

Science Granting Councils in Sub-Saharan Africa Country Report

Cameroon

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List of acronyms and abbreviations

ANRP	<i>Agence Nationale de Radio Protection</i> (National Agency for the protection of Radio)
CFAF	<i>Coopération Financière Africaine</i> (Financial Cooperation in Central Africa francs)
CNDT	<i>Comité National de Développement des Technologies</i> (National Committee for the development of technology)
CNDT	National Commission for the Development of Technologies
CNE	<i>Centre National de l'Éducation</i> (National Education Centre)
CORAF	<i>Conseil ouest et centre africain pour la recherche et le développement agricoles</i> (cf. WECARD)
FARP	<i>Fonds d'Appui à la Recherche et à la Professionalisation</i> (Fund for Support to Research and Professionalisation)
FNRI	<i>Fonds National de la Recherche et de l'Innovation</i> (National Fund for Research and Innovation)
FODECC	<i>Fonds de Développement des filières Cacao et Café</i> (Fund for the Development of Cocoa and Coffee Sectors)
FRBC	<i>Fonds de Recherche sur Base Competitive</i> (Competitive Based Research Fund)
FUDIST	<i>Fonds Universitaire pour la Diffusion de l'Information Scientifique et Technique</i> (University Fund for the Dissemination of Scientific and Technical Information)
GDP	Gross domestic product
HIPC	Heavily Indebted Poor Countries
IMPM	<i>Institut de Recherche Médicale et d'Études des Plantes Médicinales</i> (The Institute of Medical Research and Medical Plants)
INC	Institut National de Cartographie (National Cartography Institute)
IRAD	<i>Institut de Recherche Agricole pour le Développement</i> (Institute for Agricultural Research for Development)
IRGM	<i>Institut de Recherches Géologiques et Minières</i> (Geology and Mining Research Institute)
IRZ	<i>Institut de Recherche Zootechnique</i> (The Institute of Zootechnical Research)
ISH	<i>Institut des Sciences Humaines</i> (The Institute of Human Sciences)
JERSIC	<i>Journées de l'Excellence de la Recherche Scientifique et de l'Innovation au Cameroun</i> (Scientific Research and Innovation Excellence Week)
MINESUP	<i>Ministère de l'Enseignement Supérieur</i> (Ministry of Higher Education)

MINRESI	<i>Ministère de la Recherche Scientifique et de l'Innovation</i> (Ministry of Scientific Research and Innovation)
MIPROMALO	<i>Mission de Promotion des Matériaux Locaux</i> (Protection of local materials project)
ONAREST	<i>Office National de la Recherche Scientifique et Technique</i> (National Office for Scientific and Technical Research)
PASE	<i>Programme d'Appui au Système Educatif</i> (Support to Education System Programme)
R&D	Research and Development
S&T	Science and Technology
URF	University Research Support Fund of the University of Yaoundé I
WECARD	West and Central African Council for Agricultural Research and Development



CAMEROON

French Cameroon became independent in 1960 as the Republic of Cameroon. The following year, the southern portion of neighbouring British Cameroon voted to merge with the new country to form the Federal Republic of Cameroon. In 1972, a new constitution replaced the federation with a unitary state, the United Republic of Cameroon.

Demographic Indicators	Source Year	Estimate
Population	2013	20 549 221
Annual population growth (%)	2013	2.04
Life expectancy at birth (in years)	2013	55.02
HIV adult prevalence rate (%)	2009	5.3
Percentage of urban population (% of total population)	2010	58
GDP per capita (in USD)	2012	2 300
Unemployment rate (%)	2001	30
Population below poverty line (%)	2000	48
Human Development Index (HDI) ranking	2012	150

