

Building agricultural capacity in post-conflict countries: case study of National University of Rwanda, Faculty of Agriculture

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Outline

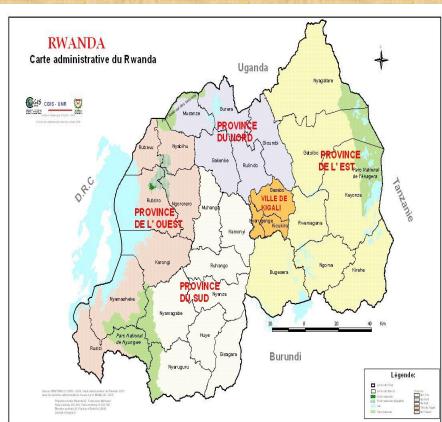


- Background and origin of conflict
 - Rwanda pre-colonial
 - Colonial period: 1894-1963
 - Independence period:
 - 1st and 2nd: 1Republic (1963-94)
 - Post Tutsi genocide994-2013)
- Success and challenged of Education
 - Colonial , 1st and 2nd Republic
 - Post genocide
- Agriculture in national economy
- Supportive macro and sectoral policies
- Case study of National University of Rwanda

Rwanda – in the Heart of Africa







Butare

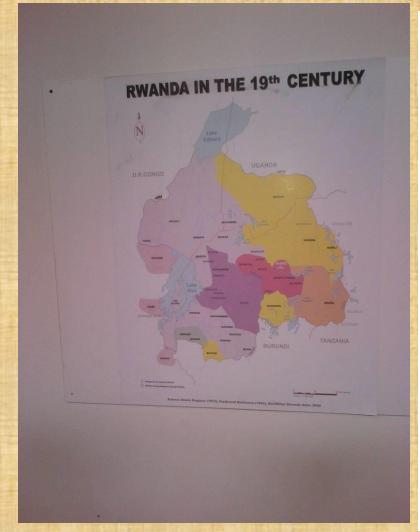
Rwanda in Pre-colonial period

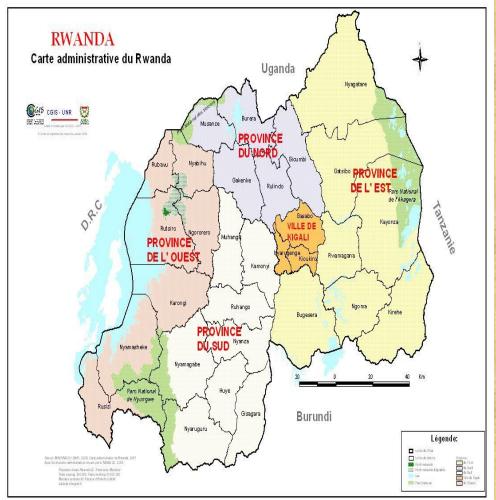


- □ Rwanda is not colonial masterminded state, it is traditional « Mountain kingdom in the heart of Africa »
- ☐ Early travelers described it as « Tropical Switzerland »
- ☐ Small country, but bigger than the current Rwanda
- ☐ Also known as Land of thousands hills
- □ Had high level political and religious sophistication uncommon in other parts of Africa
- □ Administrative structures was organized on four levels:
 - (i) Province,
 - (ii) District,
 - (iii) Hill and
 - (iv) Neighbourhood:

Rwanda Pre-colonial

Colonialan/Current Rwanda





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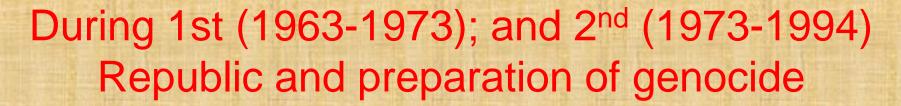
Rwanda during colonial period and origin of conflict

- ☐ Germans (1896-1916) ruled through existing structures
- Administrative structures were maintained at four levels:
 - (i) Province,
 - (ii) District,
 - (iii) Hill and
 - (iv) Neighbourhood
- ☐ Belgians ruled with mixed structure: assigned assistant to King
- Colonials gave orders and punishment through chiefs
- Education introduced in 1940' and colonials gave priority to sons of chiefs



During 1st and 2nd republic (1963-1994) and preparation of Tutsi genocide

- □Rwanda did not get smooth transition to independence
- □It was characterized by killings of Tutsi, burning of their houses, looting and eating their livestock: 1959, 1960, 1961, 1963, 1973 and genocide 1994, uncommon in Rwandan society
- □Education was not free for all
- ☐ The 8 stages of genocide started in 1959 using ID of 1933.



