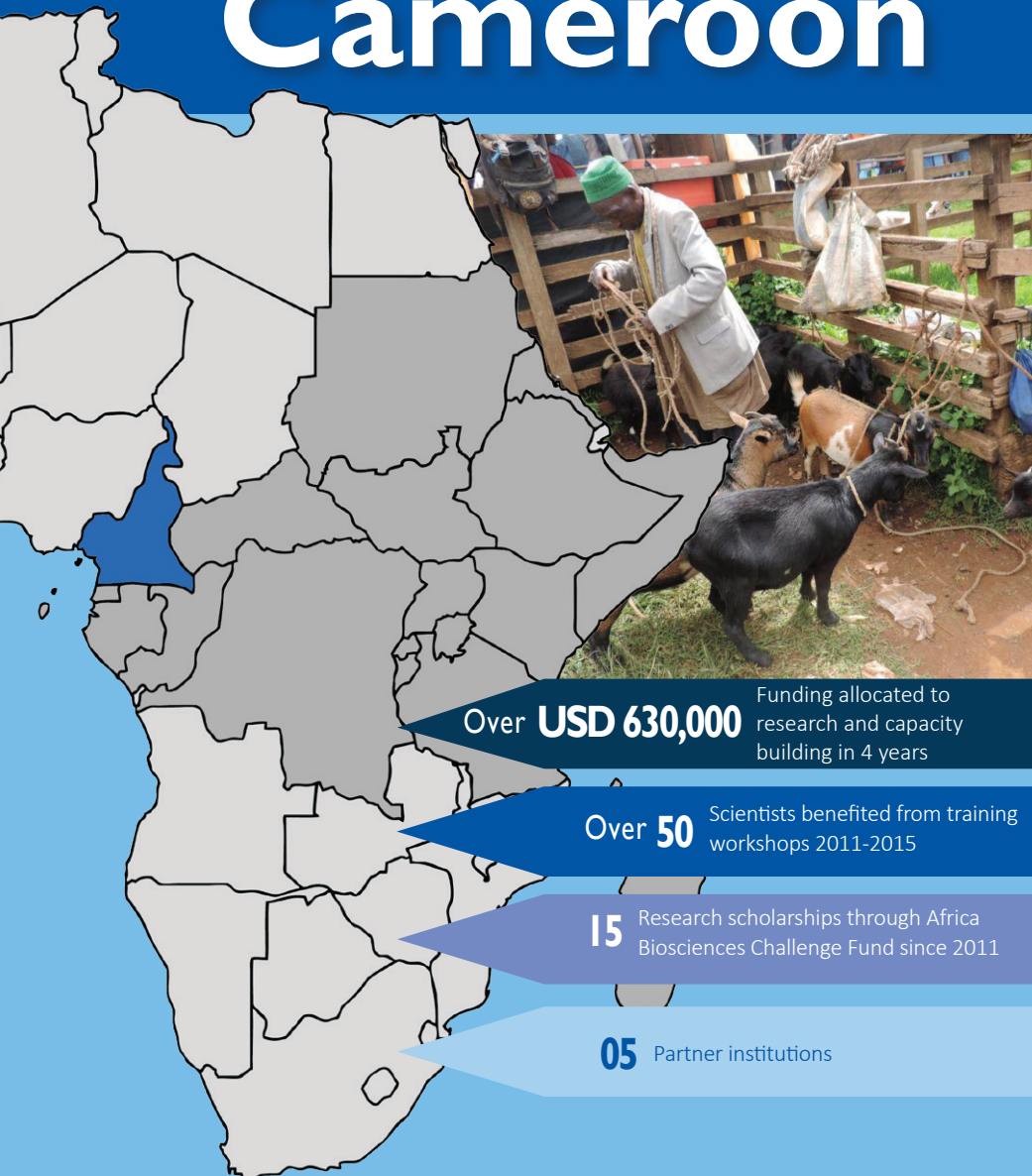


BecA-ILRI Hub in Cameroon



Over **USD 630,000**

Funding allocated to research and capacity building in 4 years

Over **50**

Scientists benefited from training workshops 2011-2015

15

Research scholarships through Africa Biosciences Challenge Fund since 2011

05

Partner institutions

Biosciences eastern and central Africa-International Livestock Research Institute (BecA-ILRI) Hub was established in Nairobi, Kenya, with the aim of increasing the use of cutting edge bioscience technologies to address Africa's agricultural, health, and environmental challenges. There are 18 countries in the BecA region - Burundi, Cameroon, Central Africa Republic, Congo Brazzaville, Democratic Republic of Congo, Equatorial Guinea, Eritrea, Ethiopia, Gabon, Kenya, Madagascar, Rwanda, São Tomé and Príncipe, Somalia, South Sudan, Sudan, Tanzania and Uganda.

The BecA-ILRI Hub in Cameroon

In empowering African researchers and institutions to exploit biosciences opportunities, the BecA-ILRI Hub contributes to addressing key agricultural constraints in food production, nutrition and animal health in eastern and central African countries including Cameroon. This is achieved through partnerships with the country's national agricultural research system (NARS), development organizations and other stakeholders. Since 2010, the BecA-ILRI Hub has contributed to the NARS in Cameroon through various engagements including:

Collaborative research

The projects, which include national partner-led research projects, are demand driven, responding to the high priority themes identified for increasing the productivity of food and improved agricultural systems in Cameroon.

Improving protein and household income through better husbandry of domestic cavy

Domestic cavy (guinea pigs) are a good quality meat source with high levels of protein. This low input livestock has served as the only source of protein for Africans in conflict areas and has the potential to improve the lives of resource-poor people through income generation and improved nutrition.

With funding from the Australian Government, the BecA-ILRI Hub led project on domestic cavies research has stimulated better organization of cavy farmer groups and traders through dynamic innovation platforms. These groups support each other in production and stronger market linkages in Cameroon with connections being established between farmers, traders and restaurants. Led in Cameroon by Dr Felix Meutchieye from the University of Dschang, the project brings together partners including the Ministry of Livestock, Fisheries and Animal Industries (Support Programme for Non-Conventional Breeding and National Programme for the Improvement of Competitiveness of Family-run Farms) as well as development partners, universities and research institutions in DRC.

