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Rethinking International Funding of African Research

Towards a Coalition of Stakeholders

Policy Paper

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Keywords: research institutions and systems, funding, international aid, Africa.

Abstract: African research is very unevenly distributed across the African continent and still has a weak presence within global scientific research as a whole, particularly when it comes to the social sciences. Yet strong and independent national research is essential for providing responses to local development challenges. This paper explores the challenge of reshaping international funding of African research. It seeks to create a general understanding of the issue, aims to establish systems capable of measuring, evaluating, and encouraging coordinated work, and calls for a coalition of active and committed actors.

Research Program: institutions and associations.

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Highlights

- Strong and independent national research is essential for providing responses to local development challenges.
- African research is on the increase but has a weak presence within global scientific research as a whole.
- African research is very unevenly distributed across the African content and there is very little social sciences research.
- National funding is still poor and African research depends on international aid that targets African research insufficiently, leaving philanthropic donors with a considerable role to play.
- A variety of international actors provide support for African research, but this is largely without coordination and without being part of long-term national or regional strategies.
- A wide range of support can coexist simultaneously (mobility grants, research programs, scientific meetings, capacity-building programs, technical assistance, budget support, etc.) without its effects being evaluated or its internal contradictions being questioned.

- Several proposals, which involve adopting a systemic and coordinated approach, are put forward to improve the ethics, coordination, effectiveness, and understanding of international aid used for African research. These include: *(i)* supporting national research strategies developed locally and using national funds, and encouraging international actors to contribute to these, *(ii)* developing a charter that aims to achieve a specific objective and better coordination of international organizations, so that the capacity of African research can be used and strengthened, *(iii)* providing direct support for the development of capacity and viable economic models for research institutions, and, lastly *(iv)* providing support for initial and continued training and access to research tools and mobility. In order to achieve this, it is essential to raise overall awareness and put in place systems that measure, evaluate, and encourage work in a coordinated manner, as well as creating a coalition of actors.

Introduction

Every country in the world needs strong and independent national research so that it can create its own responses to development challenges. However, the vast majority of African research is neither carried out in Africa nor undertaken by Africans. Research funding is still largely concentrated in developed countries (UNESCO, 2015). Just like developed countries, but perhaps with greater urgency given their vulnerability to climate, energy, and social challenges, African countries need to draw on expertise and innovation developed locally in order to respond to the economic, technological, and environmental challenges with which they are faced. Developing research at a national level requires countries to both take control of local knowledge and gain the means to create their own development pathway. Scientific research is situated at the intersection of individual, institutional, and societal dynamics and can aid the construction of public policies. Although very little research tackles the subject head on, international aid plays a central role in the identification, funding, and effects of African research.

International aid agencies also have an interest in improving how issues related to building research capacity in Africa are integrated. There have long been relationships between researchers and aid professionals as part of aid projects and through the use of consultants. Some international actors go even further, developing intellectual partnerships and seeking to substantially improve local research capacity (AFD, 2019). “Knowledge professions” are playing an increasingly important role in the modus operandi of official development assistance (ODA), providing analyses of countries’ micro and macro

needs, producing work related to activities on the ground, capitalizing on past experience, and so on. In international debates on the use of aid, a country's influence is broadly linked to the intellectual clout it can quickly mobilize in the countries in which it operates. The construction of real "knowledge societies" and viable research ecosystems in African countries would provide a commons capable of benefiting the planet as a whole.[1] In this respect, the transversal challenges of the Sustainable Development Goals (SDGs) adopted by the United Nations in 2015 illustrate the strong connections between open, shared, high quality research and legitimate, effective, and sustainable development policies. While goal 9.5 aims specifically to "enhance scientific research [. . .], in particular [in] in developing countries [. . .], increasing [. . .] public and private research and development spending" (SDG 9: Industry, Innovation and Infrastructure), research is also mentioned in goals aiming to improve access to higher education or to support the mobility of young researchers (SDG 4: Quality Education), and in goals aiming to provide decision-makers with well-researched knowledge (SDG 16: Peace, Justice and Strong Institutions). Thus scientific research indirectly helps to advance the sector-specific knowledge (on health, water, work, cities, and so on) required for decision-making and political action, the very foundations of the SDGs.

1 The concept of the commons, aside from its analytical implications in terms of institutional processes (mixed governance, citizens-state-market-multi-level institutions, etc.) or in philosophy (the commons as a political objective), is also employed in development issues. See Leyronas and Legroux (2019).

The aims have been established, we are well aware of the challenges, and there is a consensus on the failure of past policies. We now need to rethink the international funding of African research. For decades, international agencies have essentially funded African research through short-term projects and via a variety of intermediaries. A vicious circle has been created that prevents African research facilities from emerging, growing, and creating mutual trust (CGDEV, 2019). Now, however, initial signs are emerging of a change of direction toward direct, long-term, core funding of African research agencies. But considerable inertia can still be seen in the overall vision and activities of international aid actors. Bringing about a break with the past is therefore essential, as it will enable African research to forge its own pathway to African development and contribute, through its originality, to the wealth of global research.