□Education

- Number of schools increased
- ❖National University of Rwanda started in Nov. 1963
- **❖But access was to secondary schools and University was not free:**
 - **❖No national examination for joining secondary school and University, as it was not based on marks**
 - ❖A part of society was denied access to education similar to colonial period



- □Between 1990 and 1994, Rwanda suffered a liberation war and Tutsi genocide in 1994 □The war and genocide destroyed existing infrastructures and deeply affected both human and institutional capacities, as well as livelihood of Rwandans
 - □It was proximal genocide
 - □It killed more than 1 million people
 - ☐ Those who killed run away
- ☐ There was total disaster, country was almost desolated
- □Since 1994, the security and political stability have been restored

Post- Genocide Republic

❖Re-birth of state

- ✓In 1996, the Government started a new program called "Shadow Programme" to address emergencies and reconstruction of the country
- ✓ From 1998-2001, Rwanda undertook a program of reform that marked the beginning of the process of sustainable development resulting in:
 - ✓ Vision 2020 in 2000
 - □ Elaboration and launch of National Poverty Reduction Plan (**NPRP**) in the framework of Vision 2020
 - □Elaboration the National Investment Strategy (NIS) in 2010 horizon in 2001
 - □NPRP was followed by EDPRS which ended in 2012

Agriculture in Macro and Sectoral Policies

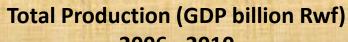
- □Vision 2020 (LTP): Agriculture as engine of economy for economic growth-Modernization
- **DEDPRS (MTP:08-12): Agriculture as engine of economy for economic growth-Modernization**
- □National Agricultural Policy (NAP)
 Agriculture intensification
- □Strategic Plan for Agricultural Transformation (SPAT): target 5-8% growth

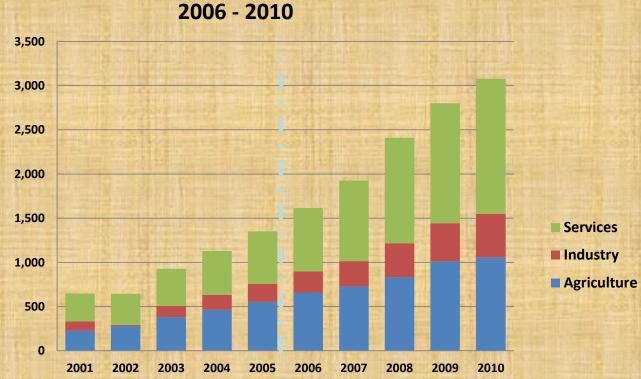
EDPRS Pro-poor growth objectives

	Baseline (2006)	MDG Target (2015)	EDPRS	Actual (2010/11)
Real GDP growth (% annual)	6.5		8.1	8.2
Fertility Rate (children per woman)	6.1		4.5	4.6
% of population living in poverty	57	30	46	44.9
% in extreme poverty	37	21	24	24.1
% of agricultural land protected against soil erosion	40		100	87.3
Forestry coverage (%)	20		23.5	22.1