Source: CIA Factbook, 2013

Compared with other African countries, Cameroon enjoys relative political and social stability. This has, in turn, permitted the development of agriculture, roads, and railways, as well as an extensive petroleum industry. In general, Cameroon's natural resources are better suited to agriculture and forestry than to industry. The climate and type of soil in the south encourages extensive cultivation of crops such as cocoa, coffee, and bananas. In the north, natural conditions favour crops such as cotton and peanuts. For a quarter of a century following independence, Cameroon was one of the most prosperous countries in Africa. In the mid-1980s, the drop in commodity prices for its principal exports – petroleum, cocoa, coffee and cotton – combined with an overvalued currency, widespread corruption and economic mismanagement, led to a decade-long recession. Cameroon is known for having one of the best education systems in Africa. Primary school is both free

and compulsory. Cameroon is a low to middle income country with a GDP per capita income of USD 2 300 (2012). Cameroon's HDI ranking (2012) places it 150th out of 187 countries. Almost a half of all Cameroonians live under the poverty line (cf. table above).



Figure 1 Map of Cameroon

1. General overview¹

Building the national Science and technology system

Research activities were at first performed by isolated science amateurs, researchers and academics. The creation of the Society for Cameroonian Studies in 1935 was the most important institutional evolution of the colonial era. Research after World War I was mostly conducted in agriculture. Numerous experimental stations appeared replacing trial gardens and were in turn, replaced by agronomic research institutes after World War II. When the Cameroonian State became independent in 1960, it inherited an appreciable research infrastructure but the number of trained Cameroonian researchers was very small. France provided much of the funding and research was supervised by the former colonial ruler throughout the 1960s. At the same time that Cameroonian authorities invested in higher education. Even after the creation of the Council for Scientific Research in 1962, research remained under French leadership and was conducted within the French institutes established in Cameroon. The pre-eminence of the French institutions was even reinforced with the Franco-Cameroonian agreements of 1963.

State appropriation of research performed in the country really only began from 1972 when the country was unified as a republic. The first step signalling such appropriation consisted of the establishment of the National Office for Scientific and Technical Research (ONAREST) (*Office National de la Recherche Scientifique et Technique*) in 1974. Its mission was to coordinate existing research institutes and to lead research activities. ONAREST inherited ten French research institutes active in different fields. The latter were reorganised into nine national research institutes. By this point, Cameroon had successfully trained research managers and national research was progressively being led by Cameroonians. However, research development was hindered by bureaucratic quarrels, with some ministries formerly in charge of research institutes reluctant to cooperate with ONAREST. ONAREST also faced other difficulties: it had to oversee the nationalisation of formerly French-managed institutes and manage research development with few financial resources and no experience.

To address coordination challenges and the high costs of many structures, in 1976, the nine institutes were absorbed into five (cf. box 1).

1935	Society for Cameroonian Studies
1960	Independence
1962	Council for Scientific Research
1974	National Office for Scientific and Technical Research (ONAREST)
1979	Délégation Générale à la Recherche Scientifique et Technique (DGRST)
1984	Ministry of Higher Education and Scientific Research (MESRS)
1992	Ministry of Scientific Research and Technology (MRST)
2004	Ministry of Scientific Research and Innovation (MINRESI)

¹ This section draws from Khelifaoui and Gaillard, 2000; Gaillard and Zink, 2003.

This was also followed, in 1979, by the transformation of ONAREST into a General Delegation for Scientific and Technical Research (DGRST) (*Délégation Générale à la Recherche Scientifique et Technique*) which answered directly to the Prime Minister.

This change reflected a considerable gain in political status for scientific research which was to be given its own Ministry in 1984, integrating at the same time the higher education sector: the Ministry of Higher Education and Scientific Research. Whereas this integration appeared efficient, the Ministry divided in two branches in 1992, with higher education on one side and scientific research on the other. Despite growing advocacy in favour of re-uniting higher education and research in one ministry, this separation remains up to today.

