



Carola Lentz and Andrea Noll

Early-career funding in German-African academic cooperation: achievements, challenges, perspectives

Berlin: Berlin-Brandenburgische Akademie der Wissenschaften, 2024

ISBN: 978-3-949455-30-8

Denkanstöße aus der Akademie : eine Schriftenreihe der Berlin-Brandenburgischen Akademie der Wissenschaften ; 16 (Januar/2024)

Persistent Identifier: [urn:nbn:de:kobv:b4-opus4-39402](https://nbn-resolving.org/urn:nbn:de:kobv:b4-opus4-39402)

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Denkanstöße aus der Akademie

16

January/2024

A publication series of Berlin-Brandenburg
Academy of Sciences and Humanities

Carola Lentz and Andrea Noll

**EARLY-CAREER FUNDING
IN GERMAN-AFRICAN
ACADEMIC COOPERATION:
ACHIEVEMENTS, CHALLENGES, PERSPECTIVES**



berlin-brandenburgische
AKADEMIE DER WISSENSCHAFTEN

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This publication is an English translation of: Carola Lentz & Andrea Noll (2023). *Early-Career-Förderung in der deutsch-afrikanischen Wissenschaftskooperation. Leistungen, Herausforderungen, Perspektiven*. Berlin (= Denkanstöße aus der Akademie, 13 (Juni 2023)).

Published by the President of the Berlin-Brandenburg Academy of Sciences and Humanities

Translation: Andrea Noll

Copy editing: Pauline Bugler

Layout and typesetting by eckedesign GmbH Berlin

graphic design: angenehme Gestaltung/Thorsten Probst

@Berlin-Brandenburgische Akademie der Wissenschaften, 2024

Jägerstr. 22-23, 10117 Berlin, www.bbaw.de

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ISBN: 978-3-949455-30-8

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SUMMARY

In this paper, we analyse experiences, challenges, and potentials in German-African academic cooperation in the field of early-career funding, considering the humanities and social sciences as well as natural sciences and medicine. The paper is based on two bodies of data: (1) a comprehensive overview of the existing German funding programmes that governmental actors, science academies, and private foundations have established to support early-career researchers from sub-Saharan Africa, and (2) an exemplary survey of the experiences that African cooperation partners from Ghana, Kenya, Senegal, and South Africa have had with these measures over the past 15 years. Our research and analysis are premised on the consideration that German-African academic cooperation, like any other north-south academic cooperation, must be seen in a broad context of asymmetrical structures and relationships.

Starting with an overview of the German funding landscape and a rationale for the selection of the countries studied, the paper discusses the challenges for African early-career researchers in international academic cooperation. Some of these challenges result from the social and institutional framework of African universities, in particular the immense burden of extensive teaching obligations and administrative tasks as well as the strong hierarchies, which make it difficult for younger scientists to independently access funding opportunities. Other challenges arise from existing language barriers, a perceived gender bias in funding opportunities for African women, and the consequences of the COVID-19 pandemic. We also trace the challenges in academic collaboration in terms of process, starting from contact initiation to publication and network building. Among others, we address the issue of the (joint) development of topics and schemes, challenges posed by bureaucracy and administration as well as by the frequently poor equipment in science laboratories, and the problem of producing quality publications as well as sustaining collaborations in the long term.

The range of funding programmes for the exchange of scientists and bilateral or multilateral research projects is now quite broad for Africa. The African academic landscape has diversified considerably in recent years, and our research shows that German institutions have become less desirable as partners in the international competition for research collaborations. Due to other funding opportunities from the Global North, as well as from Asia, a certain scepticism has developed toward German programmes that are generally perceived as overly bureaucratic. This is especially the case at particularly sought-after university locations for international collaborations such as those in South Africa, Ghana, or Kenya.

For excellent African scientists, collaboration opportunities increase during their careers; from the late early-career phase onwards, they can frequently choose from a growing number of possible collaboration partners. However, German academic institutions and research foundations frequently underestimate the extent of internationalisation of excellent African scientists. More generally, our survey shows that German funders are in need of more information about the programmes and details of international funding and “competing” collaborators.

Against this background, we propose the establishment of an interdisciplinary contact and information point for German-African academic cooperation at the Berlin-Brandenburg Academy of Sciences and Humanities (BBAW). The aim of this initiative is to create an interface between academic research, the practice of science funding, and African researchers. The envisaged contact and information point will research German-African academic collaboration and German funding strategies and measures in international comparison. At the same time, it will analyse the needs of African cooperation partners continuously. Information on the African academic landscape will be made available to German funding agencies, implementing institutions and researchers at German universities; information about the German funding landscape will be made available to African partners and universities. Practice-oriented, focused individual studies on specific topics of German-African academic cooperation will be conducted in close cooperation with African scientists. Regular thematic workshops, organised at the BBAW, will boost the exchange of experts from German funding and implementing organisations with selected African cooperation partners. In our opinion, it would be ideal to establish such a research, information and contact point for German-African academic cooperation at BBAW. As an independent institution, the BBAW would be able to perform scientific observation tasks and offer support and advice that funding institutions and private foundations themselves may not offer in the same way. In addition to working with African scientists, the contact and information point would cooperate closely with these funding institutions as well as with regional offices at universities, but from an independent perspective. Ideally, the envisaged position would contribute to an improvement of German-African academic cooperation and be an important element of Germany's scientific diplomacy in the long term.

1 INTRODUCTION ¹

“I think international research collaboration is fundamental to development in all countries, if you have international collaboration that is working well, you create a win-win situation.”

This is how a Ghanaian natural scientist² described what he opined as the outstanding importance of international academic cooperation. Numerous German science and research institutions as well as funding agencies and the relevant ministries want to promote the internationalisation of German science and research. Universities involved in the German Universities Excellence Initiative regularly declare their intention to intensify the international cooperation of German scholars.

Regarding Africa, a far wider range of programmes now support German-African research projects and promote exchange with African scientists than 15 years ago. Such programmes range from well-established formats of long-term individual scholarships to the active recruitment of African fellows for Institutes of Advanced Studies in Germany and establishing such institutions on the African continent to mentor programmes for postdoctoral researchers and the promotion of international networking among young researchers.

In this paper, we analyse experiences in German-African academic cooperation and discuss its challenges and potentials. In doing so, we focus on the early career phase, which is commonly defined as the first work years in research and teaching after completing a doctoral thesis (Friesenhahn and Beaudry 2014; see also our explanation below). Our research combined (1) an overview of existing German funding formats of state actors, academies and foundations in academic cooperation with sub-Saharan Africa in the field of early-career funding with (2) an exemplary survey of the experiences of African cooperation partners from Ghana, Kenya, Senegal and South Africa with these initiatives.

(1) For the overview, we asked which programmes and institutional offers currently exist and are used in German-African academic cooperation in early-career funding. We asked about the benefits, goals, and challenges as well as the target group of the individual programmes and offers. Guiding questions of our research were: What challenges do the German providers of funding programmes face? Where do they see further potential, where is there a need for improvement? Which projects and funding programmes are planned for the future, and how do the providers envisage future academic cooperation with Africa?

1 This study is based on an 18-month research project funded by the Federal Ministry of Education and Research in Germany (BMBF). It was conducted at the Department of Anthropology and African Studies at the Johannes Gutenberg University Mainz. We would like to express our sincere gratitude for the financial support and the institutional connection as well. We would also like to thank all our African and German interlocutors for their willingness to tell us about their experiences in international academic cooperation and to help us establish contacts with African academics. We thank Martin Grötschel and Jochen Gläser for their helpful comments on an earlier version of this text.

2 At the request of informants, we have made their names anonymous and, as far as possible, refrained from using individual subject names.

- (2) In South Africa, Ghana, Kenya and Senegal, we examined the perspectives of African cooperation partners on the German funding programmes and contextualised them in relation to their experiences with funding from other countries. Key questions were: What particular challenges do African users of German funding programmes face? Where do they see further potential and a need for improvement? How do they evaluate German funding programmes in international comparison? How do recipients of funding programmes in African countries envisage future academic cooperation with Germany?

On the state of research: Our study was linked to existing literature on north-south research cooperation. This literature critically discusses the fact that the predominance of countries in the Global North (countries with high per capita income) over countries in the Global South is frequently not questioned in cooperations (Fuest 2007: 486). However, German-African academic collaborations, like other north-south research collaborations, must be seen in a broad context of asymmetric structures and relations (Bradley 2007; Dodsworth & Cheeseman 2017; Jamil & Haque 2016; Melber 2015; Moyi Okwaro & Geisler 2015; Obamba & Mwema 2009). Here, we would like to address only some aspects that are central to our study.