Agriculture contribution to GDP

Average GDP growth 2006 – 2010: 8.4%

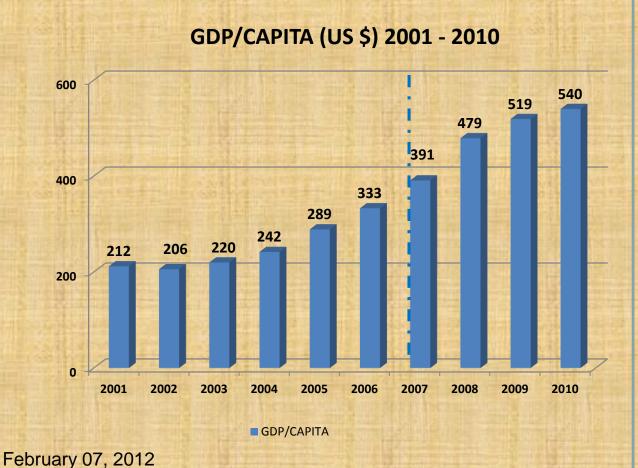




Economic growth and GDP/capita vision 2020 target

GDP per capita: Vision 2020 target USD 900





Revised vision 2020 targets

\$1200 GDP per capita Average annual sector growth of 8.5% between 2012-2017

Production of 2,500 kcal/person/day

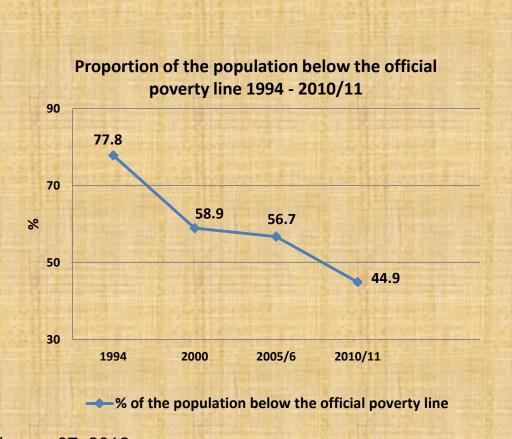
3.2 million off-farm jobs
5% of households with Borderline Poor Food Consumption Score (Food Security Indicator)

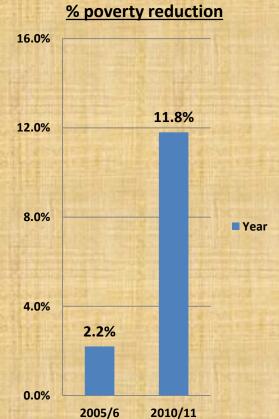
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Source: National Institute of Statistics of Rwanda

Poverty Reduction achievement

Poverty: Target EDPRS1 in 2012 is 46%





February 07, 2012

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EDPRS1: A successful strategy

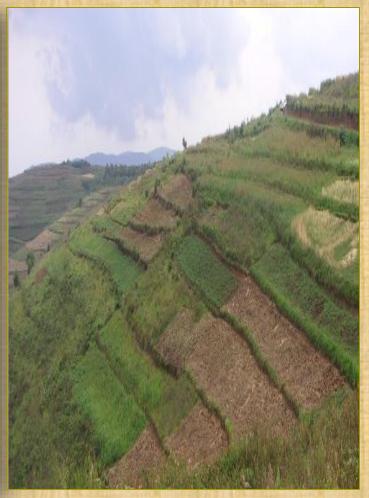
- Addressed key challenges especially acceleration of poverty reduction and income generation
- Up to 90% policy actions and targets achieved
- Decentralized administrative structures that encourage the participation of the population in rural development have been established on local level
- Home grown solutions

Reasons for improvement in poverty reduction

- Improved agriculture production
- Agro business, farm wage employment and increase in non-farm wages
- Income transfers and slowing population growth
- Improvements in rural infrastructures
- Community ownership and participation
- Development partners support and stakeholders participation
- Good governance and stability

Agriculture achievement





Agriculture before Genocide 1994

- ✓ Agriculture growth was 0.5% in the 80's and -3.9% in the 90's
- ✓ Low agricultural growth led under-performing economy in the 80's due to limited resource bases, declining soil fertility and exceptionally low utilization of modern agricultural inputs
- ✓ Since the beginning of the year 80's, highly growing population was becoming more and more obvious and negative impact on lands occupation:
 - i. over exploitation
 - ii. soil erosion leading
 - iii. decline soil fertility