Harnessing genetic diversity for improved goat productivity

Goats are a significant component of the livelihoods of smallholder farmers and



A young boy displays his cavy in Cameroon (photo: University of Dschang).

pastoralists in Cameroon. With funding from the Swedish Ministry for Foreign Affairs through Swedish International Development Agency (Sida) this project brings together partners in Cameroon aiming to increase goat productivity through strengthening the capacity of national goat breeding programs. The team is also investigating the genetic basis of the extraordinary reproductive capacity of West African Dwarf goats, to accelerate their use in breeding of non-dwarf goats with similar high capacity to reproduce.

Cameroonian partners in this project include University of Dschang, Institute for Agricultural Research for Development (IRAD) and Small Ruminant Support Programme (PADPR).

Capacity building

The BecA-ILRI Hub is expanding the base of expertise in agricultural research in Cameroon by building the capacity of scientists and institutions to address the challenges that prevent them from conducting high quality and relevant agricultural biosciences research. Scientists and graduate students have been trained in the use of the latest technologies as well as in various key areas of science leadership. Partnerships between the BecA-ILRI Hub and national institutions have facilitated the support of facilities upgrades to create a more robust research environment.

There are four main categories of capacity building and training activities that have involved several scientists and graduate students from Cameroon:

Post graduate students

Post graduate students (MSc and PhD candidates) have conducted research at the BecA-ILRI Hub either by being attached to existing research projects or through their stand-alone thesis projects.

Small group training and short-term visiting scientists

Smaller groups of up to five participants have also received tailor-made training and laboratory work programs. Visiting scientists from Cameroonian universities and other research institutes have come to the BecA-ILRI Hub to use the facilities or equipment to advance their research projects.

