

Research Application Summary

**Building capacity of higher education institutions in post conflict countries:  
Contribution of the Regional Universities Forum for Capacity Building  
in Agriculture**

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**Abstract**

Despite being recognised as one of the key components for unlocking Africa's development, higher education in sub-Saharan Africa has continued to be plagued by low student-academic staff ratio that is affecting quality of training and skills development. This situation is being orchestrated by increased enrolment into higher education institutions especially in post-conflict countries that are seeking to close-up the higher education development lag. This study documents efforts by the Regional Universities Forum for Capacity Building in Agriculture (RUFORUM) in rebuilding the human capacity and putting in a place a framework for enhancing postgraduate training in three African post-conflict countries. A total of 53 students were recruited to be trained in the different RUFORUM member Universities in 21 different disciplines relevant to various countries development needs. Students from Madagascar are undergoing their training under the Master en Agroecologie, Biodiversite et Changement Climatique (ABC) programme developed under the EU-ACP EDULINK II ADECEA project. The majority of students from Burundi and Madagascar were or are being trained at MSc level while 58% and 42% of students from the DRC are being trained at MSc and PhD level respectively. About 10% of students have benefited from the Field Attachment programme used by RUFORUM to help students disseminate their research findings to communities as a mechanism for facilitating going back and giving back to the communities and other key stakeholder groups.

**Key words:** Burundi, DRC, human capital development, Madagascar, RUFORUM

## Résumé

En dépit du fait que l'enseignement supérieur est reconnu comme l'une des clés pour déverrouiller le développement sur le continent africain, le nombre du personnel académique de haut calibre par étudiant continue à réduire de manière significative, surtout dans les pays qui ont connu de longues périodes de conflit. Cette étude souligne les efforts déployés par le Forum Régional des Universités pour le Renforcement des capacités en Agriculture (RUFORUM) dans la reconstruction de la capacité humaine et de la mise en place d'un cadre pour l'amélioration de la formation postdoctorale dans trois pays africains qui viennent d'émerger des conflits. Un total de 53 étudiants ont été / sont en cours de formation dans différentes universités membres de RUFORUM. Les étudiants sont répartis dans 21 disciplines. La plupart d'étudiants en provenance de Madagascar sont actuellement formés dans le cadre du programme ABC (Agro-écologie, Biodiversité et Changement climatique) développé dans le cadre du projet UE-ACP EDULINK II ADECEA. La majorité des étudiants du Burundi et de Madagascar ont été ou sont en cours de formation au niveau de la Maîtrise tandis que ceux de la RDC, sont formés au niveau de la Maîtrise (58%) et au niveau du Doctorat (42%). Environ 10% d'entre eux ont bénéficié du Programme de vulgarisation de leur résultats organisé par RUFORUM pour aider les étudiants à diffuser les résultats de leurs recherches auprès des communautés et autres parties prenantes avec lesquelles ils avaient travaillé.

Mots clés: Burundi, RDC, le développement du capital humain, Madagascar, RUFORUM

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## Introduction

Africa is currently facing various challenges in terms of socio-economic development and technological advancement. Despite the progress made in governance, trade performance, urbanization, the induced growth has not contributed to significant poverty reduction (Ellis, 2007; Gollin, 2009; Christiaensen *et al.*, 2011; Olinto *et al.*, 2013). The elasticity of industrial value added with respect to GDP has shown that the continent is still in the de-industrialization period. To date, the majority of countries in the continent have promoted trade liberalization and privatization of state-owned enterprises which had constituted the major segment of large-scale industry in most African countries (UN, 2001). Relatively though, the income per capita has not increased considerably while in some cases there has been a decline at the time when the rest of the World has experienced rapid economic growth (Ravallion and Chen, 2004; Dercon, 2009). About half of the people in Africa live on less than US\$1 a day (Devesh Kapur and Crowley, 2008). Nevertheless there is progress in some countries notably Ghana, Kenya and Rwanda, amongst a few others.

Higher education is viewed as one of the keys for unlocking Africa's development. Higher education brings in the skills required to increased productivity and innovation, adapts and generates knowledge, promotes international cooperation, improves competitiveness in the global knowledge based economy, generate employment, and provides economic and social benefits at all levels (individual, community and national). Other benefits of higher education include improved quality of life, better decision making, better leadership and greater cohesion.

Indirectly, the number, diversity and quality of HEIs indicates a country's ability to compete in a global economy (African Union, 2006). In Africa the sector is currently facing several challenges. These challenges vary from one country to another but generally, in most of the countries they include shortage of skilled personnel, poor infrastructure, weak leadership, management and governance, declining quality and relevance of higher education in relation to market skill requirements, and lack of financial resources (Majaliwa *et al.*, this volume) which significantly limit its contribution to the continent developmental agenda.

In the Great Lake Region of Africa, Burundi and Democratic Republic of Congo (D.R Congo) are countries which have experienced conflict for more than a decade. Indeed D.R Congo has just come out of it while Burundi has relapsed into conflict. Burundi, DR Congo and Madagascar have a relatively high number of destitute children and families mainly as a result of conflict (Alkire *et al.*, 2014). In the three countries, the conflict period was accompanied by the general destruction of infrastructure and brain drain. Consequently, the proportion of teaching staff with a doctorate is relatively low and the average age of teachers is relatively high. In the DR Congo the proportion of PhD holders in HEIs represents only 17% of the total teaching staff, most of whom are located in three universities (University of Kinshasa, Lubumbashi and Kisangani). The rest of the universities in the country have very low number of PhD holders. The situation is not very different in Burundi and Madagascar (Hayward and Rasoanampoizina, 2007; Obura, 2008). With relative peace and security re-emerging in these countries, governments and donor organizations have initiated several actions to improve the status of HEIs in these three countries. This study only focuses on the actions implemented by RUFORUM in building capacity of selected HEIs in the three countries (Burundi, Madagascar and DRC). The data used in this study were collected from RUFORUM data base, Makerere University, Universite du Burundi (University of Burundi), Universite Catholique de Bukavu (Catholic University of Bukavu), Universite Evangelique en Afrique (Evangelic University in Africa) and Universite d'Antananarivo (University of Antananarivo).

