

Cultivating Knowledge and Skills to Grow African Agriculture



A World Bank Regional Study of
Agricultural Education and Training

This report is still being worked on.

We ask for your feedback
in order to make it better!

Overview

- ❑ Why agricultural education and training (AET) are important.
- ❑ AET trends and current status.
- ❑ What should be done?
- ❑ Lessons from around the globe.
- ❑ The scarcest resource – political will.

Why is AET important?

- Human capital formation for agriculture.
- Raises agricultural productivity:
 - for economic growth
 - for poverty reduction
 - for release of farm labor for other economic activities

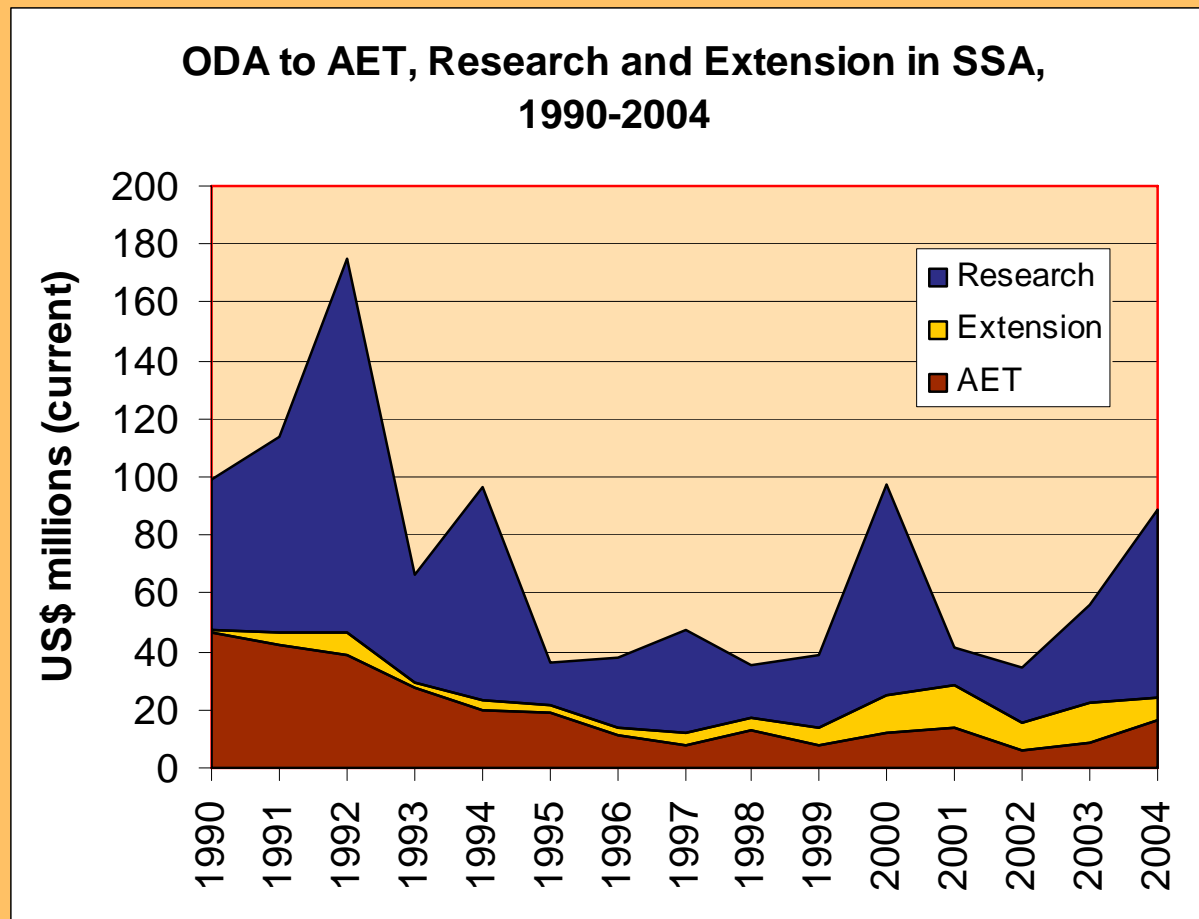
AET holds the potential to strengthen the Agricultural Innovation System

- ❑ Shapes professional attitudes.
- ❑ Determines capacities for learning.
- ❑ Takes labor market demand into account.
- ❑ Can generate or access knowledge.
- ❑ Contributes to professional networks.
- ❑ Can forge international linkages.

