivars
to Africa's
environments.

Embrapa Africa

A Brazilian Strategy to Support Agricultural Development in Africa



Adapting production systems (soybean-cassava consortia, no-till) to the realities of Africa.



Embrapa Africa

A Brazilian Strategy to Support Agricultural Development in Africa



Adapting machinery to African conditions.



Sharing know-how on different cropping systems.

Embrapa Africa

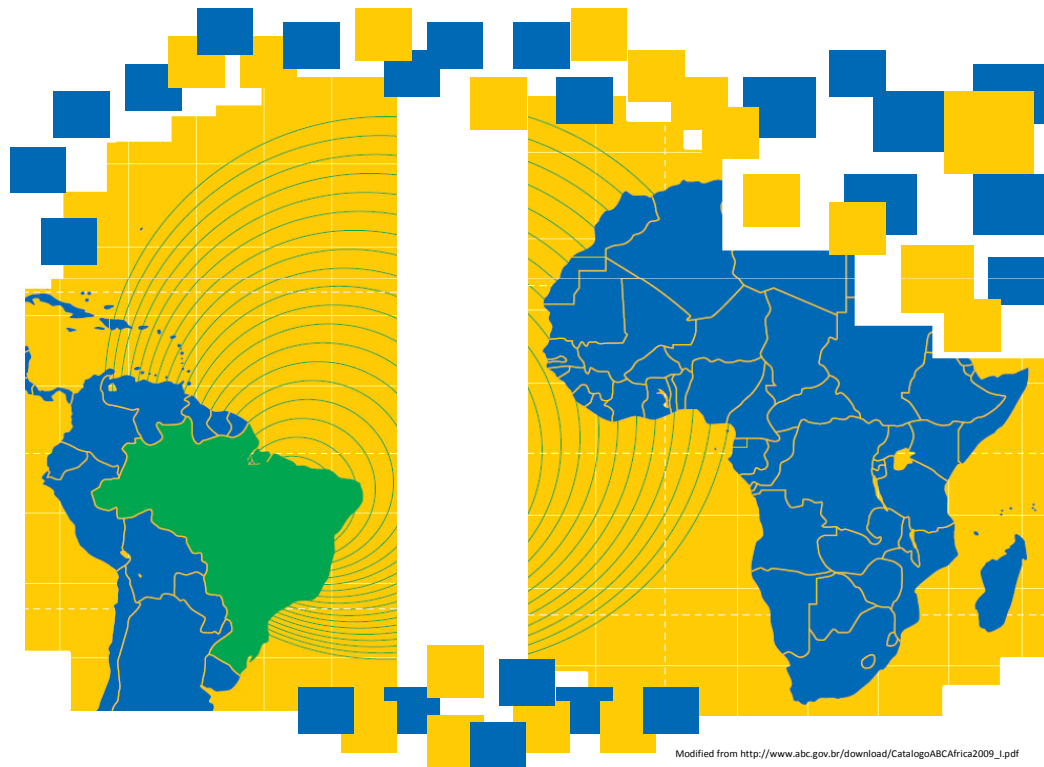
A Brazilian Strategy to Support Agricultural Development in Africa

Supporting Brazilian Private Companies in Africa

- Angola
- Demonstration and validation activities with Odebrecht Inc.



Embrapa's Experience in Africa



**Learn from
Africa
to contribute
to Africa!**



Thank You!

Embrapa

Mauricio Antonio Lopes, PhD
Embrapa Labex Korea
Rural Development Administration – RDA
Suwon - Republic of Korea

www.embrapa.br
<http://labexkorea.wordpress.com/>