### **Students trained by RUFORUM and partners in the targeted countries**

In the last five years RUFORUM and partners have trained graduate students from Madagascar, Burundi and DRC (Table 1). Of those trained 40% are female. Most of the people trained in DR Congo and Burundi were staff of Evangelic University of Africa and Catholic University of Bukavu for DRC, and University of Burundi and Institut des Sciences Agronomique du Burundi (ISABU) for Burundi. The majority of students (34%) were trained at Makerere University in Uganda and University of Antananarivo, 30.2% (Table 2). The latter is currently training its own students with the support of RUFORUM which provides funding for tuition and stipend in the Agroecologie, Biodiversite et Changement Climatique (ABC) postgraduate programme developed under the EU-ACP EDULINK II ADECEA-project where RUFORUM is a partner. Other students were trained in Kenya (at University of Nairobi, Jomo Kenyatta University of Agriculture and Technology and Egerton University), Tanzania (Sokoine University of Agriculture), Malawi (Lilongwe University of Agriculture and Natural Resources), South Africa (Stellenbosch University) and Benin (University of Abomey-Calavi). In addition, five MSc students are being trained in the health sciences through a RUFORUM facilitated Intra ACP\_EU Academic Mobility programme.

**Table 1. Number of students trained per country and disaggregated by gender**

Row labels	Burundi	DRC	Madagascar	Total
Female	5	10	6	21
Male	8	14	10	32
Total	13	24	16	53

**Table 2. Training institutions of students from Burundi, DRC and Madagascar**

Training institution	Female	Male	Total
Egerton University	1	1	2
Jomo Kenyatta University of Agriculture and Technology	3	2	5
Lilongwe University of Agriculture and Natural Resources (LUANAR)		1	1
Makerere University	4	15	18
Sokoine University of Agriculture	3	1	4
Stellenbosch	1		1
Universite d'Abomey-Calavi		1	1
Universite d'Antananarivo	6	10	16
University of Nairobi	4	1	5
Total	22	33	53

As indicated above the students have been trained in various fields (Table 3) responding to the priority needs identified by each of the three focus universities. The students from DRC and Burundi trained under 20 disciplines while those from Madagascar were trained in ABC. Five students were trained in Integrated Watershed Management (IWM), three in each of the following disciplines: plant breeding and seed systems, environmental sciences, and research methods. Two people were trained in each of the following disciplines: horticulture, crop science and in agricultural information and communication management. In each of the following disciplines only one person was trained, agribusiness, animal health and engineering, applied veterinary epidemiology, biostatistics, crop production, microbiology and molecular biology, soil sciences, soil science and plant nutrition and seed technology and management. In the case of Madagascar more students are being recruited for training in the area of food quality systems.

The number of people trained at different levels vary from one country to another (Table 4). Most of the students from Burundi and Madagascar have been trained at Master level. On the other hand 58% and 42% of the students from DRC have been trained at MSc and PhD levels, respectively. This is likely to raise the number of PhD holders at least by 38% in South-Kivu province upon their completion.

**Table 3. Discipline in which students from Burundi, DRC and Madagascar were trained through RUFORUM**

Discipline	Female	Male	Total
Agroecologie, Biodiversite et Changement Climatique (ABC)	6	10	16
Agribusiness		1	1
Agricultural Information and Communication Management	1	1	2
Animal Health and Engineering		1	1
Applied Veterinary Epidemiology		1	1
Aquaculture		1	1
Biostatistics		1	1
Crop Production	1		1
Crop science		2	2
Environment and Natural Resource Management		3	3
Food Sciences	3		3
Horticulture	2		2
Integrated Watershed Management	1	4	5
Microbiology	1		1
Molecular biology	1		1
Plant Breeding and Seed Systems	2	2	4
Public Health		2	2
Research Methods	1	2	3
Seed Technology and Management	1		1
Soil Sciences		1	1
Soil Sciences and Plant Nutrition	1		1
Total	21	32	53

**Table 4. Total number of MSc and PhD graduates trained for the three focus countries**

Training level	Burundi	DRC	Madagascar	Total
MSc	12	14	16	42
PhD	1	10		11
Total	13	24	16	53

### Conclusions and recommendations

Considerable efforts have been made by RUFORUM to build capacity of the four institutions from the three countries. In addition with the postgraduate programmes now developed for the three countries (2 in Burundi, 1 in DR Congo and 2 in Madagascar) more post graduate students will be trained in the near future. However, this will require leveraging resources to support more graduate and technician training, rebuild the laboratories and other infrastructure, develop more teaching resources, improve communication and access to information and

support students' research. Since the established programs have been aligned to the LMD system, students from these countries will easily be taken up by Anglophone Universities with relatively better comparative advantages in higher education set-up, especially in terms of quality graduate programs. Linkage to other Universities in Africa in particular will be key to strengthening the capacity for graduate training and research in the three focus countries, and other needy institutions.

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