1990 – 2004: Neglect of AET

- ❑ ODA to African agriculture down 63%.
- ❑ ODA to African agricultural education down 49% as share of agric aid.
- ❑ *A smaller piece of a smaller pie.*
- ❑ World Bank: USD 1.4 m yearly for AET in sub-Saharan Africa, 2000 – 2006.
- ❑ Governments tended to follow donor priorities.

AKIS funding:



A legacy of neglect:

- ❑ Agric researchers declined in half of SSA.
- ❑ Less than one in four holds a PhD.
- ❑ Only 18 percent are women.
- ❑ Declining agric enrollments.
- ❑ Staffing shortages.
- ❑ Outdated AET curricula.
- ❑ Deteriorated labs and facilities.

An era of opportunity?

- ❑ NEPAD – FAAP – BASIC (2002)
- ❑ Commission for Africa (2005)
- ❑ Rebound in foreign assistance (2005)
- ❑ Rediscovery of agriculture:
 - NEPAD: 10% of GDP for agriculture
 - USAID: Agric higher education initiative
 - World Bank: Africa Action Plan
 - Gates and Rockefeller: \$1 billion/5 years
- ❑ Numerous AET innovations are emerging.

Not how much, but how well...

- ❑ What strategy is developed?
- ❑ What types of investments?
- ❑ What sequence of investments?
- ❑ Ultimate productivity of investments?

Post-secondary agricultural education and training



What should be done?

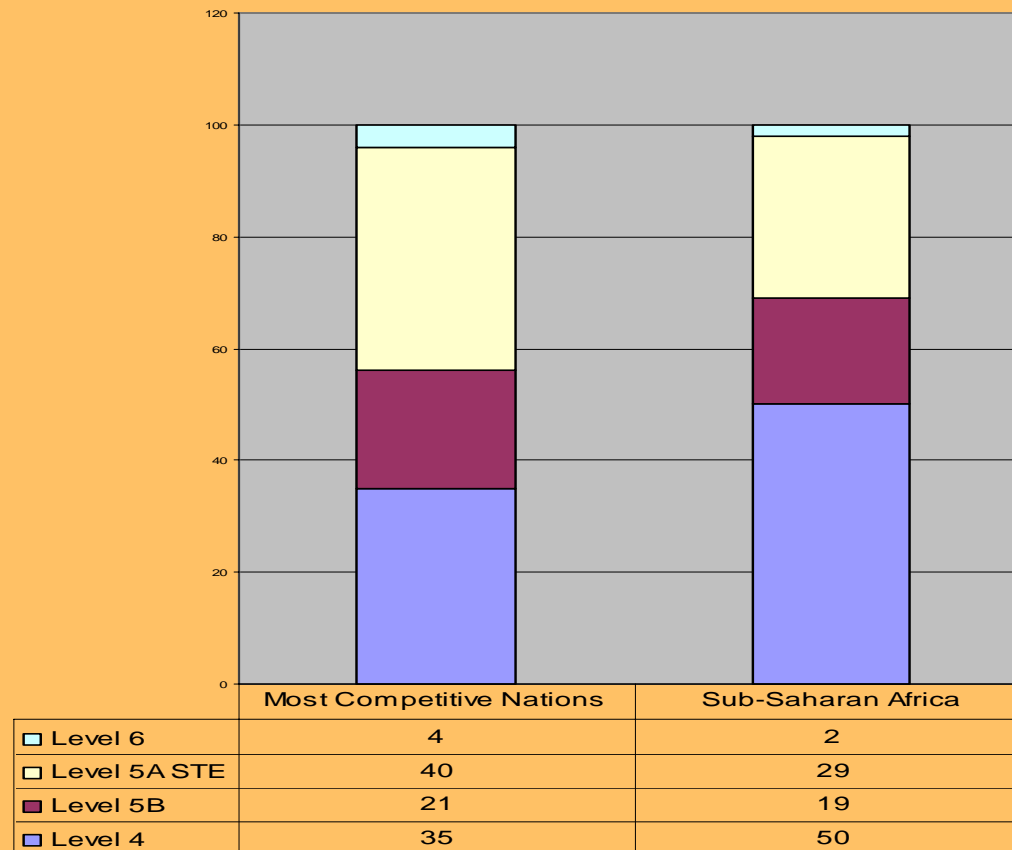
1. *Framework*: Bring AET into the agricultural innovation system

- ❑ Support professional networks; reduce institutional isolation and fragmentation.
- ❑ Coordinate the goals and programs of agriculture and education.
- ❑ Create communication channels with researchers, producers, employers.
- ❑ Assign human capital responsibilities to AET institutions.