October 23, 2013

Source: RAB 2012

Agriculture orientation after genocide

Diversification and intensification of plant, animal and fish production

- Diversification of income and employment sources for rural populations
- Linking products to national, regional and International markets
- Sustainable management of natural resources, particularly soil and water
- Organization, mobilization and capacity-building for producers
- Capacity-building for service providers and private-sector development
- Creating an enabling environment for investment in agriculture
- Promoting gender and youth approach in agriculture sector

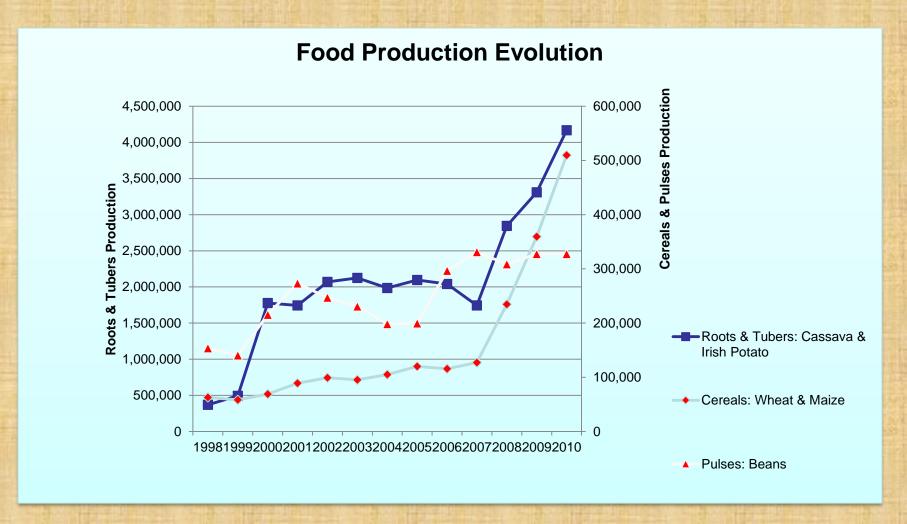


Agriculture achievement after Genocide 1994

Selected Vision 2020 Indicators	2000	2010	FY 2010/2011	2020
Agricultural GDP growth (%)	9	8	3.2%	6
Agriculture as % of GDP	45	47	31%	33
Land under "modernised" agric (%)	3	20	20%	50
Fertilizer application (kg/ha/annum)	0.5	8	30 kg	15
Soil erosion protection (% total land)	20	80	87.3%	90

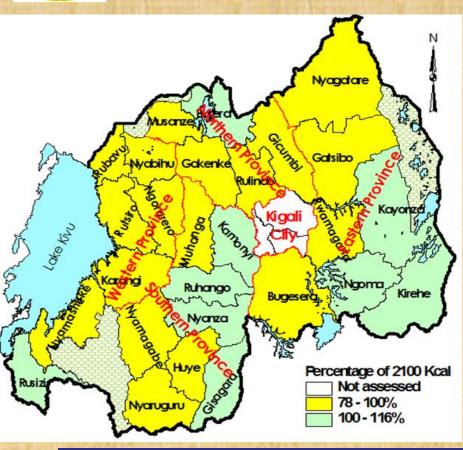
October 23, 2013

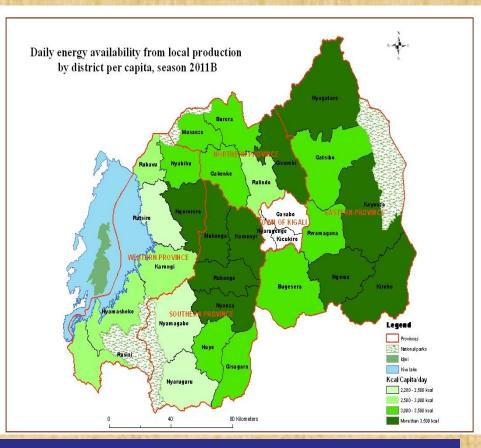
Agriculture achievement: Food security





Food security trend 2007 to 2011





(a) Food security in 2007 (9 district food secure) (b) all 30 districts

were food secure in 2011





Agriculture contribution to the National Economy





- 32-34% of Rwanda's GDP
- 70% of exports
- Employment > 80% of population
- Provides 90% national food needs