In this paper, we will examine the characteristics and challenges of the context in which African research takes place, the types of international aid it benefits from and their implications, and the tensions inherent in the strategic choices it is guided by. Lastly, we will recommend to funding actors a series of priorities for the creation and implementation of African research policies.

1. Context

Built up partly during colonization, developed further since independence, and partially dismantled by structural adjustment programs (SAPs), African research systems are currently experiencing a phase of renewed support. Colonization saw the creation of numerous research institutions in Africa, which can be considered as the ongoing legacy of colonial science. Following independence, national research systems were gradually established, and while considerable efforts were initially made to train researchers and fund research, these systems were badly affected by SAPs and have had to cope with the challenges associated with the huge growth in higher education (Gaillard et al., 1997). Other factors, such as the brain drain, a lack of national investment, the focus of African research being influenced by international organizations, and the destabilizing influence of certain political events and conflicts, have gradually led to a deinstitutionalization of African research facilities (Beaudry et al., 2018).[2] However, since the beginning of the 2000s, a renewed interest in higher education and research in Africa has been observed.

1.1 – African Research: A Weak Presence in World Rankings

African research is on the rise, but still has a weak presence within global scientific research production. Research produced in Africa accounts for only a tiny percentage of world research (UNESCO, 2015). Despite this figure dropping below 1% in the 1990s, African research began to catch up in the 2000s, accounting for 3% of world research in 2016. With gross domestic expenditure on research and development (R&D) in Africa standing at only 1.3% in 2013, attention should be drawn to African researchers' capacity to publish a relatively large amount of work with few resources. In 2013, Africa had 169 researchers per million inhabitants: 4.6 times less than Asia and 24 times less than France, which had 4,125 researchers per million inhabitants. Between 2007 and 2013, the total number of researchers in Africa rose, but only very slightly, from 2.3% to 2.4%.

2 Beaudry et al. (2018) describe the six main factors that contribute to what they describe as "de-institutionalization": *(i)* the legacy of colonial science, *(ii)* the influence of political events and conflicts, *(iii)* the impact of structural adjustment programs, *(iv)* the role international agencies play in steering African research, *(v)* poor levels of African public investment in research, and *(vi)* the effects of brain drain (cited in AFD, 2019: 15).

Table 1 - Number of researchers per million inhabitants (2007–2013)

	NUMBER OF RESEARCHERS PER MILLION INHABITANTS			
	2007	2009	2011	2013
World	**959.2**	**1009.8**	**1050.4**	**1083.3**
Continents/Regions				
Africa	156.8	151.8	164.1	168.8
Sub-Saharan Africa	77.0	86.0	90.6	91.4
North Africa	474.0	418.1	467.2	494.5
Americas	1661.2	1776.1	1780.8	1771.6
Europe	2635.4	2717.4	2816.4	2941.9
Asia	630.6	684.4	740.8	785.8
Oceania	3173.8	3235.7	3226.8	3218.9
Countries				
South Africa	389.5	388.9	387.2	408.2
France	3566.1	3726.7	3920.1	4124.6
United States	3731.4	4042.1	3978.7	3984.4

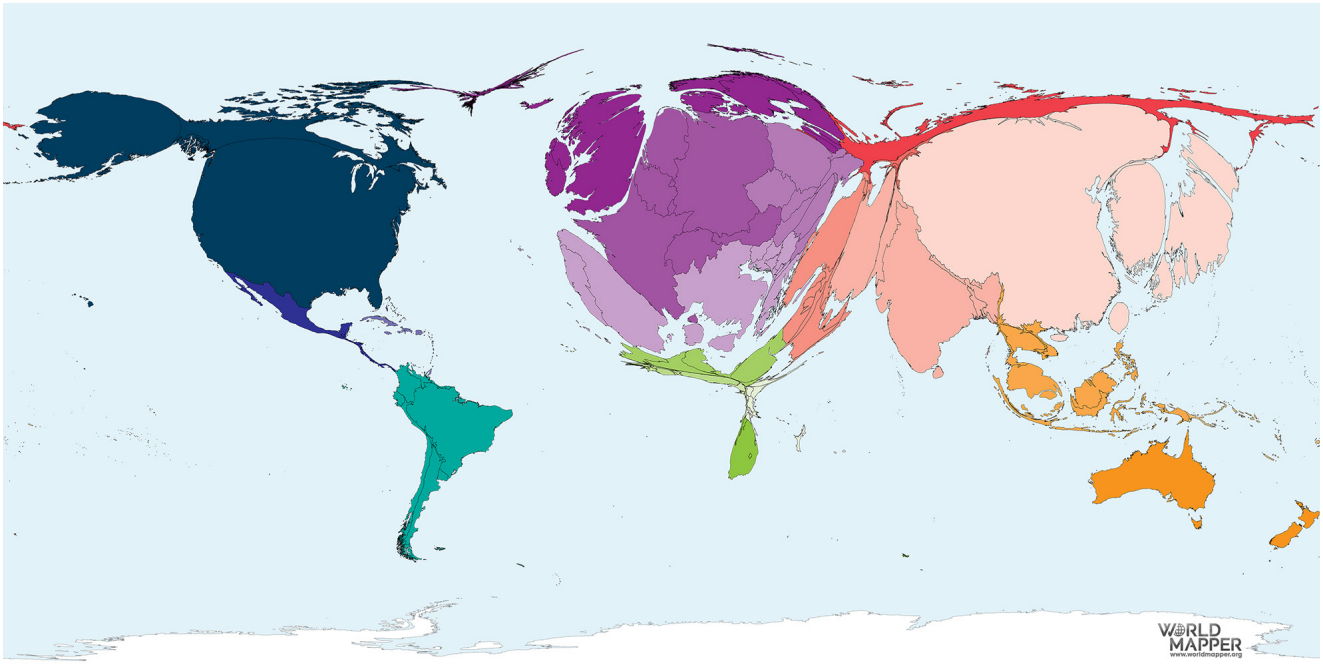
Source: UNESCO (2015).