Training workshops

A number of Cameroonian scientists have benefited from group training workshops which emphasize problem-solving, hands-on training, seminars, discussions and laboratory practical work. These trainings are developed within the BecA-ILRI Hub's core competencies such as genomics, bioinformatics, diagnostics, molecular marker development and applications, DNA sequencing and genotyping, and scientific paper writing.

Africa Biosciences Challenge Fund (ABCF)

This is a competitive fund which facilitates access to the BecA-ILRI Hub for scientists and students from African National Research Institutes and universities.

Through this program, Cameroonian scientists have received support for their research fellowships, pilot project grants and training.

Institutional Support

Due to the commitment to invest in growing the capacity of research institutes in Cameroon, the BecA-ILRI Hub conducted a needs assessment visit to the University of Dschang in Cameroon; established the best approach to supporting the institution's current efforts to improve its biotechnology teaching and research facilities; and contributed to the design of the facility.



Dr Serge Njidoju(I), University of Dschang and Dr Roger Pelle, BecA-ILRI Hub, discuss the upgrade of the university's facilities.

The following Cameroonian scientists have benefited from the Africa Biosciences Challenge Fund fellowship program:

<p>Félix Meutchieye Lecturer, University of Dschang 1 November–30 December 2010; 1 August–27 October 2011 Project title: Molecular characterization of Cameroon indigenous goats and sheep</p>	<p>Jerome Dinga Lecturer, University of Buea 18 April–11 October 2013 Project title: Expression and characterization of hypothetical proteins from <i>Theilera</i> and <i>Babesia</i> spp. and an immunodominant protein from <i>Plasmodium falciparum</i></p>
<p>Christian Keambou Tiambo Assistant Lecturer, University of Buea / Université des Montagnes 15 January–15 May 2012; 10 August 2015–9 February 2016 Project title: Genetic diversity and structure of Cameroonian indigenous chicken populations</p>	<p>Nehemie Donfagsiteli Tchinda Research Officer, Institute of Medical Research and Medicinal Plants Studies, Yaounde 1 May–31 October 2012 Project title: Genetic diversity of wild and cultivated <i>Dacryodes edulis</i> (African plum) in Cameroon</p>
<p>Olivier Fokam Researcher, University of Dschang 24 September 2013–24 March 2014 Project title: Technical molecular biology as an identification tool for bush meat in the urban markets of Cameroon: stakes, challenges and perspectives</p>	<p>Ache Acha PhD student, University of Buea 24 August 2015–23 February 2016 Project title: Molecular identification and nutrient composition of wild edible and medicinal mushrooms from the Kilum-Ijim forest reserve, North-West Cameroon</p>
<p>Blaise Arnaud Hako Touko Researcher, University of Dschang 20 July–20 December 2012 Project title: Exploring disease resistance by evaluation of the genetic diversity in Cameroon local chicken populations</p>	<p>Patrick Ema Ngono Assistant Lecturer, University of Ngaoundere 14 February–15 June 2012 Project title: Molecular characterization of Cameroon indigenous cattle</p>
<p>Cécile Annie Ewane Senior Lecturer, University of Yaoundé I; Ass. Researcher, African Research Center on Bananas and Plantains (CARBAP) 3 August–20 December 2012 Project title: Improving knowledge on diversity to enhance the conservation and promotion of bananas and plantain in West and Central Africa</p>	<p>Silatsa Assongo Barberine Researcher, University of Dschang 24 September 2013–24 March 2014 Project title: Evaluation of CD8 T-cell antigen Tp2/heat shock fusion protein(Tp2/gp96) delivery system: antigen production and immunogenicity study</p>
<p>Kana Jean Raphaël Lecturer, University of Dschang, 1 September–23 December 2012 Project title: Occurrence of aflatoxins in foods and feedstuffs–Dietary exposure and impaired animal production in Cameroon</p>	<p>Anoumaa Mariette Researcher, University of Dschang 27 April 2015–26 October 2015 Project title: Genetic characterization of potato (<i>Solanum tuberosum</i> L.) from Cameroon using morphological and microsatellites markers</p>

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