While many countries in the Global North are former colonial powers with strong economies and consolidated institutional structures, countries in the Global South are mostly former colonies with weaker economies and less consolidated institutions (Fuest 2007: 486). The existing asymmetries are described by Jamil and Haque (2016: 244) as so severe that any meaningful rapprochement and mitigation of these asymmetries would require considerable effort and may take a very long time. Accordingly, the literature on academic cooperation between partners from the Global South and the Global North is mostly highly critical of the conditions and effects of cooperation (Dodsworth and Cheeseman 2017). If collaborations were negotiated jointly and research agendas developed together and if the collaboration was based on principles of reciprocity, both partners could benefit from these research relationships and north-south cooperation could have the potential to strengthen research opportunities for individuals, research groups or even entire universities (Obamba and Mwema 2009). In practice, however, this is rarely the case and the power to define what is considered scientific frequently remains outside the African continent (Melber 2015: 25). Likewise, the rights to the results of the projects often remain outside the continent (Melber 2015: 25). For the African partners, cooperation frequently means a loss of their research autonomy (cf. Mouton, Prozesky and Lutomiah 2018: 166), as the asymmetries of power and the correspondingly unequal weighting of agendas frequently undermine equal relationships.

To date, there has been no systematic evaluation of German-African academic cooperation in the field of early career funding. The experiences of African academics in this career phase with German programmes have not yet been examined. Our study aims to make this contribution. In doing so, we were also interested in how German funding agencies perceive the needs of African researchers and the asymmetries mentioned above, and how they respond to them.

We have chosen to focus on the early-career phase because young scientists are considered to have a particular creative strength and high innovative potential in the existing literature on science funding. As Soror and Kassen (2014: 7) note: "They constitute a vast pool of global talent that stands to change the geography of knowledge in fundamental ways." Both authors (2014: 7) see a particular urgency to promote young scientists because of the challenges that nations around the world are currently facing, namely rapid economic globalisation, ageing populations, the increasing demand for highly qualified workers and the growing higher education sector.

In the literature, the term "early career" is used in different ways – like the alternative terms "young scientists" or "emerging scholars" (Beaudry, Mouton and Prozesky 2018: 45). Laudel and Gläser (2008: 391) describe the early-career phase as a transitional status from apprentice to colleague in the respective scientific community. We understand the early-career phase as the first professional years in research and teaching after completing a doctoral thesis. In doing so, we have followed the working definition of a study by the Global Young Academy: "A Young Scientist is defined as a postgraduate or early career researcher of any discipline actively pursuing a research career, usually without being fully established yet. She/he will have received a PhD or an equivalent doctoral qualification up to 10 years ago and is usually between 30 and 40 years old" (Friesenhahn and Beaudry 2014: 22). For Africa, this definition needs to remain flexible with regard to age: African university lecturers and researchers sometimes teach for years before they can complete a doctorate. To take this into account, we have also taken a look at funding programmes for African scholars before and after their early-career phase. This approach is also useful because some programmes, such as the Alexander von Humboldt Foundation's Alumni Programme, enable lifelong sponsorship beyond the early-career phase. The researchers we interviewed also used the term quite flexibly. Many described themselves as being on the threshold between early career and mid-career. However, some still preferred the term early career, as they perceived that there were more funding opportunities for early-career researchers than for mid-career or senior scholars (see 3.2.).

While we have chosen a relatively narrow focus for this study with regard to the career phase, the study is broad in terms of disciplinary orientation: We examined funding programmes and interviewed researchers from STEM subjects³ as well as from the humanities and social sciences. In this way, we were able to determine whether subject-specific differences exist with regard to the experiences and challenges of early-career funding in German-African academic cooperation. Between January 2020 and November 2021, we conducted a total of 24 interviews and discussions in Germany with managing directors and representatives of state actors, academies and foundations, as well as university employees on the challenges and visions of the future in German-African academic cooperation and on their funding offers.⁴ The appendix contains an overview of 40 current funding opportunities by German funding organisations. In our survey, we also collected data on experiences with funding programmes that have already ended. The 40 funding programmes listed also include regionally non-specific funding opportunities, for which

3 This can be linked to a study by Stefan Skupien, who investigated collaborations between European and African researchers on neglected tropical diseases and renewable energies (Skupien 2018).

4 A detailed overview of our interviewees can be found in the appendix.

African researchers can apply in competition with researchers from other regions. We took into account programmes that, in the view of the German funding organisations, are frequently used by African researchers, as well as funding opportunities that were mentioned by African researchers. We have selected our interviewees in Germany as examples because of their high level of engagement with Africa and the Global South in the field of early-career research.

To learn about the experiences, needs and future visions of African partners in international academic cooperation, we conducted 33 qualitative interviews with researchers from Ghana, Kenya, South Africa and Senegal between February 2020 and December 2021. While the interviews with the Ghanaian researchers were conducted on site in February 2020, all further interviews had to take place via Zoom or Skype due to the coronavirus pandemic. Access to African interview partners was provided by the staff of German universities and German funding institutions, who were asked to name contact persons, as well as by academies of arts and sciences in Ghana, Senegal, South Africa and Kenya. Further interviewees were found through a snowball system.

Although the focus of the study in Germany was more on the funding institutions, we were also able to examine the perspective of the German cooperation partners through numerous interviews at universities and research institutions. In Africa, the focus of the study was on the funding recipients, i.e., on the African researchers who use the various programmes – and less on the universities and institutions in which they are involved. There were pragmatic reasons to this approach which were partly due to the pandemic. At the same time, however, we were able to gain insights into the African institutions and their attitude towards scientific cooperation through numerous individual discussions.

From a methodological point of view, it should be noted that both our German and our African interviewees spoke with us about their challenges, needs and visions for the future with strategic intent. In this context, German funders mostly emphasised their concern to strengthen excellent science research in Africa and to improve the visibility of outstanding young African scientists as well as to support the integration of African scientists into the global scientific community “at eye level”.

We presented ourselves to the African scientists as independent German scientists researching the topic of German-African academic cooperation. Our interviewees presumably agreed to talk to us for different reasons. Some participants, who had already received German funding several times, wanted to share their good experiences with the German programmes and emphasised a certain “gratitude” towards German third-party funders. One interview partner hoped for feedback on a research proposal; others hoped to learn about new funding opportunities through the results of the study. Yet other participants expressed a genuine interest in the topic of international academic cooperation and had already dealt with the topic intensely due to their own experiences. Some of the experienced researchers in particular also expressed clear criticism of north-south cooperations. In their criticism, they developed their own, sometimes jokingly exaggerated typologies of national funding profiles and mentalities (see 5.). Since these are transmitted and can be very powerful, it was important for our project to collect them. However, even though our interviewees certainly spoke strategically with us, I (Andrea Noll) had the impression,

especially in the conversations held on site in Ghana, that I was perceived by the interviewees as a colleague in the same career phase with whom they could talk relatively openly about their challenges. All in all, we are convinced that we are able to draw a multi-layered picture of the topic of German-African cooperation that takes different perspectives into account.

In the following, we first give a brief overview of the German funding landscape and explain our selection of case study countries (2). We then address the challenges that exist for African early-career researchers due to societal and institutional and conditions (3). In particular, we look at the immense burdens on early-career researchers that arise from teaching obligations and administration in African science/academic systems and discuss the resulting impact on research collaborations. Furthermore, we look at the hierarchies at African universities and their influence on collaborative projects; the particular challenges posed by language barriers; the gender bias in funding opportunities as perceived by female African academics; and the influence of the COVID-19 pandemic on scientific cooperation. We then trace the challenges in academic cooperation chronologically: from initiating contacts to publication and networking (4) In doing so, we address, among others, the question of the joint development of topics and programmes, the challenges posed by bureaucracy and administration as well as the frequently poor equipment in science laboratories. The quality of publications and the sustainability of collaborations and networking are also taken into account. We then discuss our interviewees' assessment of Germany's attractiveness as partner for international collaboration in an international comparison (5). In the conclusion, we formulate a possible recommendation for action: the establishment of an interdisciplinary contact and information point for German-African academic cooperation at the BBAW.

2 OVERVIEW OF GERMAN FUNDING LANDSCAPE AND SELECTION OF CASE STUDY COUNTRIES

Since the mid-2000s, there has been a significant increase in Africa-specific programmes in the German funding landscape. A number of programmes offer African doctoral students in particular opportunities for cooperating with Germany. In contrast, far fewer programmes for early-career researchers explicitly address African scholars. The various funding measures for academic cooperation with Africa can be roughly divided into four types: Individual scholarships, project funding, network funding and the establishment of universities and institutes for advanced studies in Africa (cf. Lentz and Noll 2020: 10).

In the field of individual sponsorship, the Alexander von Humboldt Foundation and the German Academic Exchange Service (DAAD) in particular offer a variety of programmes. The Alexander von Humboldt Foundation awards individual fellowships from the post-doc level onwards for research stays in Germany. The foundation has various alumni programmes to ensure that sponsored researchers can continue their academic careers. The DAAD also offers a large number of individual fellowships for which African researchers in different qualification phases and career stages can apply. Similar to the Alexander von Humboldt Foundation, the DAAD also provides comprehensive alumni programmes beyond individual sponsorship. Researchers can apply for all these individual scholarships themselves, but they need to be in contact with a host institution before applying. The TWAS-DFG Cooperation Visits Programme, funded by the German Research Foundation (DFG), supports young researchers from sub-Saharan African countries across all disciplines to conduct three-month research and cooperation visits at German universities. The Gerda Henkel Foundation (Lisa Maskell Fellowships) and the Robert Bosch Foundation (e. g., Africa Science Leadership Programme) are also active in the area of individual sponsorship.