1.2 – An Uneven Distribution of Research Across the Continent

African research is unevenly distributed across the continent, and certain disciplines produce a small amount of research. Countries in northern, eastern, and southern Africa are in a better position than those in the west and the center, which are particularly behind in this area. French-speaking African countries are a long way behind English-speaking African countries. Research collaboration between different countries on the continent is very rare, while the majority of African research is undertaken in collaboration with research facilities in developed countries. The social sciences have a weak presence in African research, perhaps because they compete with consultancy work undertaken by international aid agencies (Olivier de Sardan, 2011). With the exception of research in health and agriculture, hard sciences requiring costly facilities are also largely absent from African research and the continent provides only a tiny fraction of patents filed worldwide.[3] Within world think tank rankings, African organizations have a weak presence and French-speaking African organizations are almost entirely absent (CGDEV, 2019).

3 According to the World Intellectual Property Organization (WIPO), in 2018 the following numbers of patents were in force: 3,063,492 in the US, 602,084 in France, 73,270 in South Africa, 309 in Rwanda, and 229 in Madagascar. There is no data for a large number of African countries.

Map 1 - Global distribution of academic article production



Source: World Mapper (2016), based on data issued by the National Science Foundation (NSF).

1.3 – Research Dependent on International Funding

Levels of national research funding are still low, and African research relies heavily on international aid, which directs little funding toward this area, leaving private donors and philanthropists to play an increasingly larger role. In recent years, we have witnessed the re-emergence of national research funding. Increasingly conscious of the role research plays in structuring development, African governments have gradually started to set up national research funds that enable their researchers and teacher-researchers to carry out work on locally defined priority issues (Mouton et al., 2015). However, national research funding is still poor, meaning that international research aid plays a major role. The amount it contributes remains fairly low however, particularly when one takes into account aid provided by philanthropic donors, as well as aid in kind provided by research organizations established in African countries. Nevertheless, an estimated 0.8% of the total of aid provided to sub-Saharan Africa goes directly to research, and this increases to 2.1% if aid to higher education is included. Two thirds is bilateral aid and one third is financed by the World Bank, the European Union (EU), and the United Nations (UN). The funds are mainly targeted at agriculture, the environment, and health, with the social sciences receiving little. With the exception of certain countries such as Ethiopia, Tanzania, Uganda, and Nigeria, the amount of aid provided for research per country is relatively low, and several research facilities are predominantly funded by private Anglo-American foundations.[4]

4 From 2003 to 2013, 97 foundations made 1,471 donations to 439 African scientific institutions, amounting to a total of 573.5 million USD (Jaumont, 2016).

While there have been some national and regional initiatives, African research remains highly precarious, partly because of the way that international aid operates. Attempts have been made to establish research initiatives—and some are already in place—, but we are still far from creating a space for research on a continental level, and much needs to be done to pool efforts. Most African countries' national research capacities comprise research spaces (research centers, universities, think tanks, etc.), researchers, and knowledge production (publications, studies, theses, reports, etc.). But these are often limited, widely scattered, lack visibility, and tend to be overlooked in public debates and discussions on international, national, and local public policies. This results in these capacities and the research studies undertaken being undervalued on a national and international level as well as by international development partners, who prefer to employ research bodies in developed countries to manage research programs. The involvement of African academics often only comprises supporting work on priority international issues that is commissioned and managed from overseas. A variety of intermediaries (including consultants, research organizations from developed countries, non-governmental organizations [NGOs], and development agencies) very often stand between the research sponsors and African researchers. Researchers act as subcontractors while a large amount of the money invested in research on Africa is in fact collected by those in developed countries (CGDEV, 2019). African higher education facilities also fall victim to this state of affairs, as it prevents them from establishing a long-term national research agenda that would meet major development challenges. The underfunding of the higher education sector and the lack of national policies often result in African researchers becoming consultants or joining the research facilities of developed countries, or even giving up research altogether. Young researchers trained in developed countries have few opportunities to pursue their work in African universities. University courses also suffer from this disengagement. Teaching is often of poor quality and as such does not favor young students' future integration into the job market. Private higher education institutions, which do not carry out research, are becoming increasingly popular with the middle classes, while the better off send their children to study abroad.