A common characteristic of research organisations in West and Central Africa is their recent origin. Most of them only obtained a status of autonomy in the 1970s. As a result, ministries responsible for research in these countries only emerged around a decade later, as was the case for Ghana (1979), Burkina Faso (1983), Senegal (1983) and Cameroon (1984). The aforementioned countries' governments and universities have therefore a relatively short experience in research management. The establishment of national research funds are even more recent.

1.1. Governance

From 1984 to 1992, higher education and scientific research were managed under one ministry. From 1992, and in an effort to ensure a strong focus on research, the ministry split into two. As a result, the institutional research in Cameroon is coordinated through two separate ministries:

- (i) the Ministry of Scientific Research and Innovation (MINRESI) (*Ministère de la Recherche Scientifique et de l'Innovation*), which carries the duties of drafting, implementing and assessing government policy with respect to scientific research and innovation. It is in charge of eight research

Box 1

The re-organisation of ONAREST in five research institutes in 1976

Institut de Recherche Agricole et Forestière (IRAF) based in Ekona – *The Institute for Agricultural and Forestry Research* -

The Institute of Zootechnical Research – *Institut de Recherche Zootechnique* (IRZ) which continued to be based in Ngaoundere.

The Institute of Medical Research and Medical Plants – *Institut de Recherche Médicale et d'Etudes des Plantes Médicinales* (IMPM)

The Institute of Human Sciences – *Institut des Sciences Humaines* (ISH)

Box 2

Research institutes under MINRESI

Institut de Recherche Agricole pour le Développement (IRAD);

Institut de Recherche Médicale et d'Etudes des Plantes Médicinales (IMPM);

Institut de Recherches Géologiques et Minières (IRGM);

Mission de Promotion des Matériaux Locaux (MIPROMALO);

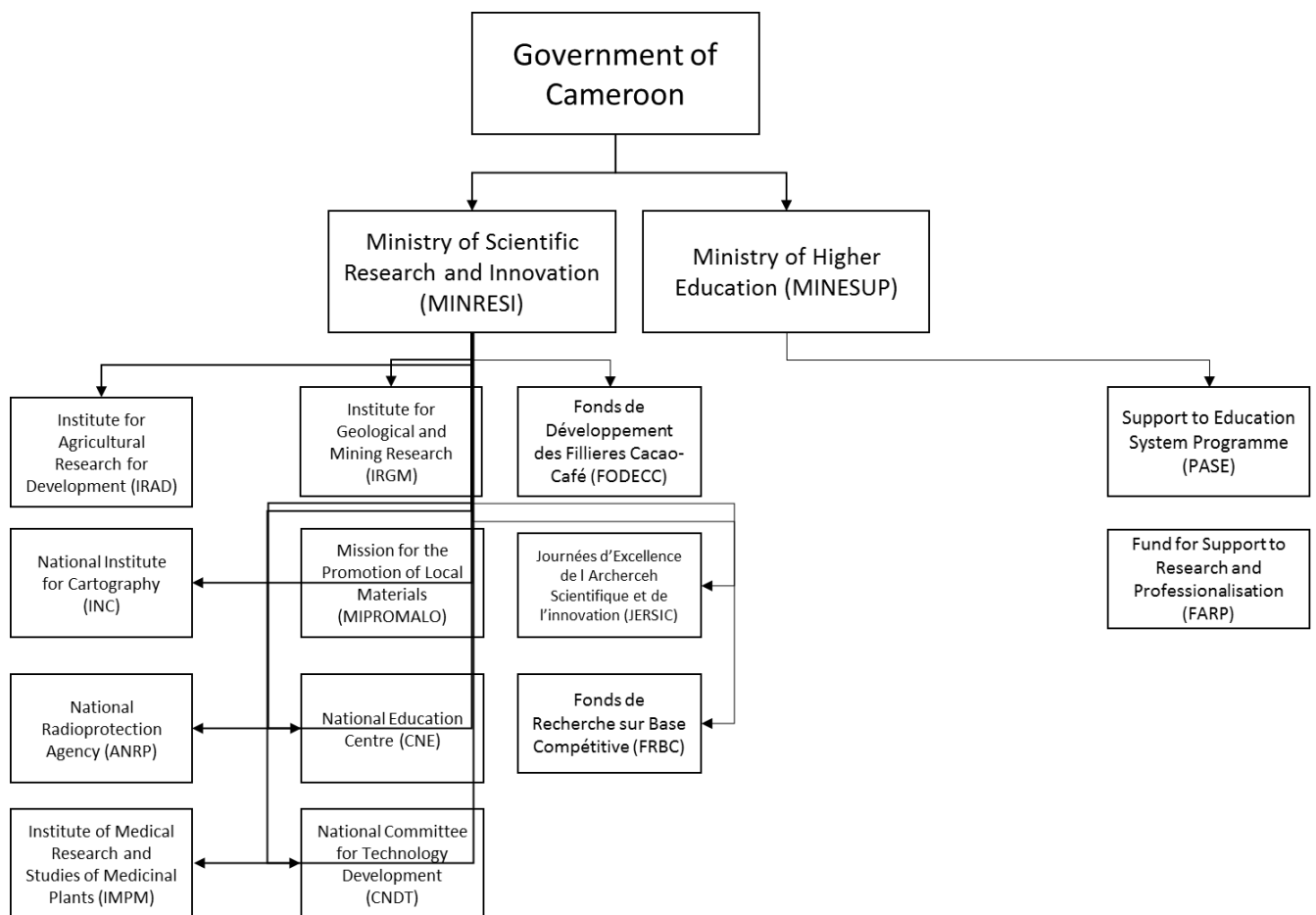
Agence Nationale de Radio Protection (ANRP);