▶ Source: RAB 2012

Agriculture orientation after genocide

Key factors for success in agriculture:

- ☐ Land consolidation system approach
- ☐ Complete agricultural technology package:
 - i. Timely advisory service delivery through hired service provider with size of hectarage to serve (not number of farmers),
 - ii. Availability of high yield improved seed/hybreed maize
 - iii. Delivery of fertilizer at Sector level at affordable price,
 - iv. accessibility of both inputs (seed and fertilizer at Sector office) and advisory service (through hired service provider) under land consolidation system
 - v. affordability of subsidized fertilizer (DAP and urea)
- ☐ Good agricultural policy and strategy execution
- ☐ Good governance and focused leadership,
- ☐ National security and zero corruption



Agriculture under SPAT 3 & EDPI

- ✓ Government commitment for and use of CAADP compact, Nov. 2006
- ✓ The focus of the CAADP process was to strengthen and add value to the SPAT under EDPRS
- ✓ Focus of EDPRS 2 & SPAT 3 for 2013-2017
 - ✓ <u>Development of Quality Irrigation & Mechanization Systems</u>
 - ✓ <u>Comprehensive Approach to Land Husbandry</u> (Soil Fertility, Soil Conservation, Water Harvesting & Management, Livestock Feed)
 - ✓ Increased <u>use of agricultural inputs</u>
 - ✓ Develop the agricultural <u>post-harvest handling & storage system</u> and farmer capacity
 - ✓ Develop and target with <u>private sector high-value commodity chains</u>, encouraging innovation
 - ✓ <u>Livestock modernization</u>
 - ✓ <u>Agricultural research</u> agenda is strengthened according to <u>demand</u> driven by farmers

Source: RAB 2013

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National University of Rwanda (NUR) re-building after genocide 1994



NUR at a glance



NUR background

- NUR was established in November 1963
- 30 years prior to genocide, 1963 to 1993, NUR graduated only 1,962
- 16 years post genocide, 1995 2011, NUR enrolled 13,068 (74% enrolled in last 5 years)
- Currently NUR enrolment is 12,366. Of these,
 - 11,300 are undergraduate students
 - 1,044 are doing masters taught programs
 - 10 are Master of Philosophy research students
 - 12 are PhD research students
- In addition there are 21 Post-Doc fellows

Overview

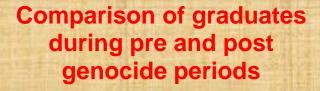
- Campuses: 3=Butare, Kigali and Rusizi
- Faculties: 7
 - ✓ Faculty of Agriculture
 - ✓ Faculty of Arts Media and Social Science
 - ✓ Faculty of Applied Sciences
 - ✓ Faculty of Economics and Management
 - ✓ Faculty of Science
 - ✓ Faculty of Law
 - ✓ Faculty of Medicine
- Schools: 2
 - ✓ School of Public Health
 - ✓ School of Foundation Language Skills