African research is funded by a variety of international actors who rarely work together or pursue a long-term national strategy. Several different international actors play a role in the African university and science sectors: bilateral and multilateral development organizations, key philanthropic donors (private foundations), NGOs, and international research organizations. Their strategies vary in terms of timeframes and the country targeted, as well as from one actor to another, even within the different parts of the same organization (for example, there are variations in the strategies deployed by operations departments and research departments). The funding that researchers receive from sponsors often goes via a large number of intermediaries, who take a large cut. Opportunities for economies of scale and potential synergies between actors and projects are too rarely taken advantage of. African research facilities are hugely reliant on external funding that comes from several actors. This means that they waste a large amount of time and capacity coordinating and complying with the numerous demands that sponsors impose on them. While there are some exceptions, the building of national research capacity is very rarely a specific long-term strategy for international organizations, which often have their own operational priorities and even their own political and communication strategies. Few African countries have national research strategies, and when they do, they are rarely honored by international funders.

Depending on the type of beneficiary, the location, and the nature of the support, a wide range of support for African research can coexist without its effects being evaluated or its contradictions being questioned. The main categories of support are as follows: grants, research programs, scientific meetings and activities to promote research, improvement of personnel capacity, improvement of facilities and teaching resources, support for multi-country research facilities and research networks, and budget support. Each action may involve a number of advantages and disadvantages, with several activities often being included within a single program. Actions should be undertaken in synergy and should be seen as part of an integrated system. Although some studies have focused on the effectiveness of research support action, very few detail its impact and none produce truly scientific impact evaluations.

Table 2 - Types of international research support, in broad categories

CATEGORY OF SUPPORT	ACTIONS	LEVEL OF SUPPORT	LOCATION	TYPE OF SUPPORT
Grants and mobility payments	Grants for dissertations, post-doctoral work, research, and mobility	**Individual**	Abroad In the country	Financial
Research programs	Field research, analyses, studies	**Institutional** **Individual**	Abroad In the country	Financial Scientific co-production
Scientific meetings and activities to promote research	Conferences, seminars, congresses, colloquia, day conferences, workshops, events, forums, publishing and dissemination of scientific works or works of popular science, book and journal publications, editorials, and media appearances	**Institutional** **Individual**	Abroad In the country In the institution In the ministry	Financial Scientific co-production and scientific partnership
Improvement of personnel capacity	Research training, university summer schools, doctoral schools, professorships, writing workshops, training of administrative staff, experts seconded to the country's ministry for research	**Public policy** **Institutional** **Individual**	Abroad In the institution In the ministry	Financial (including TA)
Improvement of facilities and teaching resources	Infrastructures, facilities, connectivity, ICT, research equipment	**Public policy** **Institutional**	In the institution In the ministry	In kind Financial
Support for multi-country research facilities and researcher networks	Free-standing research centers, mixed research units (MRUs), university networks, researcher networks	**Public policy** **Institutional** **Individual**	In the country In the institution	Financial Scientific co-production
Budget support	Loans or grants to public authorities to fund public policies	**Public policy**	In the country	Financial

Key: TA = Technical assistance; ICT= Information and communication technology.
Source: AFD, 2019.

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2. Tensions Inherent in International Funding for African Research

While it is impossible to provide a fully documented and consolidated evaluation of all research support initiatives, in light of the context and the challenges faced by researchers, teams, networks, and institutions involved in African research, it seems essential to highlight the tensions underlying these programs and the sometimes contradictory implications of the choices made. We seek, at the very least, to link these tensions so they can be borne in mind, and, at best, to try to reconcile them with possible interventions. As such, we make several—incomplete—proposals aimed at helping funders to establish their approach when determining the content and the type of aid they wish to provide.

2.1 – Tensions Inherent in the Targeting and Forms of Support

2.1.1 – Individual Support versus Institutional Support versus Support for Public Policy

As mentioned above, one of the main challenges faced by African research institutions is that researchers, once they have decided to pursue a career in research, find it difficult to settle down and commit themselves to local teams. This is due to the attractiveness of the consultancy work that they are offered regularly and opportunities to pursue their career abroad. Research tends to be evaluated in terms of how "successful" the researcher's career has been, focusing on individual work, such as publications. This tends to encourage a brain drain toward more high-profile research centers in developed countries, which offer researchers both better conditions in which practice their profession, and better visibility and integration within international networks. This situation makes it necessary to rethink the targeting and nature of research support in developing countries, particularly with regard to the—possible—contradictions inherent in support at the individual or institutional level. For example, enabling the international mobility of an African researcher may harm his or her university or research unit, depriving the team of a precious resource for improving the quality of local research, for training researchers (particularly doctoral students), and, often, for higher education.