Institut National de Cartographie (INC);

Comité National de Développement des Technologie (CNDT); *Centre National de l'Education* (CNE).

- institutes (cf. box 2); and
- (ii) the Ministry of Higher Education (MINESUP) (*Ministère de l'Enseignement Supérieur*), which is responsible for the sustainability of the traditional missions of higher education, and the promotion and dissemination of academic research. It is responsible for eight public universities.

The division of the single ministry into two different ministries (one for higher education and one for research) is a contentious issue. It goes against the global policy of cooperation between universities and research. Furthermore, no one is satisfied with this situation. Academic researchers feel isolated because logic determines that research users will usually address the Ministry of Research. Full-time researchers in research institutes also find it difficult to access training or to cooperate with academic researchers.



Source: Compiled by authors

Figure 2: Organisation of Cameroon's S&T system

Research is also supervised by three main councils or committees:

1. The Council of Higher Education and Scientific Research and Technology (decree 99-201) that assists the Government in the development and implementation of policy in higher education, scientific and technical research, and technological development;
2. The National Commission for the Development of Technologies (CNDT) which is a body of coordination, reflection and information on the transfer and development of technology, placed under the supervision of MINRESI;
3. The Inter-ministerial Steering Committee created under the authority of the Ministry in charge of development planning and economy for more efficiency in the implementation of the strategy of scientific research. The composition of the Committee includes, in addition to representatives of sectorial ministries appointed, representatives of the private sector and civil society.

1.2. STI policies

One of the major challenges that the country faces with regards research is aligning it to make a contribution to the elimination of poverty, disease and illiteracy. In order to address this issue, the MINRESI has developed the Strategy of Scientific Research and Innovation (currently in draft form, pending validation), which aims to focus the efforts of different actors and mobilise the resources necessary to harness science and technology effectively for the cultural, economic and social development of Cameroon.

Key current challenges facing the research sector stem to some degree from the partitioning of research structures. They include:

- a lack of equipment²
- limits on funding and the absence of a sustainable funding mechanism
- insufficient numbers of trained human resources; and
- harmonisation of the status of researchers from universities and from public research institutes under MINRESI.