In the field of open-topic project funding, the DFG in particular supports cooperation with African researchers (e. g., "Cooperation with Developing Countries", "Initiation of International Collaboration"). Although many African researchers are funded by these programmes, they cannot submit an application themselves.

One measure that supports the international networking of African scientists is the Global Young Academy (GYA), which is funded by the Federal Ministry of Education and Research (BMBF) and the state of Saxony-Anhalt. The members of GYA consist of 200 early-career researchers (32 of whom were in 2022 from Africa) who are selected worldwide according to criteria of academic excellence and social commitment. The conference and workshop programme, Point Sud, funded by the DFG, also supports international networking of scientists from Africa, Germany and the rest of the world. German researchers apply in cooperation with African partners for the programme's annual open call for proposals.

For some years now, more and more graduate schools and institutes for advanced studies have been established. In this context, various funding agencies support the establishment of institutions that are located in the Global South but are (co-)financed and partly managed from Germany.

The BMBF-funded Maria Sibylla Merian Institute for Advanced Studies in Africa (MIASA) is an international research institute at the University of Ghana that promotes cooperation between Ghanaian academics and international colleagues from the humanities, cultural studies and social sciences. The “Pilot African Postgraduate Academy” (PAPA) project funded by the Gerda Henkel Foundation is helping researchers at the Goethe University in Frankfurt to set up a postdoctoral academy in Bamako (Mali). This academy should strengthen basic research in the humanities and social sciences, especially in Francophone Africa, and to place it in a self-confident relationship with other research landscapes. Together with 11 partner countries in West and Southern Africa, the BMBF has established two regional centres of excellence namely the West African Science Service Centre on Climate Change and Adapted Land Use (WASCAL) and Southern African Science Service Centre for Climate Change and Adaptive Land Management (SASSCAL), which deal with climate change and sustainable land management in Africa. The graduate schools, centres of excellence and advanced studies institutes award scholarships for which African scientists can apply directly.

The Max Planck Society recently launched a new Africa initiative as well. In December 2020, a first “Africa Round Table” (ART) was held to discuss the extent to which the Max Planck Society can better support African scientists on site in future. The aim of the initiative is to prevent a brain drain, to strengthen local research institutions and to open up new perspectives for young scientists. Various programmes will be gradually implemented, including a mentoring programme for African students and doctoral candidates, virtual lecture series, mobility grants and the intensification of research cooperation on the part of Max Planck scientists.⁵ The Leibniz institutes have bundled their Africa-related activities in the initiative Leibniz in Africa.⁶

Meanwhile, most German universities have developed structures for international cooperation. At some German universities with a strong research focus on Africa, there are supporting structures for academic cooperation with Africa or the Global South. Examples of such structures include the Centre for Interdisciplinary African Studies (ZIAF) at the Goethe University Frankfurt, the Africa Centre for Transregional Research (ACT) at the University of Freiburg, the Global South Studies Center (GSSC) at the University of Cologne, the Berlin Center for Global Engagement (BCGE) of the Berlin University Alliance as well as the Institute for African Studies (IAS) and the Cluster of Excellence “Africa Multiple” at the University of Bayreuth. At the above-mentioned institutions, long-term cooperation or the initiation and implementation of this cooperation is also made possible through continuity of personnel. There, African early-career researchers are also specifically involved in the design of collaborations. In addition, German universities and research institutes increasingly establish long-term collaborations with African universities.

African early-career researchers and postdoctoral researchers, as well as doctoral students, can apply not only to Africa-specific programmes, but also to German funding agencies’ programmes that are not regionally specific. However, several interviewees in German funding

5 <https://www.mpg.de/16384579/africa>, <https://www.mpg.de/16956055/we-want-to-open-up-opportunities>; last access on 5.12.2023.

6 https://www.leibniz-gemeinschaft.de/fileadmin/user_upload/Bilder_und_Downloads/Neues/Mediathek/Publikationen/Brosch%C3%BCren/Leibniz-in-Afrika_Brosch%C3%BCre.pdf; last access on 5.12.2023.

agencies explained that successful applications by Africans to the general programmes from the postdoctoral phase onwards are usually by African academics who have at least a partial Western educational background. In our research, we also found that the general German funding programmes are sometimes not very well known among African academics. A further restriction and evaluation by some funders put this observation into perspective: when researchers without a Western background apply for the general programmes, these applications are frequently not competitive. We were not able to further examine this assessment by German funders, but it seems plausible in the context of the literature presented and our own survey.

Some structural differences stand out: The state funding bodies in particular have programmes with long durations. The DAAD's doctoral programmes, for instance, have existed for several decades and will probably continue indefinitely. Private foundations also have some long-term cooperation projects, such as the Gerda Henkel Foundation's Lisa Maskell Fellowships for doctoral students. In general, however, private foundations usually fund projects only for a certain period of time, according to our interviewees. During our interviews, some of the private German foundations saw themselves more as initiators of new projects and funding ideas. However, the durations are also subject to politically-set fluctuations over the years: One interviewee explained that some ministries now award funds more frequently for a shorter time frame only as this represents a certain safeguard for the ministries themselves.

There are also a number of cross-links between the various German sponsors. DAAD staff members, for instance, serve as members of the selection committee of an Alexander von Humboldt Foundation fellowship programme and vice versa. In Africa, the networks of the DAAD and the Alexander von Humboldt Foundation are very closely linked in some places, and the Alexander von Humboldt Foundation also uses some of the DAAD's local structures. In the context of its Africa cooperation, the Gerda Henkel Foundation is in exchange with the Robert Bosch Foundation, as both foundations are active in similar locations on the African continent.

Nevertheless, all German funding agencies have, as one staff member of a German funding institution put it, more or less "their own separate areas"⁷. German-African academic cooperation thus supports scientists in very different career phases and from very different disciplines. There are numerous overlaps with regard to the programmes' objectives: Most funding organisations cite the promotion of science and research, sustainable development, networks of excellence, young scientists, cultural diversity and the joint overcoming of global challenges as goals (Lentz and Noll 2020: 6). However, ideas frequently differ on which type of funding will achieve the best possible result. Moreover, programmes are frequently aimed at different target groups. While the Siemens Stiftung in Africa, for instance, is primarily committed to strengthening STEM education and vocational orientation in schools, the Gerda Henkel Foundation supports mostly doctorates in the humanities with a focus on history. According to several sponsors, exchange occurs mostly selectively and synergy effects frequently result from personal relationships.

7 Translated from German by the authors.

Cooperation among German funding agencies is frequently difficult as well, according to our interviewees because of their different approaches to funding, for instance, with regard to the preparation of annual budgets. The staff of funding institutions noted that they always had to ensure that a cooperation with another funding institution was suitable for the respective funding principles or for the donor. One interviewee said: "Of course, we are an independent institution, no question, but if we want to do something and take money for it, then the donor must also give his okay."⁸

Before giving a brief overview of the countries selected for our study, it should be noted that African researchers are dependent on research funding from the north due to a lack or very limited possibilities of mobilising internal resources (Fuest 2007: 486). Due to this lack of resources, many researchers are frequently forced, as Bradley (2007: 675) notes, "to enter into partnerships far removed from their own priorities, simply to generate the income required to stay afloat." Although there have certainly been gradual improvements in this field in some countries in recent years, this challenge, as Beaudry, Mouton and Prozesky (2018: 69) point out in their study, "The Next Generation of Scientists in Africa",⁹ continues to have, above all other challenges, the most negative impact on the careers of early-career researchers. A lack of resources frequently results in a lower standard of education for African early-career researchers. Asymmetries in international academic cooperation exist because there are already major differences in the institutional strength of knowledge systems and in the provision of state and private resources, especially financial resources.

A survey was conducted in Ghana, South Africa, Kenya and Senegal to find out which German academic cooperation programmes are used and how they are perceived by early-career researchers. The study thus covers countries in West and East Africa as well as in Southern Africa. Both the Anglophone and Francophone perspectives are taken into account. All four countries have strong research universities, research institutes and numerous scientific cooperations with Germany. In Anglophone West Africa, Ghana is of great regional importance in terms of science policy due to various institutions, such as the Maria Sibylla Merian Institute for Advanced Studies in Africa (MIASA) that was founded at the University of Ghana in 2018 or the Association of African Universities (AAU).