Since the way that support is targeted seems initially to involve competition between recipients at different levels (between researchers, research teams, and nationally), finding a balance and considering support as complementary is important for ensuring that the support provided to the science sectors is as effective as possible overall. First, developing a deeper understanding of the respective effects of the brain drain and the brain gain is essential, particularly given that recent research has found that African scholars' mobility (the so-called brain drain, or brain gain for the receiving countries) is not necessarily detrimental to African research, and in fact may have a positive effect on it. The dynamics and impact of scientific diaspora on research in host countries and countries of origin (the famous push and pull factors) is still a fertile field of research. Second, attention must be paid to improving African institutions' capacity to increase their appeal to visiting researchers. This would enable African researchers' mobility to be seen as consolidating international research networks and as exchange and sharing, rather than as brain drain. Third, support for African research at a national level must encourage ministries to coordinate, or at the very least create areas in which information is collected on the different programs implemented. It is currently extremely difficult to obtain consolidated information on the numerous activities being undertaken to support a country's research efforts, something that hampers the opportunity for coordination among aid agencies.

2.1.2 – Support for Research versus Support for Higher Education

A further tension often noted in research support programs is the fact that they rarely tend to involve student education. Research studies are mostly carried out by teacher-researchers who have to make time for teaching and communicate their research to students. The need to share the knowledge gained in research programs is often somewhat forgotten and may even compete with the aims of producing scientific work. Aid programs do not tend to connect support for higher education and support for research, when in fact the two should be closely integrated.

This integration must involve coordinated support for public universities (the only universities to connect research and teaching), since private universities focus only on teaching. Aid agencies and decision-makers also need to gain a deeper understanding of researchers' and teacher-researchers' professional lives so that support can be fully taken advantage of and benefit society as a whole. Lastly, innovative programs need to be created and new tools invented in order to connect the three areas of training, research, and action, which up until now have been too often funded entirely separately, using specific tools for each one.

2.1.3 – Short-Term Effectiveness versus Long-Term Effects

A major tension exists between project-based support for African research (five-year capacity-building projects, annual grant programs, etc.) which often only has medium-term or even short-term objectives, and capacity-building programs, which take a longer-term approach. The large number of activities, actors (international actors, international researchers, national researchers, ministries and public actors, NGOs and civil society organizations [CSOs]) and resources involved, generally uncoordinated, may generate some positive results in the short term, but prevent a national strategy and a long-term vision from being developed. This is a classic contradiction between project aid and program aid, exhibited here within the context of African research.

The lack of information on and evaluation of research support projects or programs further increases this tension. Introducing targeted evaluations would, at the very least, make it possible to establish criteria for continuing or halting programs or for changing their content, etc., and prevent the sometimes major disruptions that occur when funding is suddenly cut off just when a long-term program is getting going. An essential step would therefore be to improve the availability and sharing of information on aid programs, and to create a catalog of projects in order to ensure coordination among actors at any given moment, as well as the incorporation of actions into long-term planning and effective communication among partners.

2.2 – Tensions Inherent in Local Research Capacity

2.2.1 – Targeting Excellence versus Supporting the System

In any attempt to grant aid to a group of actors or institutions, a classic challenge is finding the best way to distribute the aid effectively and efficiently so that it drives action forward. Two questions arise from two inherent tensions: (i) Given the tension between the scattering and targeting of aid, is it more effective for the system as a whole for everyone to receive a part of the aid or for one actor to receive it all, and so benefit from the threshold effect?; (ii) Given the tension between accelerating one part or enabling all to reach the same level, should aid be given to the neediest institutions to help them to catch up or should it be allocated to those best able to make it work, and, potentially, to raise the quality of the entire system?

This is even more of an issue at a time of scientific networks and incentives to work as part of regional and international partnerships. Establishing centers of excellence, for example, necessarily involves awarding significant resources to national institutions deemed to be "the best," to the detriment of other institutions that will still be expected to be part of scientific networks and to work in cooperation with institutions who are competing with them for aid. The issue of competition versus cooperation should be considered in order to encourage more constructive scientific partnerships. Work should also be carried out to build a system that encourages collaboration and information sharing in order to avoid certain African research institutions having a competitive advantage (due to their access to data, funding sources, etc.). This would require a fundamental rethink of economic models to enable fruitful cooperation among all involved.

2.2.2 – Readiness of Institutions to Provide Support versus Local Administrative and Strategic Capacity

Another recurrent contradiction in African research support—linked to the process of making agreements—is connected to the poor administrative abilities of institutions in partner countries. Readiness, for example, to support the funding of a research program via a local research center can sometimes be undermined by administrative delays in the recipient country or the administration fees charged by local institutions, to the detriment of the research team involved. Funders sometimes end up giving individuals personal contracts (as consultants) or facilitating the contracting process by going through a third party, such as a local CSO or research institution in a developed country.

Aside from the administrative capacity of African research teams, which should be looked at seriously by aid actors, there is the issue of organizations' and institutions' capacity for developing short-, medium-, and long-term visions. Core funding should enable teams to become better equipped and trained, with the resulting improved administrative and technical environment, supported by an ability to have a strategic vision, making them less dependent on support. The aim is ultimately to enable project funding to be part of a more fluid program of activities that is coherent, evolutionary, and complies with the scientific capacities and concerns of the team.