The above situation is essentially related to the problems faced by the research institutions under the supervision of the MINRESI. A major factor within the academic research environment is that the teaching mission takes precedence over research. Research activities are also too often confined to the objectives of lecturers' rank promotion. The net result is a low level of internal efficiency, with limited active research focused on solving the problems of the society. With few exceptions, academic research is characterised by a lack of organisation and management, scattered topics and

² Since the 2000s, most of the research bodies under the supervisory authority of the MINRESI have received funding under Contracts of Minimum Objectives (COM) for the renewal of their scientific equipment. However, material and scientific equipment requirements allowing for research covering national issues remain a key need. A satisfactory solution to the problem of maintenance of existing equipment has also not yet been found.

multiplication of micro-research groups unable to reach the critical mass necessary for productive research. To these limitations, one can add a pronounced lack of material and financial resources. The same picture emerges when examining training units and graduate schools, leading to poor visibility and a lack of legitimacy.

National strategy for research and innovation

Strategic research development choices in Cameroon have been made in line with expectations as outlined in the National Strategy for Growth and Employment. Key areas covered by this strategy document are agricultural development, local materials for construction, health, energy, environmental safety, mining development, development of technologies in order to reduce repetitive physical labour (such as in farming and mining), and social and cultural changes. Major thrusts of the strategy are to develop human resources, improve partnership, and ensure management and governance³.

The National Strategy aims to:

- Improve control and management of university research by developing the master plan of the university research (included on the agenda of the MINESUP)
- Structure the public funding of academic research through strengthening the Special Fund for Support and Modernisation of the University Research, and developing teams and centres of academic research in partnership with national research institutes.

In recent years, financial partners of Cameroon, particularly the African Bank for Development, have facilitated funding for agricultural research on a competitive basis. Efficient management of these funds may lead to longer-term funding opportunities through continuous and expanded support from these partners. The improvement in Cameroon's economic performance, as indicated by the eligibility of Cameroon to the Heavily Indebted Poor Countries (HIPC) initiative, has also boosted prospects for research funding. HIPC funds are earmarked agricultural research carried out by the Institute for Agricultural Research for Development (IRAD) (*Institut de Recherche Agricole pour le Développement*).

Plan and strategy for funding

It is agreed that Cameroon's scientific research and innovation programme should underpin economic, technical and social performance; and that it will benefit from the support of the state, local authorities and communities, private sector and various other partners for development. MINRESI's budgetary makes provision for the priority objective of developing production mechanisms by 2015. To do this, the portion of its budget allocated to scientific research and technological innovation will increase from the estimated current (2013) 0.5%⁴ to 1% until at least

³ The above strategy is essentially implemented in institutes under the authority of MINRESI.

⁴ Although Cameroon participated to the African Innovation Outlook (AIO) coordinated by ASTII/NEPAD no financial input indicators has been provided. Similarly no indicator on Gross domestic Expenditure on R&D is available in the data centre of the UIS/UNESCO concerning Cameroon.

2015, with 30% of the total amount of scientific research and technological innovation funding earmarked for agricultural research. The proportional investment by development partners in research activities should increase gradually to 0.4% by 2015 in order to secure continuous funding for recurrent charges and investment expenditure.

The law project for scientific research in Cameroon states a target of at least 3% of the gross domestic product (GDP)⁵ for research activities (Republic of Cameroon, draft). The proposed act will establish a National Fund for Research and Innovation (FNRI) (*Fonds National de la Recherche et de l'Innovation*) with responsibility to set up funding mechanisms and sustainability. It is envisaged that the FNRI will serve as a national structure ensuring continuous and sustainable financing of scientific, technical and technological development; and promoting innovation.