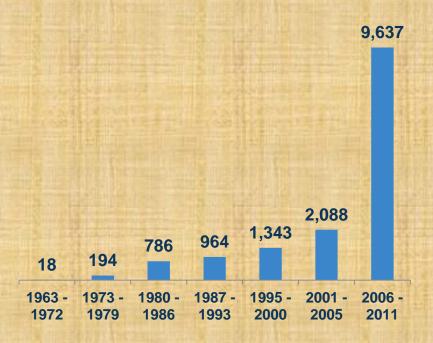


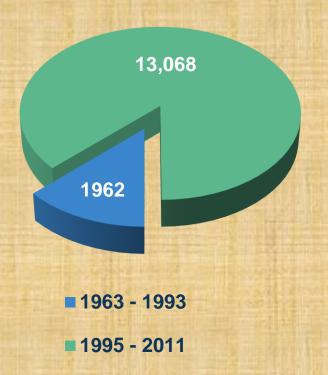
Trends in NUR graduates since 1963



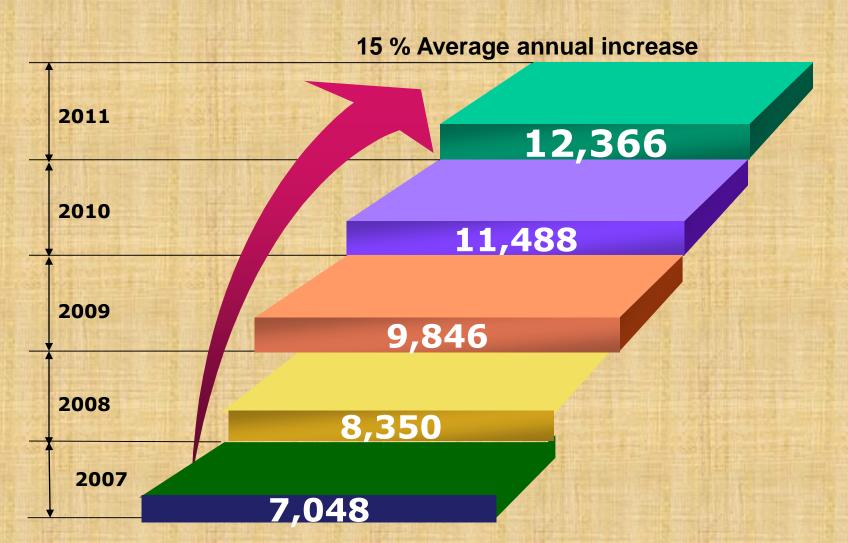
Graduation since 1963-1993











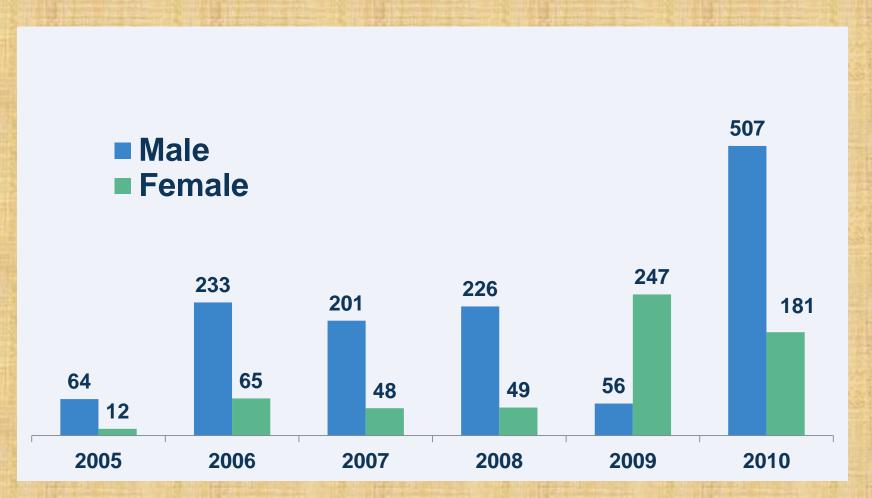
NUR Student population by gender during last five years

- a) Trends in gender equality
- b) The gender gap is constant

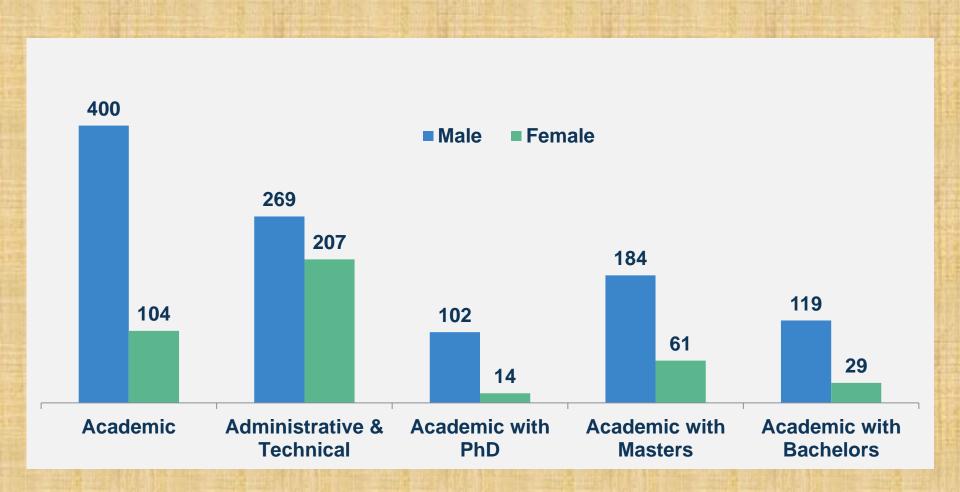




Postgraduate students enrolment since 2005: (none existing before genocide 1994)