2.3 – Tensions Linked to Existing Power Relations

2.3.1 – Sponsors' Viewpoint versus Independence of Research

The first power relation at work is that between researchers, who are independent by definition, and funders or sponsors, who have their own terms that researchers must abide by if they wish to receive support. While not unique to research in Africa—far from it—, this tension is particularly acute when the sector is structurally dependent on external funding, as is the case in Africa. Researchers gain legitimacy from their independence and their freedom to practice their profession and communicate their results, but the risk of being instrumentalized by research funders (in industry, in health, or in political science, etc.) is ever present.

For researchers to have guaranteed independence, intellectual property rights must be shared between funders and researchers, and researchers must be able to publish their work in the scientific spaces they have access to, without necessarily having to make any reference to their funder.

2.3.2 – Academic Objectives versus Development Objectives

In addition to difficulties associated with the brain drain, there may be incompatibility between development goals and academic goals, or, in other words, between the objectives of the funders and the constraints of the recipients. These incompatibilities are often related to evaluation methods that are specific to research professions. Research support in Africa is justified by the improvement it brings about in the quality of local research systems, which in turn enables the production of quality research for development purposes. However, the objectives of funders and those of academics may sometimes compete and trade-offs may be needed, particularly in terms of the amount of time academics devote to different types of work: producing academic publications may compete with expert work or involvement in multi-actor workshops, and trade-offs may be required between the carrying out of field research and the need to make expert contributions to public policies.

To reduce the effects of this tension between expert knowledge and academic production, research funding needs to be coordinated so that clashes and internal contradictions are avoided (this requires thinking in the long term while producing in the short term; being involved in public decision-making but also in the objective production of knowledge, and so on). Better coordination may ensue if international funders, in consultation with national public bodies, share more information on and analysis of their strategies, programs, and partners, and work together to implement their work in a coherent manner. This should bring about the establishment of a "do no harm"-type charter stipulating that African research institutions and actors should not have to give up the time they need for research, training, and teaching to focus instead on the operational and political work that utilizes their expertise.

2.3.3 – International Languages versus Local Languages

While English dominates across the globe, the issue of the language in which research is produced or translated is a strong indicator of the dynamics and power relations involved in the production of scientific work, and is directly linked to both the tension between individual careers and international recognition and the tension between academic and development goals. English is absolutely essential for the international dissemination of work, while research published in French, Spanish, Portuguese, and Arabic continues to be essential in several countries for disseminating and appropriating research locally. The use of national African languages may also be crucial for disseminating and appropriating research results. Depending on the criteria employed, funders may either support or undermine the professional ambitions of researchers, or help or hinder the construction and performance of local research systems that should interact with national civil and political bodies.

A similar challenge involves translating work to other registers (rather than other languages) so it can be disseminated to the general public. For the results of the research to reach the greatest number of people, the work needs to be promoted and advertised in the media (as on the website The Conversation), or on platforms that make research work visible.

It is therefore vital (i) to rethink the link between international recognition of research and local appropriation, for example via training programs (in languages, media training, etc.), and (ii) to make a commitment to increasing the legitimacy of research produced and rooted locally, which will eventually make it possible to contest current hegemonic international standards.

2.3.4 – Research Agenda of Actors in Developed Countries versus Local Priorities

Alongside the trade-off in terms of the time academics devote to different types of work lies the contentious issue of the content of scientific work and possible divergences between the concerns of international sponsors and those of local research institutions. This is one of the main points that arise in the evidence we have gathered (AFD, 2019): research funding, particularly when it seems to be in the form of "orders," is more a response to concerns of actors in developed countries than to the actual socio-political needs of recipient countries. On the one hand, the funding bodies' research agenda may be focused on research that is more operational or strategic and complies with their own intervention strategy for the country. On the other hand, it may be tinged with "scientific diplomacy," with scientific partners from developing countries being more or less explicitly requested to support or be supported by national research agencies in developed countries, thus adopting the priorities of the latter's research body. The agendas of academic actors in developed countries may not coincide with the priorities of African researchers, making it essential to prioritize bottom-up actions rather than top-down actions, which tends to be the norm at present.

In order to avoid this, calls for expressions of interest (CEIs) that systematically allow an open choice of proposal would raise the profile of local issues. Equally, funding that focuses on researchers' "political capacity" could be provided, enabling them to forge connections with decision-makers so that research results can be better taken into account in public policy decisions.

3.
Objectives and Priorities for International Aid

Our studies and consultations have enabled us to establish a number of objectives and proposals for the various actors involved. The objectives are as follows:

- **International organizations** should be sensitive to the need for African research capacity and should actively work together to improve it.
- **National research ecosystems** that have a long-term vision and are connected to development issues should be established.
- **Researchers** should be backed up by strengthened capacities and organized in mobile scientific communities.
- **Research institutions** should be rooted in their territories, consolidated, and connected to international research.
- **Regional strategies and networks** should link up local initiatives and disseminate information.
- **Specific research** should be undertaken on the building of national research capacity and on the effectiveness of support projects.