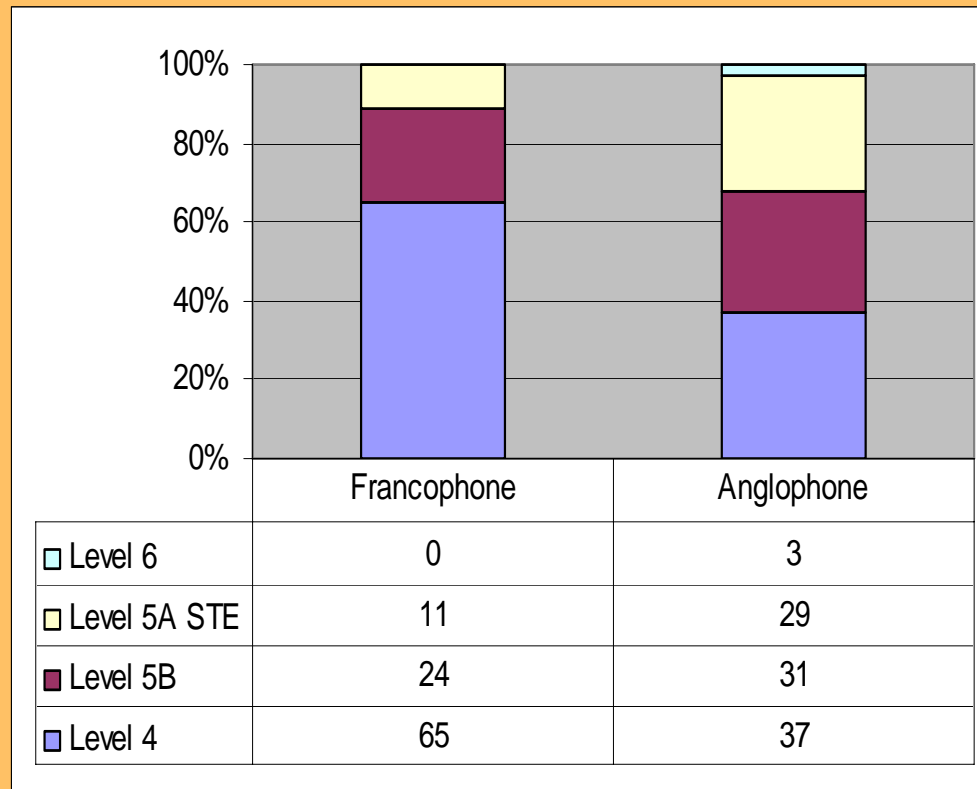
This has been done with success:

- ❑ BRAZIL: Problem-oriented research centers linked to local postgraduate programmes and international centers.
- ❑ MALAYSIA: Linked agricultural research with universities, private sector, and international centers.