1.3. Funding by numbers

Research in Cameroon received considerable State support until the middle of 1980s. With the creation of ONAREST, Cameroon became one of the African states that invested most in research. The early 1980s were prosperous years in research; according to researchers interviewed, funding available to researchers in Cameroon was comparable to French levels at that time (Gaillard & Zink, 2003). This was possible thanks to funds generated through oil revenue, as well as the state's active promotion of the development of a scientific elite. Agricultural research, one of the most dynamic sectors, flourished with the valuable input of public funds. The Institute for Agricultural Research and the Institute for Zoological and Veterinary Research were the two principal institutions conducting agricultural research.

Funding and staff expansion stopped dramatically with the economic crisis of 1986. In addition to a stop in recruitment, funding for salaries for existing staff was not guaranteed and programmes were not financed. During the most period of 1990-1996, every research programme performed with public funds was stopped, and only those financed by external organisations continued. By 1999, the amount of funding allocated to universities was 10% of what it had been in 1991. Universities and research institutes were severely affected by this cut in finance and staffing. A small increase in the academic budget in 1998 did not compensate for the increase in student numbers. Funding during this period was also earmarked for very specific activities, such as the operating budget rather than investment areas. Funding received from sources other than the state discouraged research activities that were not highly visible. Conscious of the negative effects of this situation, the

⁵ The public budget for scientific research, provided annually by the Finance Act, is made up of the following sections: a) appropriations for functioning and investment of the Ministry of Scientific Research; b) appropriations for operating and investment dedicated to research funding in public higher education institutions; c) appropriations for investment and operating dedicated to research, technological development, innovation and valorisation in the various departments of the government, in public or semi-public institutions; and d) any other government intervention.

government decided to dedicate a specific budget, managed by a board of directors, to each research programme. However, funding has been very irregular and credits officially allocated have not always been sufficient. Even in 1998 and 1999 when Cameroon's GDP grew by 5% per annum, no significant growth appeared in research funding, indicating a lack of state interest in research (Gaillard & Khelfaoui, 2007).

During the economic crisis, political tensions also appeared in Cameroon that imposed further challenges and risks for researchers. A significant outcome of the political situation was the dissolution of the Institute of Human Sciences with its four research centres: the centre for anthropological research, the centre for geographical research, the centre for research in demographics and the centre for research in economics and social sciences. Only cartography survived to become the future National Institute of Cartography (Gaillard & Zink, 2003).

Today, identified funds for research can be categorised as follows:

i. Public funds

A number of rewards and budget allocations are made annually by the state to MINRESI for the following:

- Fund for the Development of Cocoa and Coffee Sectors (FODECC) (*Fonds de Développement des filières Cacao et Café*): 3.5 billion FCFA (USD⁶ 7 196 000)
- Competitive fund to reward researchers, including for Scientific Research and Innovation Excellence Week (JERSIC) (*Journées de l'Excellence de la Recherche Scientifique et de l'Innovation au Cameroun*) and the Special Prize of the President of the Republic with a value of 20 million FCFA (USD 41 120)
- Strategic funding co-financed by various ministerial departments and allocated to stakeholders (who are not always researchers)
- Individual initiatives from the universities to support research on a competitive basis, which provide funds for lecturers to carry out innovative research projects, such as the University Fund to Support Research, the University Fund for Dissemination of Scientific and Technical Information (FUDIST) and the Fund for Research of the University of Buea
- Research grants received by lecturers in state universities because of their participation in the development, transmission of knowledge and development of research, amounting to around 300 000 FCFA (USD 616) per lecturer per year
- Public funds resulting from aid to development and consisting of Cameroon's debt reimbursed by the creditor countries, such as the HIPC Fund (a competitive research fund initiated in 2009 and amounting to 500 million FCFA (USD 1 028 000)
- Contract between France and Cameroon for the writing off of debt for the use for development: 37 billion FCFA (USD 76 072 000)

⁶ Currencies converted with exchange rate as was on the 1 September 2013

- Special Fund for the Modernisation of Academic Research which is not binding and is mainly used to curb the brain drain by improving the living conditions of lecturers in state universities: 13 billion FCFA (USD 26 728 000) per year; and
- Fund for Support to Research and Professionalisation (FARP) (*Fonds d'Appui à la Recherche et à la Professionalisation*), managed by the Support to Education System Programme (PASE) (*Programme d'Appui au Système Éducatif*) of the Ministry of Higher Education.