Senegal is of similar importance in Francophone West Africa. Dakar is home to the Council for the Development of Social Science Research in Africa (CODESRIA), a research centre relevant to the African continent. Kenya is the strategically most important science country in East Africa and Kenyan scientists are involved in many collaborations that are expanding to other African countries. Several institutions such as the pan-African African Academy of Sciences are based in Nairobi and highlight Kenya's great regional importance. South Africa is the most important hub of all science cooperation with southern Africa. In addition, the South African Young Academy of Science in Pretoria also attracts scientists from many other African countries.

8 Translated from German by the authors.

9 The study is based on a comprehensive survey with over 7,000 participants.

While our study focuses on countries in sub-Saharan Africa that are strong in research, we would also like to point out the existing inequalities in the education and science system on the African continent. Funding, for instance, from the post-doc level onwards or even from the doctoral level onwards cannot reach graduates from some African countries, as in some countries, such as e. g., Angola, there are hardly any opportunities to do a doctorate or even Master's degree in some disciplines. Critical references to these science policy and social inequalities were made by interviewees, but were not the focus of the study. Moreover, post-doctoral funding frequently only reaches richer people from wealthier African countries. One interviewee described most recipients of funding as follows: People who come from rather wealthy families, frequently graduates of private schools who are already privileged.

Thus, at least one effect can be noted: To a certain extent, dependency relationships and asymmetries are reproduced in the individual countries, and even within a country, usually only certain universities or academics at a few institutions can enter into international cooperations at all (cf. Lentz and Noll 2020: 24).

3 CHALLENGES POSED BY THE SOCIAL AND INSTITUTIONAL FRAMEWORK

Frequently, social conditions in African partner countries render international academic cooperation more difficult. In the literature on north-south cooperation, insecure working conditions, economic crises, political instability and restrictions on academic freedom and freedom of expression are discussed as factors with a negative influence on academic work in some countries of the Global South. Our interviewees also mentioned a number of these factors. In many African countries, as well as in other countries of the Global South, economic crises and structural adjustment programmes have made it more difficult for university and research institutions to function, to equip themselves and to provide quality services since around the 1980s.¹⁰ This is, of course, also the case in other parts of the public sector. The structural as well as the personnel after-effects of these crises and the persistence of specific practices in the administration and organisation of science and academia are now being overshadowed by a profound change or considerable expansion of African science systems and African universities. This includes a large number of newly-founded universities and a partly far-reaching privatisation and economisation of higher education.

Academic freedom is described in the literature as a prerequisite for a dynamic university system that focuses on research, provides new knowledge and helps solve societal problems (Schmid and Schamp 2008: 5; Mlenga 2016: 199). The social and regional origins of academics are crucial for their mobility opportunities. Restricted political and academic freedom affects not only international scientific exchange, but scientific work itself in many countries. German donors wanted to prevent a possible, consequential brain drain of African academics.

Challenges for African researchers also include institutional conditions such as a particularly high teaching and administrative workload, low salaries, a difficult work-life balance, and alternative, more lucrative career opportunities or time-intensive sources of income competing with research work, such as consulting assignments, which influence the course of academic careers (Fuest 2007: 486; Beaudry, Mouton and Prozesky 2018).

Unlike Germany, “job insecurity” was not one of the biggest challenges for African early-career scientists in the study “The Next Generation of Scientists in Africa”: Similar to most African early-career scientists in our study, most respondents had a permanent academic position.

¹⁰ Taha and Bjorkelo (2016), for example, show how Islamisation and Arabisation have affected work at Sudanese universities since the 1980s. The consequences included less contact with non-Sudanese researchers and the exclusion of non-Arabic-speaking and non-Muslim Sudanese from universities (2016: 231).

3.1 Teaching commitments and administration

One obstacle to the successful implementation of international collaborations, especially for early-career researchers, was the heavy workload at African universities. Our interviews were repeatedly interrupted by students, who were being supervised by our interviewees and wanted to discuss research proposals with them, or to ask them questions about research methods. One interviewee therefore simply locked her office door after a while so that we could talk undisturbed. In addition, we had the impression that all African early-career researchers, even more than in the Global North, were constantly busy submitting a large number of new applications for research funds to carry out research projects. One interviewee explained that this commitment required a lot of discipline and stamina:

“It is just an issue of trial and error. Try, doesn’t work, try, it doesn’t work, try, it doesn’t work. And that takes a lot of discipline, which a lot of people don’t have honestly, yes, because there is just so much rejection you can’t take in a year. Like last year, I won quite a number of grants, but I can also show you the number of rejections I got. So, it is an issue of probabilities and it is an issue of how bad did you want this.”

Against the background of the high workload, an experienced Ghanaian scientist noted that especially in North America, but to some extent in Europe also, it is possible to be released from some teaching obligations or even entirely from teaching for a limited period of time within the framework of acquired research funds. This is not the case in Ghana, as in many other African countries. Although she herself, an experienced scientist, could negotiate a successful exemption from some obligations, younger scientists could not avail of such an opportunity. And especially for early-career researchers, who do not have these opportunities, the workload would be particularly heavy: “Our institutions are very labour intensive, especially for junior members,” the interviewee said. The early-career researchers would have to carry out their research on top of a heavy workload of teaching and student supervision. “Unless your collaborators are sensitive to the different animals our universities are, it will be very challenging,” our interviewee said.

The fact that several funding agencies also mentioned the high workload in our interviews proves the awareness of this problem on all sides. According to one interviewee, many things take longer because early-career researchers are involved in a multitude of administrative tasks. More and more countries are introducing the rule that university lecturers must have a doctorate before they are allowed to teach, which frequently poses a staffing problem or puts established lecturers under considerable pressure to complete a doctorate alongside teaching.

According to one interviewee, the different ideas of career and professional paths are also a problem. In some countries, for instance, there is no openness at all that academics go abroad after completing their doctorate because of the sometimes enormously high teaching obligations and the work involved. It is particularly difficult for early-career researchers to take up a scholarship abroad from a funding organisation that is not yet strongly represented in their home country. There can be a great deal of mistrust towards new funding organisations at first. It can therefore be difficult, e.g., for the university administration to give researchers time off from

teaching to go to Germany. It would usually take a while before the local colleagues would see the advantages of another stay abroad, namely new contacts or the right to apply for equipment grants, which could then benefit the whole university. This scepticism of programmes that are less well-known in the home country, forced one Alexander von Humboldt fellow, for instance, to use his own funds to finance a substitute lecturer for his teaching duties. That was the only way for him to take up his fellowship. Another researcher lost his position at his home university when he took up a fellowship.

Additional funds for scholarship holders might help solve the obstacle of the very high workload and take some of the burden off teaching. The Volkswagen Foundation's Knowledge for Tomorrow programme, which has now ended, established such a possibility during the programme. In our view, the sensitivity demanded by the African side can also be expressed in greater flexibility on the part of the funding and cooperation partners: for instance, that no deadlines for submitting reports are set at times when the workload at African universities is particularly high (e.g., during exam periods).

3.2 University hierarchies

One of the greatest challenges described by all German funding agencies and the staff of German universities and research institutions are the very pronounced hierarchies at many African universities and the dependencies that go along with them. Several of our German interviewees explained that it is frequently not possible to circumvent the hierarchies and established structures at African institutions even through well-organised projects. Due to these hierarchies, outstanding early-career researchers frequently have no possibility to propose a change to their superiors, as this is perceived as criticism of the person and the institution. Thus, it can be a great challenge for many researchers to meet the commitments to the German partners without damaging their own reputation at their home university.

Several staff members at German universities reported that dealing with these hierarchies can be very challenging, especially for early-career researchers who successfully applied for larger grants and research funding at their home universities. Highly endowed scholarships for early-career researchers may be much higher than the funds available to their supervisors. Since established researchers did not always have similarly good access to funding opportunities as early career researchers, the generous funding for early career researchers was sometimes highly frustrating for established colleagues. According to several interviewees, the young researchers' careers were sometimes hindered out of envy and jealousy (cf. Liebs 2020: 18).

A university employee explained that some early-career academics could only calm the waves by "making themselves very small"¹¹ at their institute for a few years and involving their envious superiors in their projects. "I don't even want to know in detail what that looks like in concrete

¹¹ Translated from German by the authors.

terms, also financially,"¹² said the interviewee. And further: "I don't know whether a part, for example, of the personal salary, is then simply passed on."¹³ According to one interviewee, early-career researchers should be provided with funds that benefit the institutions to deal with these challenges productively.

Early-career researchers' applications for some large initiatives such as the Volkswagen Foundation's Global Issues Programme, hinged simultaneously on cooperating with experienced researchers at their home universities. As one interviewee explained:

"I saw the Global Issues, I want it to go on record (laughs) they are intimidating, I've finished my PhD in 2014 and I've been doing this but six years is not enough to apply for this big consortium type of applications or grants and I don't even think they are aiming for people at my level."