NUR staff by gender and qualification



Historical Background of Faculty of Agricultu



■ NUR created in 3rd Novemebr,1963 jointly by the Rwandan Government and the Congregation of the Dominicans from the Province of Quebec (Canada)

□ 1979 Faculty of Agriculture was created from units of Faculty of Science

Faculty of Agriculture

- Departments
 - ➤ Agro-Economics and Agri-Business (AGEC)
 - ➤ Animal Production (PA)
 - ➤ Crop Production and Horticulture (PVH)
 - ➤ Soil and Environmental Management (SEM)
- Undergraduate programs
 - □ B.Sc. Agricultural Economics and agribusiness
 - ☐ B.Sc. Animal science
 - ☐B.Sc. Crop science
 - ☐B.Sc. Soil and Environment management

Faculty of Agriculture

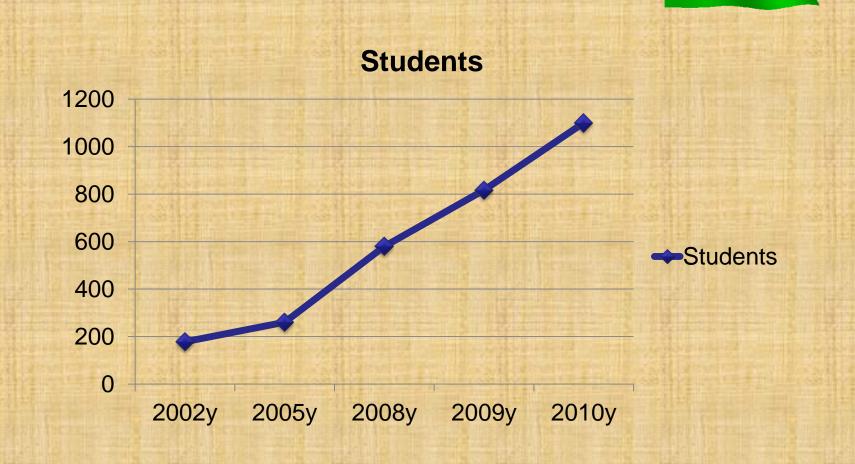


- ☐ Graduate program running
 - : M.Sc. Agro-forestry and Soil Management: NUFFIC/WUR
 - (situation analysis, curriculum development, stakeholder engagement, approval process and execution).
- ☐ Graduate Programs under pipeline
- ❖ M.Sc. Agribusiness: MSU/WSU/HED/USAID
- M.Sc. Plant Breeding and Seed Technology:sida/SLU
- M.Sc. Plant protection and Phytosanitary:sida/SLU
- M.Sc. Animal Science: sida/SLU
- ❖ M.Sc. Food Security:NICHE

Student distribution in the Faculty of Agriculture by department

Year of	AGEC	PA	PVH	SEM
Study/Level	21	1		
Level 1 (1 st year)	90	36	58	82
Level2 (2 nd year)	93	22	78	78
Level 3 &4(3 rd year)	68	21	48	35
Level 5 (4 th year)	128	51	70	69
Sum	379	130	254	274