2. Re-balance the Technical Education Profile.

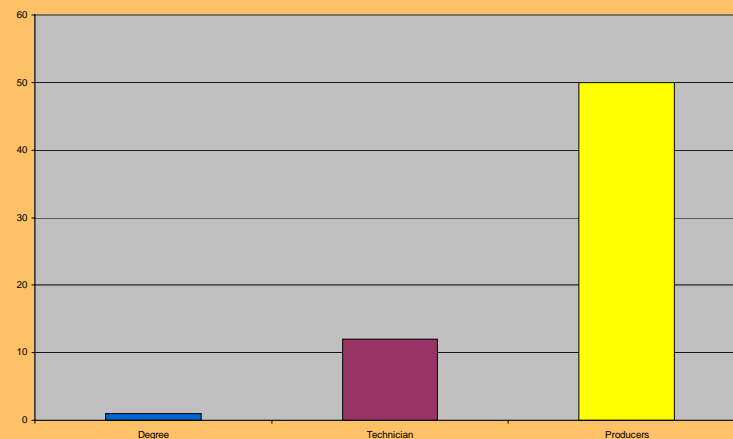


Francophone vs. Anglophone Technical Education Profiles

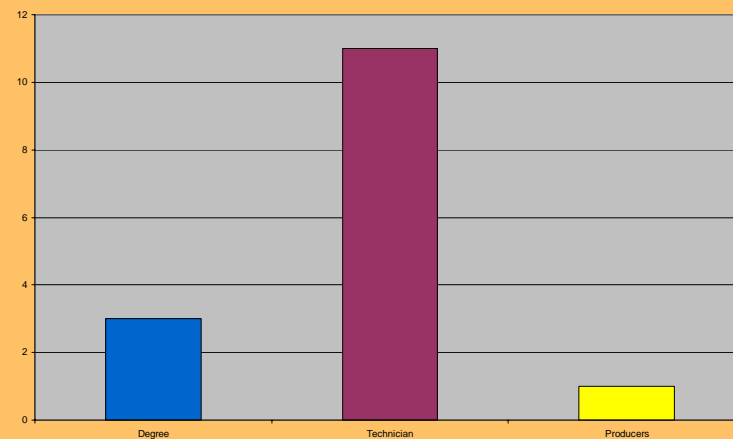


Re-balance the AET pyramid

□ FAO AET pyramid:
1 : 12 : 50-100



□ Benin pyramid:
3 : 11 : 1



To re-balance the AET pyramid:

1. Merge faculties of agriculture to create fewer but better.
2. Upgrade and expand polytechnic level AET.
3. Student choice, not assignment.
4. Expand continuing education for producers and professionals.

This has been done with success:

□ INDIA:

- Created national postgraduate center for agriculture;
- Set up state level agric universities to complement federal universities;
- Established Agricultural Universities Commission to oversee the system.

3. Modernize curricula & pedagogy

- Increase applied learning
- Problem-oriented; interdisciplinary
- Agriculture is more than production:
 - Marketing
 - Rural finance
 - Post-harvest storage & processing
 - Agribusiness
 - Natural resource management
 - Rural institutions and organization

This has been done with success:

- Brazil, Chile, China, Malaysia.
- In Africa:
 - Makerere
 - Sokoine
 - KwaZulu-Natal
 - Jomo Kenyatta
 - Mauritius
- Others?

4. Build up national MSc programmes

- ❑ Choose subject areas that advance national goals and labor market needs.
- ❑ Tailor content in response to local conditions.
- ❑ Strengthen applied research.
- ❑ Recruit women students.
- ❑ Goal: all MSc training takes place in SSA within 10 – 12 years.

This has been done with success:

- ❑ In Brazil, new MSc programmes in agric sciences boosted agric research output.
- ❑ In Chile, from 1965–95, world class PhD programmes established.
- ❑ In Malaysia, 34% of agricultural researchers are now women.

5. Lay the foundation for PhD programmes.

- ❑ Tropical agriculture is disappearing in the North.
- ❑ Staff shortages: Train 1000 PhDs in 15 years.
 - Overseas initially, then in the region.
 - Use cost-effective sites; regional approaches.
- ❑ Plan for re-entry and staff retention.
 - Competitive research funds
 - Performance incentives
 - Career ladders; continuing professional development
- ❑ Collaborate and coordinate among countries, e.g., RUFORUM PhD programmes.
- ❑ Promote long-term donor consortia.

This has been done with success:

- ❑ Massive staff development campaigns have worked
 - Brazil trained 1200 agricultural postgraduates overseas in 1970s.
 - India trained 1000 agricultural scientists abroad in 1960s and 1970s.
 - Thailand trained 15,000 graduates in USA, 1950-85
- ❑ Training abroad can have high return rates, e.g., Agric Dev Council – 91% of 532; USAID CRSPs – 85% of 97.
- ❑ Staff retention incentives have worked, e.g., Chile, Malaysia.

6. Donors should fund recurrent costs

- ❑ All expenditure on education is investment in human capital.
- ❑ Some key needs are recurrent, e.g., staff retention, performance incentives, equipment maintenance, internet access.
- ❑ Unbalanced funding produces unbalanced results.

The missing ingredient: Political Will

For Africa to grow its agriculture with success:

- ❑ Put it on the political agenda; learn to lobby.
- ❑ African governments are neglecting agriculture. Governments spend one-third to one-half as much as their Asian counterparts during Green Revolution.
- ❑ INDIA: intense 16-year lobbying effort accompanied Green Revolution.
- ❑ JAPAN: farmer organizations lobbied for modernization.

This has been done with success:

- ❑ Sustained commitment: C-B is a multi-generational undertaking.
 - Malaysia invested 20% of budget in agriculture between 1960 and 1986.
 - India – 10 to 20% of budget to agric in 1970s and 1980s.
 - Brazil – 40 year effort.
 - Japan and USA – 50 to 60 years.

Prime Minister of Malaysia, 2005:

“I do believe that it is necessary to stress that for most countries today, human resource development and human capital formation are either extremely important, absolutely vital, or a matter of life and death. In the case of Malaysia...we think it is a matter of life or death.”

Thank you!

**Again, your feedback
and suggestions are
invited.**

pmateru@worldbank.org

wsaint@cox.net