At the time of the interview, the interviewee did not feel ready to take the lead in applying for large initiatives, despite her already extensive experience in international cooperation and at acquiring third-party funding. One early-career researcher joined forces with experienced researchers at her home university to be able to participate in large international initiatives. However, according to the interviewee, this strategy would entail a loss of control over the project and a dependence on the experienced researchers. Then the project would no longer be her own, but that of another person. In addition, the renowned and experienced researchers would already be involved in various projects themselves and would not necessarily have the time to commit to the early-career researchers' projects.

At the same time, the status as an early-career researcher had advantages for some interviewees. "I think I am heading towards mid-career, but I still want to enjoy the early career," explained a natural scientist who had received her doctorate eight years before the interview:

"To be honest with you, sticking with early career is very helpful, because there are more opportunities for early career than for mid-career. So, if you start to think yourself as a mid-career scientist there is really no opportunity to apply for anymore, because technically by mid-career you should be established."

The German funding institutions and partners noted that the strong hierarchies at many African universities required a sensitive working method, intercultural reflection processes and good communication. Staff at German universities and research institutions faced particular challenges due to the hierarchies as early as initiating a cooperation: In some cases, that required numerous initial discussions with various actors. The hierarchies at African universities were also reflected in the communication with German funding agencies. Interactions ranged from "somehow friendly and familiar to 'oh God, those are the donors'",¹⁴ as the staff member of one foundation put it with a laugh.

12 Translated from German by the authors.

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The German funding organisations have developed various strategies and rules for funding to counteract these difficulties. Some funders consider a longer research stay in Germany particularly useful precisely because of the hierarchies. This should enable the fellows to escape the hierarchies at their home universities for a while and to devote themselves entirely to their projects, according to several interviewees at German funding institutions. Other third-party funders, on the other hand, prefer to support early-career researchers at their home universities. Longer stays abroad entailed the risk of having to rebuild networks from scratch on returning home, said our interviewees. On their return, the fellows would have to find their way around an institutional landscape that has changed greatly during their absence and would thus frequently lose years of working time, the argument goes. For this reason, some third-party funders, such as the Alexander von Humboldt Foundation, offer return fellowships to support reintegration at the home university. Against the backdrop of rigid hierarchies, several programmes also offer soft-skill components in their overall package.

Some donors do not allow former doctoral mothers or fathers to act as hosts in Germany to reduce the dependencies of early-career researchers. This should prevent the seniority principle in the African context from being transferred to the hosts in Germany. To counter the dependencies on established academics and on hierarchies within the universities, these are partially taken into account in cooperation practice: Due to the strong hierarchical structures, it is also “of absolute importance”¹⁵, according to one interviewee, that cooperation proposals are always co-signed by the corresponding African university leadership, “precisely because it is so hierarchical, it is quite clear that if the university leadership does not go along, you might as well not do it.”¹⁶

3.3 Language barriers

Language barriers represent another challenge to German-African academic cooperation. Due to the increasing Anglophonisation of German research and doctoral programmes, non-proficiency in the German language is frequently no longer an obstacle to cooperation, at least for scientists from the Anglophone region. However, total Anglophonisation and its connection to an increasing economisation of research and teaching is also discussed critically (Mocikat 2020; Thielmann 2020; Turković and Gehrmann 2019). At the same time, English is gaining more and more acceptance as the dominating language of science (Turković and Gehrmann 2019: 15). However, financial reports (as well as in some cases other reports to third-party funders) are still mostly in the German language (see 4.3.).

For researchers from the Francophone region, however, the increasing Anglophonisation poses an additional language barrier in many cases. English is now the language for almost all programmes, which means that sufficient English language skills are required to carry out projects in those programmes. Our interviewees also noted a language barrier on the part of German funding and cooperation partners which is an obstacle to scientific cooperation with Francophone

15 Translated from German by the authors.

16 Translated from German by the authors.

countries. While applications for almost all German funding organisations' programmes can be submitted in English, applications for most programmes cannot be submitted in French. Especially for programmes advertised in English, funders frequently had difficulties recruiting applicants from Francophone Africa. Many funders noted that applications submitted in English from Francophone countries were frequently of a lower standard than those from Anglophone countries. In general, several funders said it was also more difficult to find reviewers when applications are submitted in French.

Overall, the long prevailing refusal of Francophone universities to accept English as the predominant language of science, had, as one interviewee from a German university put it, "unfortunately been overtaken by reality",¹⁷ since English had become the global language of science. German scientific cooperation has also largely accepted English as the global standard language of science. "About half of the continent is thus left out,"¹⁸ explained another interviewee. According to several interviewees, in particular the older generation of scientists from Francophone countries had a very poor command of English. The willingness of these established scientists to adopt English as the global language of science or to learn a new language of science is, as one interviewee said, very low. Early-career researchers at Francophone universities, on the other hand, would much more easily adopt English as the language of science. This has led to a great improvement of English language skills in Francophone Africa over the last 15 years. "So I think the Anglophone has won in every way,"¹⁹ said one interviewee. Anglophone Africans continue to have, according to our interviewees from Senegal, a clear advantage in the competition for most calls. In addition to the declining interest in Francophone Africa in Germany, our interviewees perceived that the increasing security problems in the Francophone countries of the Sahel in recent years made an exchange impossible in some cases.

To some extent, the status of English as a language of science in the Francophone countries correlated with the number of successful applicants from the respective countries. The Alexander von Humboldt Foundation, for instance, recorded about 60 scholarship holders from bilingual Cameroon in 2020. This relatively high number of scholarship holders was, according to one interviewee, because Francophone Cameroonians are usually quite fluent in English as well which made it easier for them to find cooperation partners in Germany and to apply successfully. Our interview partner further explained that the Humboldt network in Benin was comparatively strong as its academic system was becoming increasingly English-speaking. In contrast, relatively few applicants came from Senegal, which has a stronger Francophone orientation.

In recent years, several German funding organisations have made efforts to reach out to more researchers from Francophone African countries. Against this backdrop, the DFG, e.g., has worked with the scientific network CAMES since 2017.²⁰ The Pilot African Postgraduate Academy, funded by the Gerda Henkel Foundation, is the only programme that explicitly addresses early-career

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20 CAMES (Conseil Africain et Malgache pour l'Enseignement Supérieure) is a network with 19 member states in Francophone Africa; <https://www.lecames.org/historique/>

researchers from Francophone Africa. It provides a platform for early-career researchers to discuss theoretically interested fundamental research in French. MIASA aims to overcome the division between Anglophone, Francophone and Lusophone scientific culture (Hampel 2019: 228). For Lusophone Africa, our interviewees generally saw a greater willingness to adopt English as the international language of science. However, applicants from Lusophone countries were also seen by our interviewees as clearly disadvantaged in competition with Anglophone native speakers.

3.4 Gender bias

The tertiary education system in sub-Saharan Africa is heavily dominated by men (Coker-Kollo and Darley 2013: 17; Idahosa 2019: 2). While there have been increased efforts to promote women in academia in recent years, most of these efforts promoted women in undergraduate and graduate programmes rather than supporting women in senior positions (Klege 2020: 60; Sawyerr 2004: 25f.). Overall, women are still strongly underrepresented in academic leadership positions. Only six of the 26 universities in South Africa are headed by women; in Ghana, only 8 per cent of professorships at public universities are filled by women (Klege 2022: 60). Therefore, there are very few female role models and mentors for early-career researchers (Aziato et al. 2020: 113), a point that our African interviewees also mentioned as a challenge.

This lack of female role models was particularly striking in our conversations about STEM subjects. A Ghanaian natural scientist, for instance, reported how at the beginning of her career, she was looking for a mentor from her own country who could advise her on how to obtain third-party funding. "But there is nobody, zero," our interviewee concluded. Finally, she found a female mentor from the U.S. who shared her experiences in acquiring larger third-party funding projects with her.

African early-career researchers also perceived a certain gender bias in their evaluation of German funding opportunities. The female African researchers interviewed found postdoctoral programmes that could be carried out in their own country particularly attractive. This allowed them to fulfil their family obligations while conducting collaborative research, they said. While some funding programmes provide for longer stays in Germany, some of the female early-career researchers would, for professional and family reasons, prefer several shorter stays spread over a longer period. Therefore, some of the African researchers argued, fewer women would apply for some funding opportunities that require a longer stay in Germany from the outset. In the case of fellowships and scholarships that provide for longer stays in Germany, scholarship holders frequently have the opportunity to bring their families to Germany.

However, according to our interviewees from German foundations, female researchers who came to Germany with their children, but without their partner had a particularly difficult time. What is more, even when husbands accompanied their wives and children, they were frequently not sufficiently involved in the care and family work. The opposite case that female partners travelled with male scholarship holders, is, according to our interviewees, far more frequent. But here, too, it has frequently been the case in recent years that female partners could not or did

not want to come along because they themselves had a job in their home country that they did not want to give up.