Table 1 provides a summary of the key state-funded initiatives.

Table 1: Examples of public funds for research in Cameroon

Name of Fund	Sector	Amount	Governed under	Beneficiaries	How to access funds
Fund for the Development Cocoa and Coffee Sectors (FODECC)	Coffee and cocoa	3.5 billion FCFA (USD 7 196 000)	MINRESI	Agricultural research institutions	Allocations
Competitive-Based Research Fund (FRBC)	Agriculture	USD 1 000 000	MINRESI	Private research institutions	Competitive fund
Scientific Research and Innovation Excellence Week (JERSIC)	All S&T sectors	n/a	MINRESI	Researchers, inventors and innovators	Competitive fund
Fund for Support to Research and Professionalisation (FARP)	University research	n/a	MINESUP	Lecturers and researchers	n/a

ii. Regional and international funding agencies aiming at supporting research

These funds are limited, generally competitive and dominated by technology research and innovation. Examples of funding agencies are the African Union, the European Union, and the Agency for Francophone Universities and the International Atomic Energy Agency. Research funding is still heavily dependent on foreign aid. This is evidenced by the partnership for science between the Africa Union Commission and European Commission, agreed in December 2007, which has provided funding for research projects in Africa to the amount of 63 million Euros each year (2010, 2011 and 2012). From this, the University of Yaoundé I received a grant of 2 million Euros in 2012. The Incentive Fund of the West and Central African Council for Agricultural Research and Development (WECARD/CORAF) (*Conseil ouest et centre africain pour la recherche et le développement agricoles*) which pools funding from twelve international donors is another example of regional funding available for research.

iii. Private funds from professional foundations

The Cameroon Hippocratic Foundation funds young researchers in the field of health on a competitive basis.

In Cameroon, both the University of Yaoundé I and II were initiated with funds to develop research. The objective of the University Research Support Fund (URF) of the University of Yaoundé I is to provide staff with the financial resources to support innovative research projects. A similar fund is the University of Yaoundé II's University Fund for the Dissemination of Scientific

and Technical Information (FUDIST). As the name suggests, its purpose is to facilitate the publication and dissemination of research.

The Competitive Based Research Fund (FRBC) (*Fonds de Recherche sur Base Competitive*) in Cameroon. This fund, established in 2009 as part of the debt reduction and development initiative by MINRESI, has a budget of 500 million FCFA (USD 1 028 000), allocated as the primary portion of a larger grant of 5.4 billion FCFA (USD 1 110 240) set aside for agricultural research in Cameroon.

2. Constraints

At the level of public funding, constraints are:

- The absence of a coherent national policy on research funding, despite the existence of an institutional research framework. In rare cases where specific policy does exist, it is inconsistent with funding actually received or allocated. The main reason for this is that research projects in West and Central Africa are generally driven by foreign donors or local researchers, rather than being in line with state development priorities
- Irregular financial resources available for research.

3. Conclusion

In conclusion, despite efforts made recently, research projects in Cameroon are generally still driven by foreign donors or local researchers seeking to fulfil their own research objectives. Despite the existence of an institutional research framework, many inconsistencies occur with regards funding actually made at the level of public funding in the field of research.

In short, there is no formal mechanism in place for funding research in Cameroon. According to those interviewed during the development of this report, the absence of a formal mechanism for funding research is probably due to the economic crisis that shifted the interest of the state to other priorities such as basic education. There is an urgent need to validate a national strategy for research and innovation, to adopt a law related to the development of scientific research and innovation and to establish a National Fund for Research and Innovation (FNRI).

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