CURRENT STUDENT ENROLLMENT: Faculty of Agriculture

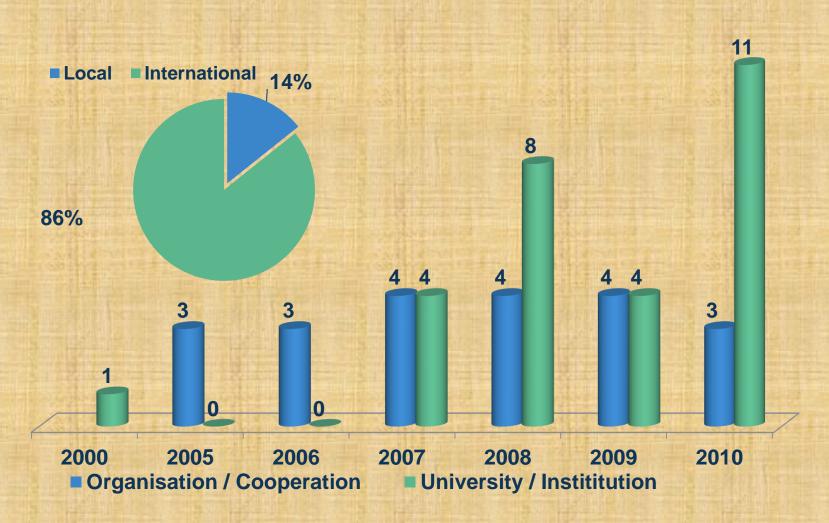


Academic staff in the Faculty of Agriculture by department and grade

Department	Full Prof.	Ass.Prof	SL&L	AL&T	Training (PhD)	Resigned/ cabinet appoint
Agric Econ. & Agribus	0	0	4	3	1	5
Animal Prod.	0	0	4	0	1	3
Crop Prod.&Hort.	1	1	3	0	1	3
Soil&Environ.	1	2	2	2	3	3
Total	2	3	12	7	6	14

SL: senior Lecturer: L: Lecturer: AL: Assistant lecturer,; T: Tutorial assistant.

Partnership with NUR for building academic and research capacity



Curriculum Reform - Going Bologna by 2008

- Based on total study hours rather than contact hours (40 study h/week)
- Introduce credit-bearing self study hours / reduce contact hours
- Introduce a new credit system (1 CP = 10 study hours)
- More practicals, seminars, promote self-learning skills
- real-life situation projects
- Team teaching under modular system

Challenges of NUR

- Curriculum review and development towards a new National Qualification Framework based on Bologna process
- Attitudinal change of staff and students to new students centered approach
- Making curriculum relevant to community and professional needs
- Make our research aligned to national and regional needs
- Development of professional capacity of staff (teaching, management, research).
- Incorporating of ICT into teaching, administration and management.
- Developing income generating activities.
- Developing required infrastructure including the library

Tackling Challenges for human and institution capacity

- ☐ Conflict/genocide destroy both human and institution capacity
- ☐ Need for both short and long term solutions

- ☐ Undergraduate programs:
 - * Recruit expatriates for position with enough workload
 - ❖use of visiting staff from national and regional partners
 - ❖ Train large number at M.Sc. to fill the gap quickly
 - ❖ Combine full time and sandwich PhD training where possible
- ☐ Postgraduate programs (M.Sc.):
 - ❖ Partner with experienced University to develop and execute quality curriculum jointly: through project
 - ❖ Use supervisor of sandwich students to teach the module which will be taught his/her students and use him/her as assistant for mentorship
 - ❖ A PG run jointly develops capacity at three levels:
 - ❖(i) institution (quality curriculum, equipments, human and execution),(ii) individual staff (professional and mentorship) and
 - ❖(iii) community (recruited students).
 - Commitment to work with existing partners (RUFORUM, etc.)

Trends in training Academic Staff during last five years

	2005	2006	2007	2008	2009	2010
Number of NUR staff enrolled in PhD studies (% women)	5 (20%)	17 (6%)	134 (15%)	120 (23%)	71 (31%)	111 (47%)
Number of staff completed PhD	3	2	6	6	8	17
Number of papers in peer reviewed Conferences and journals by NUR staff on PhD training	27	25	11	39	57	69
Number of published	1	0	1	2	3	5



New Model to Tackle Challenges

- · Focus on universities as "solvers"
- Willingness to train university faculty & students on every methodology used (as opposed to a "consulting approach")
- Novel approach to locating and connecting to untapped resources
- An opportunity to build global partnerships that we need to solve challenges
- Commitment to work with existing partners (RUFORUM, etc.) to co-create the process itself