In addition to the generally lower proportion of female researchers in many disciplines, this is another reason why relatively more African men than women receive funding from German third-party funding organisations. At the Alexander von Humboldt Foundation, for instance, about 20 per cent of the Africans sponsored by the foundation were women in 2020 (about 150 out of a total of 1,000 Humboldtians from northern and Sub-Saharan Africa, were women). At the same time, women frequently submitted better applications, our interviewee noted. One of the Alexander von Humboldt Foundation's strategies is therefore to appoint more and more women as Humboldt Ambassador Scientists.²¹ These could then act as role models for female early-career researchers.

3.5 Impact of COVID-19 on scientific cooperation with Africa

From spring 2020, the COVID-19 pandemic severely restricted international travel making it impossible at times. Against this backdrop, German funding agencies granted extensions of scholarships as well as postponements and also deviated from other parts of their very clear guidelines. The DAAD, for instance, allowed scholarship holders to postpone scholarships for longer than usual or to interrupt them completely. What's more, the DAAD continued to financially support stranded fellows, German fellows abroad and foreign fellows in Germany who had completed their doctorates and could not return home. The Alexander von Humboldt Foundation gave fellows, who were unable to travel due to the pandemic an opportunity to begin their research stay in their home country. Researchers at the DAAD Centres of Excellence were able to take home a minimum set of equipment to use during the lockdown.

Apart from all the challenges, funders also saw new opportunities in the pandemic. Some even noted that the coronavirus crisis generated new impulses and that African partners in particular developed innovative concepts. In addition, many interviewees felt that communication with international partners had improved during the pandemic thanks to new online formats. Overall, however, the consensus among both funders and staff at German universities was that while face-to-face events could be replaced by online formats for some time, in the long run face-to-face meetings were absolutely necessary for building trust between partners. As soon as travelling was possible again, researchers from African countries accepted the difficult entry regulations, including coronavirus tests and quarantine obligations to be able to come to Germany during the pandemic.

Other funders assumed that the pandemic would make African university systems more vulnerable in the coming years. They assumed that more resources were needed for undergraduate education and that research might tend to fall behind. Against this background, the Alexander

²¹ Humboldt Ambassador Scientists are Humboldtians who volunteer in the individual countries to promote the Alexander von Humboldt Foundation's programmes and advise junior researchers.

von Humboldt Foundation introduced the funding line “Overcoming the Pandemic with Science – Sponsorship of Humboldt Research Hubs in Africa.” As part of this initiative, experienced alumni, usually full professors, had an opportunity to apply by January 2021 to implement research concepts on pandemic-relevant research. The funds could also be used to hire junior researchers and involve early-career researchers in the management of the Humboldt Research Hubs.

The staff of German universities were confronted with problems concerning the outflow of funds due to the pandemic. Events at an estimated cost of 40,000 to 50,000 euros were sometimes held for less than 100 euros per zoom. Some interviewees expressed concerns that funding agencies might cut funding for event and workshop programmes in the future against this background. However, if airlines on the African continent were to cut back their services and connections or ceased to operate due to the pandemic, events could become even more expensive in future.

4 CHALLENGES IN ACADEMIC COOPERATION – FROM CONTACT INITIATION TO PUBLICATION AND NETWORKING

“If it’s a collaboration, it must be a collaboration when it comes to funds, concepts, ideas, when it comes to proposals, defining problems, writing reports. All needs to be shared in a collaborative manner.”

This is how an African natural scientist explained what in his eyes constitutes a successful cooperation that is carried out jointly from beginning to end. In the following, we discuss the challenges that can arise in German-African academic cooperation in the course of a project, starting with the initiation of cooperation and finding partners. We then address the challenges that arise in the development of programmes and in communication. We explain the challenges posed by bureaucracy and administration and the challenges scientists face due to the lack of equipment in their laboratories. We also address the quality of publications, aspects of the sustainability of collaborations and the challenges of networking. In addressing these points, we identify the needs of African early-career scientists and discuss best practice examples.

4.1 Initiation of cooperations

For German funders, German researchers and African early-career researchers, the initiation of a cooperation represents a clear challenge. German-African scientific cooperation builds on a number of pragmatic as well as proven approaches. When Africa-specific funding was expanded from the beginning of the 2000s, established African institutions were a first starting point for German funding agencies to initiate cooperations. South Africa in particular continues to be a popular and proven partner country for most funding agencies. This is partly due to the fact that South Africa is perceived to be an excellent science and research location. “There really is excellence there that is visible beyond Africa,”²² one interviewee from a German funding institution explained. To find partners on the African continent, employees of various German funding organisations undertook exploratory trips, which initially frequently led to South Africa because in addition to the scientific quality, “access is somehow easiest”,²³ according to one interviewee. Staff of German funding agencies e.g., attended conferences on the African continent to find partners through interesting speakers. Starting in South Africa, several funders then visited various institutions and built up networks. Apart from South Africa, German funding agencies (e.g., at the DAAD) frequently focused on countries like Kenya and Ghana. Another popular way of initiating cooperation was through contacts with African academics who are or have been active in Europe. These people were used as initial contacts and as multipliers. Another popular access is via existing, locally-grown African networks such as the Partnership for Africa’s Next Generation of Academics (PANGeA) or the Conseil Africain et Malgache Pour L’Enseignement Supérieur (CAMES) in Francophone Africa.

22 Translated from German by the authors.

23 Translated from German by the authors.

African researchers basically required an established contact with a host institution or a cooperation partner in Germany to submit an application or even a proposal to almost all programmes. It was particularly difficult for our interviewees to establish this initial contact while they were preparing for their doctoral projects. But even during the early-career phase, it could still be difficult for researchers to find suitable German cooperation partners or mentors for their projects. Early-career researchers reported that they hardly ever received a reply to email enquiries sent to potential German partners. Many had difficulties in the past finding a supervisor for their doctoral thesis. It also proved difficult for some of the early-career researchers to find a mentor from the Global North for a post-doctoral project. One natural scientist commented as follows:

“For instance, if I’m looking for cooperation on a specific proposal with somebody in Germany who I have identified as having the skill set or what I need, there should be a way for me to be able to establish that relationship, which is now just a matter of sending the email and hoping they reply.”

The scientist quoted above explained that she understood well that many scientists in the north thought the incoming email was yet another scam from the African continent. To avoid this, she always used her institute’s address. Nevertheless, most enquiries remained unanswered.

The fact that early-career researchers did not receive a response occurred particularly frequently in disciplines in which the German cooperation partner may have lacked Africa-specific knowledge. Our interviewees also assumed that prejudices prevailed in some cases. One interviewee from a German funding institution noted that for many German researchers, cooperation and mentorship with African partners (in comparison to North America, Europe or parts of Asia) are not necessarily attractive, if they do not have a primary interest in Africa due to their subject area. One interviewee mentioned different standards of research equipment and difficult climatic conditions as reasons for this lack of attractiveness.

The difficulty in establishing initial contact, especially during the doctoral phase, led in part to constellations of supervision and cooperation that sometimes did not fit the profile of the African doctoral students very well. A Ghanaian early-career researcher, for instance, whose expertise was in the field of aquatic wetlands and fisheries, was supervised during his doctorate by a German professor whose entire institute worked in the field of polar ecology. The supervising professor was about to retire and decided to accept the Ghanaian as a PhD student “because he had never worked with an African before”, as our interviewee explained. The easiest way to establish a contact, according to several interviewees, was through a third person who already had a contact in the relevant country or field and who then established the connection.

Several interviewees from German funding agencies shared the impression that requests by some African applicants failed because they lacked knowledge of the German science system. One interviewee from a German funding institution explained that young researchers frequently did not receive a reply because the writing style of an enquiry did not correspond to German customs and formalities. At the same time, our interviewee observed that most young researchers had not managed to identify and write to the right people at all. Several interviewees from German

funding institutions saw many deficits and a need to improve the way young African researchers researched on the internet. Yet, this search for cooperation and hosts is akin to a pre-selection for the German funding agencies.

However, the access through excellent African institutions in the selection of partners reinforces existing inequalities on the African continent (see Chapter 2). This point was also noted self-critically by some interviewees from funding institutions. The effects are manifold: one interviewee from a German funding institution noted that individual fellowships in particular might create exclusiveness or “kind of a club of the lucky ones”,²⁴ of African scientists who, in the best case, become visible on an international stage. Several German interviewees noted that African doctoral students and early-career researchers, who participate in renowned and highly remunerated German programme, could sometimes skip several career steps because of this prestigious funding. Some scholarship holders also commented that without their international funding, they would never have risen to the position of head of department at their home university.

Another effect might be that the few African academics, who once received a renowned scholarship, would receive funding from various other institutions during the remainder of their careers, according to interviewees from funding institutions. Many equally-qualified individuals will, however, not be funded accordingly. This procedure was queried self-critically by several interviewees from funding institutions. One interviewee said: “Is that really effective in what one actually wants to do, or do we overburden some scientists from Africa with the demands from Europe, so to speak, that we want to show, look, we have funded such great people?”²⁵ Another interviewee at a German university referred to the difficult tightrope walk of promoting the best young researchers without “fuelling” a brain drain at the same time.