A number of proposals to strengthen African research can be put forward. Their aim is to launch the debate on the subject and should be discussed within African countries and at international conferences that bring together different international actors in the field. We will now detail these proposals.

3.1 – Establish a Charter, a Specific Objective, and Improve Coordination of International Organizations in Order to Mobilize and Strengthen African Research Capacity

International development organizations should be sensitive to the need for African research capacity and ideally actively work to strengthen it. Drawing on the European Charter for Researchers,[5] which regulates research activity by specifying the prerogatives, roles, and responsibilities of researchers and their employers, a guide could be developed that focuses specifically on the issue of support for African social sciences research. This "do no harm" charter would be aimed at international institutions, researchers from developed countries, African researchers, and African public bodies involved in the field. The document would first of all serve as a reminder that the **independence of the researcher** forms the basis of quality research. Certain key principles could be established, such as supporting the **local** production and promotion of research studies, supporting concerted action on and the primacy of **local research issues**, and committing not to bypass **public bodies** in charge of national research, preferably actively supporting them instead. Jointly developed by the different actors, this document would aim to encourage better mutual understanding, coordination, and long-term cooperation that benefits everyone. It would also be important to make building African research capacity a specific objective, connected to the development of quality higher education. The social sciences, often neglected despite their ability to make a difference in the national debate on public policies, deserve particular support with respect to national public policies.

5 https://www.euraxess.at/sites/default/files/am509774cee_en_e4.pdf.

3.2 – Provide Support for the Development of National Research Strategies That Are Created Locally and for National Funds That Are Supported by International Aid Donors

Rather than targeting institutions or research areas, a proportion of research aid could go directly to building capacity to manage and coordinate research activities, and to national funds for research, innovation, and development. African research ministries and national scientific research centers could be specifically targeted. The overarching aim would be to empower African research, putting it truly in control of its own research programs, rather than leaving it under the control of aid actors and researchers in developed countries. Academic actors from developed countries should still be able to play a major role, but only upon request from and under the control of African researchers. Possible actions might include: an increase in the amount of funding that goes directly to national research funds and passes through national research funding channels, inventories of researchers on research programs and their associated publications, and open access to national data and statistics. Regular meetings could be set up involving the different members of the research ecosystem (international researchers, national researchers, ministries, and public actors, NGOs, CSOs, and international organizations) and action to promote research could also be organized in order to construct a national research and science culture.

3.3 – Provide Support for Initial and Continued Training of Researchers and for Access to Tools and Mobility

The central component of quality research is obviously the researcher. Profitable investments would include funding for initial training (dissertation grants and doctoral schools, etc.) and for continuous training (summer schools and distance training, etc.). Sponsoring young researchers and providing access to research tools and scientific journals are also key components. Increasing researchers' mobility could also have a major impact at regional and international levels for researchers based in Africa, as well as enabling African institutions to host researchers based elsewhere (particularly members of the African diaspora). These mobility allowances should however stipulate that researchers must return to their home institutions. Lastly, all of these interventions must prioritize the link between higher education and research.

3.4 – Provide Direct Support for Capacity Building and for Developing Economically Viable Models for Research Institutions

To complement shorter term research programs, core funding must be used to provide direct support to build capacity for the management, governance, funding, and coordination of the work of research institutions—for the long term and linked

to decision-makers and national priorities. This would involve launching potentially peer-to-peer capacity-building programs (for managers and administrative personnel, etc.) within the research institutions themselves, and would require a huge increase in the amount of research program funding that goes directly to African institutions. It should not be coordinated and managed by international bodies or developed countries. Action undertaken to improve infrastructures and facilities should be combined, as should programs that equip teams and institutions with skills and tools, with the aim of developing a medium- and long-term strategy.

3.5 – Develop Regional Strategies and Networks for Institutions and Researchers

Improved regional coordination should encourage economies of scale. Existing tools, such as the African and Malagasy Council for Higher Education (AMCHE), should be supported so they can incentivize complementarity and quality research. An "African Research Council" that coordinates actors and promotes the recognition of African research through competitive funding could be developed. Regional support for different bodies governing research associations, combined with a seal of quality, could be introduced. Because priority research topics are often similar from one country to another, regional grouping could help countries to reach the required critical mass. Support for scientific networks is essential for promoting the production of truly African research. Several broad principles could be put forward: *(i)* networks should be based on (and should not substitute) local dynamics, *(ii)* they should be multidisciplinary and not compartmentalized, and *(iii)* bridges should be built between academic research and political decision-making. A regional information system and an online platform that unite shared and standardized information (research centers, researchers, publications, databases, aid for research programs) would enable better communication. Other drivers include schemes that enable the regional mobility of researchers and doctoral students, regional clusters of research bodies and research networks, regular meetings, and scientific journals.

3.6 – Undertake Specific Research on the Building of National Research Capacity and on the Effectiveness of Support

The relative ignorance on the effects that international aid has on building national research capacity means that experimentation, evaluation, data collection, and research on this issue are required.

