



WACCI Curriculum for Training the Next Generation of Plant Breeders



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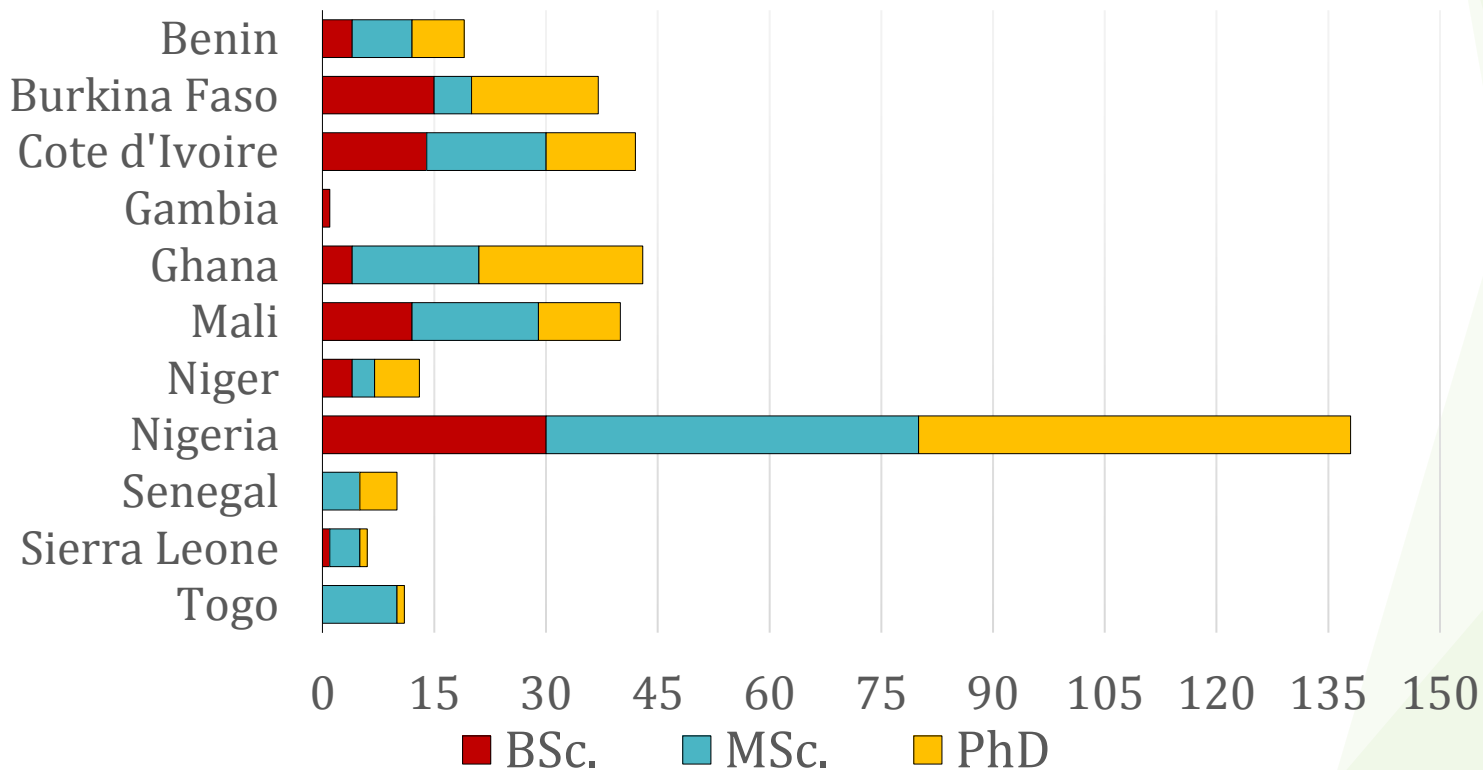
University of Ghana



**Demand Led Plant Variety Design - Educators Workshop,
Windsor Golf Hotel, Nairobi, Kenya, November 11 - 12, 2014**

Gaps and Need for Education and Training in Plant Breeding

- ▶ Limited human capacity in plant breeding in WCA



Number of Plant Breeders in some countries in West Africa

Our Second Batch of PhD Graduates, July 26, 2014



English Language Proficiency Training for Francophone Students



Language Centre, University of Ghana

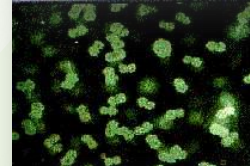
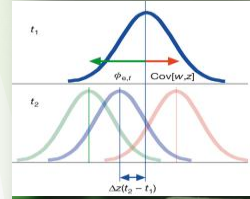
Year I - Foundation year

First semester

- Plant Genetics
- Biotechnology in Plant Breeding
- Biometry & Experimental Design
- *Plant Pests and Integrated Pest Management (IPM)**
- *Host Plant and Pathogen Interactions**

Second semester

- Genetic Improvement of Crop Plants
- Quantitative Inheritance in Plant Breeding
- Physiology of Environmental (Abiotic) Stresses
- *Plant Cell & Tissue Culture**
- *Plant Virology**



Coursework Component

- ▶ Courses and modules of special topics in plant breeding, genetics, biotechnology and related subjects.
- ▶ Modules of special topics will be presented by guest lecturers.
- ▶ Students are required to take six core courses (18 credits) in the first and second semesters and choose two additional elective courses (6 credits).
- ▶ A minimum of 18 credits must be passed and this must include all core courses for the programme.
- ▶ In addition, students will be required to pass a comprehensive examination at the end of their course work, before the commencement of their research projects.



Seminar Component

- ▶ PhD students will be required to defend their thesis proposal in a seminar at the end of the first year.
- ▶ Students will be required to present annual seminars on the progress of their research.
- ▶ Seminars would be graded as a “pass” or “fail”.
- ▶ Students will earn 3 credit units each for seminars given in the 2nd, 3rd and 4th years.
- ▶ The dissertation will contribute 48 credit units towards the students graduation.

Visiting Scientists (Advanced Modules)



Tissue Culture and Plant Transformation | **Seed Business Development** | **Scientific Communication and Library Tools** | Breeding Sweet potato | Cassava breeding | Cowpea breeding | Breeding Designs and *Striga* Resistance | Breeding Sorghum | Vegetable Breeding | **Leadership training** | SAS | Genetics Data Handling | Marker Assisted Rice Breeding | Molecular markers in maize, sorghum, millet and cowpea

Years II- IV - Research phase

(Research supervision by in-country and WACCI supervisors)



Research Component

- ▶ Students will return to their home country's research institutions to conduct their thesis research after the first year.
- ▶ Students shall undertake research projects in consultation with their supervisory committees, for at least 30 months and submit a thesis for examination.

Years II- IV - Research phase

(Student in a PRA session)



Consultations

Participatory
Rural
Appraisal
(PRA)

National
Agricultural
Research
System

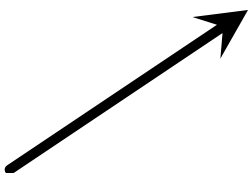
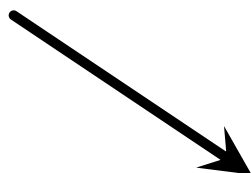
Research

Students
Research
Agenda

Products

PhD degree
PhD Thesis

Journal Papers
New Varieties
New Inventions



Limitations of this Approach of Consultation

- ▶ Time constraints
- ▶ Budgetary constraints
- ▶ Limited stakeholders involvement



Acknowledgements

- ▶ AGRA
- ▶ GCP
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