Against this background, and especially with regard to the selection of partners, German funding agencies and university interviewees noted a great need for more information about the African research landscape. We identified that knowledge about research offices at African universities might make finding suitable cooperation partners easier. According to our German interviewees, in some countries it is difficult to find suitable contact persons at all. African partners also lacked support initiating projects.

All interviewees named trust in the partner and the partner institution as a basic requirement for successful cooperation. Transparent communication as well as personal relationships and meetings were mentioned as prerequisites for building trust. While building trust takes time, cooperation, as our interviewees noted, frequently takes place within the framework of time-limited projects. As Hampel (2019: 225) explains, this time limit might pressure cooperation partners to produce presentable results in a hurry.²⁶

24 Translated from German by the authors.

25 Translated from German by the authors.

26 In this context, Hampel (2019: 226) proposes the introduction of seed money, a small sum of money with which the partners can initially test their cooperation idea together for a few weeks. The DFG supports researchers who are interested in establishing collaborative scientific relationships with partners abroad with the grant programme “Initiation of International Collaboration” https://www.dfg.de/en/research_funding/programmes/international_cooperation/initiation_international_collaboration/index.html (see also the appendix).

4.2 Joint development of topics and programmes

All funders emphasised that when selecting projects and fellows, they try to take into account the frequently different careers of African scientists that sometimes involve teaching for years before being able to complete a doctorate. They also claimed to consider the infrastructure as well as the level of development of the scientific system in the respective country. Several funders emphasised that they paid attention to both gender balance and a “colourful mix of nationalities”²⁷ in their selection. Likewise, several German funders tried to involve African scientists in their funding decisions.

Nevertheless, initiatives for funding lines and joint research projects usually originate in Germany, and the German side is in charge of implementing the cooperation. Against this backdrop, most German funding agencies emphasised their efforts to counteract asymmetries in programme development, in setting the topics and during the research process to promote what many interviewees called “cooperation at eye level”. Several funding agencies e.g., tried to prevent northern partners from selecting topics and developing projects on their own and only looked for suitable southern partners because cooperation with an African partner increased the chances of approval. The German funding agencies also wanted to avoid a division of labour between data collection (African partner) and analysis and theory work (German partner). Thus, when developing their programmes, they emphasised the need for a collaborative development of projects.

A proven approach to solving these problems has been to hold workshops with African researchers before a programme starts to identify needs and funding gaps. The staff member of a research institution conceded that equal cooperation is time consuming and is therefore very cost-intensive and also requires a great deal of sensitivity and openness. Against this background, some interviewees noted that maintaining equal cooperation and co-development for the entire duration of a project was a great challenge. An employee of a foundation explained that it was very important for the development of the project as well as for the course and an equal cooperation to be regularly present on site to remain in dialogue with the partners over a longer period of time.

Against this backdrop, various German funding agencies emphasised that they wanted to focus even more on co-development processes in the future. One interviewee said: “We don’t come and have an idea and then you implement it or something. Or we have the money and please do it, but to really ask or be open to the needs, i.e., to what is really burning.”²⁸ In general, however, there is still too little dialogue with academics from Africa, for instance, to find solutions to global challenges. Employees at German universities also noted that there should be more mutual exchange between Germany and its African partners. According to one university staff member, cooperation agreements should ideally include measures that involve an exchange of lecturers or that enable African students to come to Germany for a longer period of time.

²⁷ Translated from German by the authors.

²⁸ Translated from German by the authors.

For real equality, binational study programmes would be the ideal format “to really fill this academic cooperation with life”.²⁹

Several members of staff at German universities also referred to the need to discuss “what needs to change about science in Africa”, according to one interviewee, “so that it is finally really perceived internationally”.³⁰ Questions of applied research and basic research were discussed, including how the humanities in particular could gain more visibility and internationality. The staff member at a German university said:

“So this is also about stock of knowledge. We don’t know what the added value is of Korean philology, but we’ll keep doing it. Maybe people in African countries don’t think that, and then a department like that will be discontinued. And if you have such a department, okay, how does the doctoral training work, what is the quality, can it compete internationally or why not?”³¹ There is a need to think about knowledge production in Africa under African conditions and fundamental questions of science.³²

Some funders saw cultural differences in north-south cooperation as a major challenge, as these would be reflected in different working methods. During our interviews, the African early-career researchers also gave numerous examples of the different expectations on both sides and the mutual lack of understanding of different university structures. In some cases, cooperation failed because of this lack of understanding. Again, transparent communication is indispensable. German interviewees explained that African and German academics sometimes had completely different ideas about the organisation of projects and work, the coordination of schedules and the implementation of planning approaches. As an example, one interviewee mentioned the organisation of a conference on the African continent. The African scientists would start organising two weeks before the conference. “In Germany, by then everything would already be done,”³³ said the interviewee. There would always be difficulties in cooperation because of this lack of mutual understanding and appropriate exchange. This different time management would frequently be a problem in cooperation because there was simply a lack of mutual understanding and appropriate exchange: “The Germans don’t understand why the Africans haven’t done anything yet, and the Africans don’t understand why the Germans have been stressing for at least half a year that they need this and that.”³⁴ In our interviews, the African early-career researchers also positively noted the efforts undertaken by German funders and partners in recent years. Nevertheless, from their point of view, partners in the north still treated African scientists like assistants in some international cooperation projects and some cooperations were far from equal partnerships. Problems frequently arose when there were deviations from the ideal starting conditions described above, namely when the proposal had already been written by the time

29 Translated from German by the authors.

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32 Against this background, a best practice example is the Pilot African Postgraduate Academy (PAPA), in which the tension between training at African universities for an application market and the claim of science to explore fundamental issues is discussed.

33 Translated from German by the authors.

34 Translated from German by the authors.

a partner from the north initiated contact. The African early-career researchers were well aware that the partners from the north frequently approached them only because the call for proposals stipulated cooperation with a partner from the south, at least that was their impression.

These challenges affect both German academic cooperation and cooperation partners in other countries across the Global North. An African scientist reported on a cooperation project with Denmark in which the proposal had already been formulated. When the African partners read the project description, they termed the problem identified by the Danes irrelevant. The Danes, however, did not respond to their African partners' suggestions for improvement. The African researchers' solution was to enter into the partnership without their proposed changes, but to limit their human resources for the project and have a student in the BA programme work on the problem formulated by the Danes, while the PhD researchers, in deviation from the project agreement, turned to the problems they had identified themselves.³⁵

African early-career researchers continue to encounter these challenges frequently, and they have developed further strategies to deal with them. A Ghanaian social scientist reported on a cooperation in which she was sent a document with the prescribed research methods. In her opinion, the study was not feasible in her country because the participants in the study would perceive the research methods as an insult:

"I said, no, that is not going to work here, and they are still, no, do it, this is what everybody else is doing. I said no, this is not going to work. So it felt very condescending."

As the partner from the north was unwilling to adapt the research methods despite her objections, our interlocutor ended the cooperation. For the African side, a good partnership therefore meant that the partners in the south were involved in the application process at a very early stage and that a certain flexibility in the implementation was guaranteed. Several African interviewees reported that they frequently had the initial ideas for projects, but because of the requirements of the German donors, they frequently could not act as project leaders. A natural scientist, e.g., commented:

"I had to give the idea to the German leader. It's the rules of the game and I understand that, the German partner has to lead. You have to follow the rules. Whereas we own the problem, we cannot lead."

Several of the African early-career researchers noted that in any international cooperation, the terminology used in the documents should be looked at very critically. It is important to always insist on being called a co-investigator and not just a "partner". A natural scientist explained:

³⁵ See also Moyi Okwaro and Geisler (2015), who conducted an ethnographic study in an HIV laboratory at an East African state university and, in the context of this study, point to the usually still large economic inequalities between the cooperation partners. The northern partners rarely openly address the inequalities and the resulting dependencies because of the idiom of partnership cooperation. In turn, the African colleagues would have developed strategies to deal with these asymmetries tacitly instead of addressing them directly.

“Otherwise, they just tag you as a partner, what it means is that you do not get credit for published work. So, they can work with you, you do all the work, and then when they publish, your name doesn’t appear on the paper. They just give you the acknowledge section, we acknowledge the efforts by (laughs). Which happens a lot. So, whenever you go into that relationship you have to let them understand that you are a coinvestigator and you have equal rights as them, because you are putting in as much as them.”

An established African natural scientist also mentioned trust and appreciation of the expertise of others as the most important factors for good cooperation: “Don’t assume that the other people don’t know anything, you miss out in learning from other people, and be prepared to share information.”

He then added that sometimes researchers from the north deliberately withhold information, if it looks like their partner in the south will make a discovery faster than them:

“They may not verbalise it but you could feel it, they are slow at responding to that aspect of what you are doing. Because, it’s interesting the line that you are going. I have experienced that. It’s a very interesting phenomenon and you need to be very sensitive as a researcher to even pick it that this is happening. They may even discourage you from doing it. And before you know it, they have done it and published.”