Table 3 - Actions for strengthening African research

OBJECTIVES	ACTIONS
International organizations should be sensitive to the need for African research capacity and should actively work together to improve it	• Establish a **charter**, a code of good practice, and formal commitments to "do no harm," as well as encouraging concerted action on and the primacy of local research issues and national research institutions • **Coordinate** or even harmonize procedures for international agencies, via national institutions and funding channels • Make building African research capacity a **specific objective**, linked to the development of quality higher education, and undertake specific action that targets the social sciences
National research ecosystems that have a long-term vision and are connected to development issues should be established	• Work to **build capacity** for management, to incentivize the use and quality of research, and to coordinate research activities and national policies to incentivize research • Increase the proportion of **research funding that goes directly to national research funds** and via national research funding channels • Create **inventories** of researchers on research programs and their associated journals • Provide **open access to national data** and statistics. • Hold **regular meetings** of actors and undertake action to promote research
Researchers should be backed up by strengthened capacities and organized in mobile scientific communities	• Provide initial and continuous **training** for researchers, funding for dissertations, and sponsorship for young researchers • Provide access to research **tools**, infrastructures, facilities, and journals • Increase regional and international **mobility** for researchers based in Africa and facilitate visits to African institutions by overseas researchers
Research institutions should be rooted in their territories, consolidated, and connected to international research	• Provide direct support to **build capacity** for long-term management, governance, funding, and coordination of the work of research institutions linked to decision-makers and national priorities • Increase the proportion of **research program funding that goes directly to national institutions**
Regional strategies and networks should link up local initiatives and disseminate information	• Support the **development of regional research** strategies • Support **regional networks** of researchers and institutions • Develop regional **information systems** • Create **regional clusters** of research institutions and networks • Organize **regional mobility** for researchers • Hold **regular meetings** and jointly coordinate and publish in scientific **journals**
Specific research should be undertaken on the building of national research capacity and on the effectiveness of support projects	• Carry out **experimentation, evaluation, data collection**, and research on action undertaken to develop national research institutions and policies, and analyze the effectiveness of aid projects

Source: authors.

Conclusion

While there is general consensus among a number of international organizations that past policies have failed, or, at most, have not paid enough attention to African research, other bodies still remain to be convinced, and **general awareness of the issue** has yet to be established. A key principle underlying the objectives and actions presented above is the need for coordination of actors and an overview of the entire system.

The large numbers of actors involved and their interdependence make it crucial to establish a **coalition of actors**. Aligning interests via incentives and working to create mutual trust around the building of African research capacity is important here. It could be beneficial to involve indirect actors such as civil society and members of the African diaspora, particularly through awareness-raising campaigns and national African research days. Working to promote knowledge is especially crucial. Wide-ranging consultations and even national research assemblies could provide ways of revitalizing and connecting national research ecosystems. Research ministries play a key role here, in particular through the use of national research funds.

A transparent incentive system and key indicators are crucial for aligning the interests of actors in favor of building research capacity. The proportion of funding directly allocated to African research actors, for example, is a clear indicator of readiness to take action in this direction. Academic performance indicators (publications, dissertations, conference presentations) could also be created alongside other indicators that measure the dissemination and communication of research work in public debate (newspaper articles, radio and TV broadcasts, major public events). These kinds of indicators need to be produced in every country. To provide incentives, the reputation and quality of research studies conducted in research centers and think tanks could be measured regularly using objective and transparent criteria. Significant resources could also go to experimentation and innovation to create new ways

of supporting African research. Action at international institutional level through multi-party funding platforms or the implementation of dedicated financial channels could be possible (CGDEV, 2019). In addition to the use of indicators and tools for monitoring, a deeper understanding of the effect of aid programs involves encouraging **research on the subject** and defining a schedule of times and places for meetings with actors from African countries. This would ensure alignment of the interests of all actors involved in African research.

Lastly, action taken to modernize international funding must **put a new ethics at the heart of its relationship with African research**. The key tenet is that the research process—which should be firmly rooted in the principle of researcher independence—must count as much as the final result of the research. A strong link needs to be made between the building of research capacity, the funding of research programs, promoting the results, and improving the quality of higher education.

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List of Acronyms and Abbreviations

AFD	Agence Française de Développement (French Development Agency)
AMCHE	African and Malagasy Council for Higher Education
CEI	Call for expression of interest
CGDEV	Center for Global Development
CNRS	Centre national de la recherché scientifique (French National Center for Scientific Research)
CSO	Civil Society Organization
EU	European Union
IAU	International Association of Universities
ICT	Information and communication technology
IMF	International Monetary Fund
IRD	Institut de recherche pour le développement (Research Institute for Development, Paris)
NGO	Non-governmental organization
NSF	National Science Foundation (US), equivalent to France's Centre national de la recherche scientifique (CNRS)
MRU	Mixed Research Unit
ODA	Official Development Assistance
R&D	Research and Development
SAP	Structural Adjustment Program (IMF)
SDG	Sustainable Development Goal (UN)
TA	Technical assistance
UN	United Nations
UNESCO	United Nations Educational, Scientific and Cultural Organization
USD	US dollar
WIPO	World Intellectual Property Organization

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