In such cases, the African partners felt that they were carrying out research in competition with the partners from the north, which of course contradicts an equal, well-functioning cooperation. An experienced medical doctor also spoke extensively about the role of control and trust in partnerships:

“Funders are different, when you work with a German collaborator, they always want to take control, nearly absolute control and that sometimes leads to problems. They pretend that he or she knows your problem better than you do. For me, the true essence of collaboration is empowering each other.”

The physician summed up:

“I probably would sum up by saying that in the spirit of collaboration, the North needs the South. The South needs the North. The South needs the South. Hopefully, the North also needs the North, I’m not sure. I’m of the opinion that there has to be joint ownership of the problem and agenda-setting and the North must have true interest in the Southern partner and build sufficient capacities for joint ownership of research output, including data. We can only trust data if we have put in sufficient resources for quality data generation that we can both jointly own it.”

4.3 Bureaucracy and administration

The structural conditions of German research funding pose huge challenges for German-African scientific cooperation, making partnership-based cooperation more difficult. Hampel (2019: 226) describes the unequal responsibility of the cooperation partners for administering funding in North-South cooperation as the biggest obstacle to the frequently cited “cooperation on eye level”. Topics frequently raised in the interviews were the guidelines for distributing funds, where the African side always felt disadvantaged. Both African and German cooperation partners perceived it as problematic that the funds were almost always administered by German partners and channelled to the African partner. They were also bothered by the fact that overheads are usually not available for African partners and that accounting modalities usually have to be made in German and according to German rules. Some German and African interviewees mentioned that the governments of African countries should provide more research resources to achieve more equality, e. g., through partial funding.

In this regard, an employee of a German university explained that the distribution of funds varies depending on the donor. Foundations were usually somewhat freer in their accounting, while state sponsors frequently had their “hands tied”, according to our interviewee. The latter, he felt, had to adhere to stricter budgetary guidelines, and it was then quite clear that the German partner received the money, meaning that the allocation of funds was restricted to Germany. The German partner would then have overall responsibility and even reports frequently had to be written in German. According to the interviewee, this was an “antiquated construction that simply no longer fits the context”.³⁶ The funding organisations also referred to their obligation to report to the ministries and the challenges for the funding organisations to always check what is feasible in terms of funding law.

German non-profit foundations are bound by non-profit law in terms of their funding activities. These regulations were sometimes difficult to understand outside of Germany, as one interviewee explained. Due to German non-profit law, it is sometimes difficult to establish programmes directly at African institutions. Although foundation employees usually tried to work as flexibly as possible when it comes to accounting, they felt it was their duty to prove how the funding was spent in a non-profit manner. For grantees, this means, e. g., keeping receipts and categorising them systematically by item. Some employees named supporting the grantees in this process as an important part of their work, which took capacity away from their content-related work.

Foundation employees must also ensure that funds are used in a timely manner and had to check the way the funds were used. This frequently means, for instance, that foundations cannot use non-profit funds to finance business class flights. Although compliance with these standards was logical at first glance, one interviewee explained, some cooperation partners find them difficult to understand due to hierarchies and expectations in the African system and expectations as well as differing views of cost standards. According to one interviewee, these points sometimes have to be discussed very intensively with the partners. In any case, intensive cooperation is always

³⁶ Translated from German by the authors.

necessary when assessing such costs, especially if higher standards have to be applied in some contexts, e. g., for safety reasons.

In the course of projects, adjustments in funding frequently become necessary, for instance, due to unexpected reallocations of funds. These frequently pose major challenges for funders, especially for German state sponsors. In some cases, foundations were able to react more flexibly to necessary adjustments. In one case described above, no overhead funds could be paid to African universities. However, the universities were provided with so-called administration costs during the course of the project, as it became clear that these were necessary. In addition, the possibility was introduced for scholarship holders to apply for additional funding for teaching staff at their institution during the project. That relieved scholarship holders of some teaching obligations. In addition, the legal framework for foundations frequently does not stipulate that a German partner must be involved, one interviewee explained. This gave the African cooperation partner more freedom to decide themselves on a good cooperation partner.

The employee of a funding organisation explained that in the area of scholarships, where people are directly supported, some funds were also transferred directly to the African continent. However, this direct flow of money to Africa harbours a number of administrative problems as several interviewees explained. Fluctuating exchange rates, for instance, can cause a great loss of money. In addition, direct transfers to African institutions frequently result in the deduction of overhead costs, which the third-party donors are not authorised to approve. Many of the African early-career researchers, on the other hand, were of the opinion that their own university should benefit financially from international cooperation, especially to cope with the additional administrative tasks. "They always house the funds out there and you need to travel for everything. But then my university also has to have some benefits", one interviewee explained.

According to some interviewees on the German side, African early-career researchers in particular are frequently unaware of the rigorous German accounting procedures. These deviate from the usual regulations in the home country, but also, according to the African side, from the rules implemented by other funding countries. Another difficulty raised by the interviewees is the fact that African universities also have their own regulations on reporting and accounting modalities. When it comes to a cooperating project between a German and an African university, the former almost always receives the funds and is free to decide the amount it forwards directly to the African university. However, German universities are then responsible. Some sponsors said they tried to counter this asymmetry in the distribution of funds by involving the African side more in all other processes. According to one interviewee, this is why the project managers on both sides were always invited to planning meetings, even if the funds contractually go to the German partner first.

Nevertheless, many African academics expressed in our interviews the suspicion that the German administration distrusted them: "German funding institutions are yet to trust institutions in the South," said one interviewee. In the perception of the African researchers, there was frequently a feeling of disrespect and inequality. One researcher explained that, in his opinion, the asymmetry in the distribution of funds stems from a deeper mistrust, which gives the impression that

“we are largely deemed not capable of handling the funds, largely deemed to be corrupt, a perception which must change, not all of us are corrupt, not all of us cannot handle the large funds, there is a notion that we don’t have the capacity to handle the funds that ought to change.”

He continued: “There are things the North needs from us, things that we need from the North, this is collaboration, in the beginning it was difficult; sometimes you were told ‘this is German money!’”

Another scientist opined that the accounting modalities have become even tougher in recent years. During one of his more recent projects, he had to pay the money for comparatively expensive equipment (around 40,000 euros) in advance and was only “reimbursed” afterwards, which the African scientist found very challenging.

Several early-career researchers criticised the lack of flexibility on the part of some funders. Some early-career researchers saw problems particularly in the allocation of the research budget. According to one interviewee, a more flexible interpretation of the guidelines would also save squandered money. In their view, strict compliance with the guidelines led to unnecessary expenditure. Frequently, too much would be spent on travel funds used for foreign partners. Instead of being used purely for monitoring the African partner, travel funds should be used to allow foreign students to participate in data collection, one interviewee pointed out.

If the African partners felt that the distribution of funds in international collaborations was too uneven, they were frequently less motivated to pursue the project or passed it onto students for processing. This was a frequently used strategy to deal with unsatisfactory cooperation agreements. Senior African partners then chose to devote their own labour to more meaningful activities. One natural scientist, for instance, reported on a research project between the Netherlands, his African home country and an Asian partner country in which he was involved. The total budget for the four-year project was 670,000 euros. Of the total sum, 150,000 euros each went to his African home country and to the Asian partner country, although the entire project work was to be carried out in these countries. His personal research budget was only 2,000 euros, while the Dutch partners had a large budget for research trips:

“The work you have to do, supervise, you are going to the field, and then you get 2,000, and then sometimes you are not even motivated, you think you have other things to do. (...) And then the Dutch partners have to fly over and come and then they come like four times in a year and sometimes, you are, oh, you are coming again to do what? (laughs) I think most budgets, a big chunk goes into travels of foreign partners and sometimes it’s too expensive to weigh the real impact of what you are doing.”

The impression of asymmetry in this case is not only due to the unequal distribution of research funds – it also appears to be a question of time: While the partner from the north spends a lot of money and has time to conduct intense research in the partner country, the African partner has less money but also less time.

Several interviewees explained that due to this unequal treatment, the partners in the south had to be particularly good and persistent in negotiations: “You need to know what you want and play very well”, “you must be tough to negotiate”, “there must be clear rules of engagement” were pieces of advice that they would pass on to their doctoral students based on their repeated experiences in international collaborations.

Another financial topic, which the German funders dealt with very intensely in some cases, was the amount and appropriateness of scholarship rates. The scholarship rates for African academics frequently differ from those paid to German academics. The different scholarship rates are justified by the different costs of living. Some third-party funders spent a great deal of time determining reliable figures to come up with appropriate scholarship rates based on local standards. According to their own statements, some third-party funders also sought international comparisons, sometimes unsuccessfully, as other international funders would not disclose figures. In our study, we also found that there is very little data available on the comparison of standards in international academic cooperation.

4.4 Equipment of natural science laboratories

The early-career researchers in the natural sciences mentioned the poor equipment of their home laboratories due to the lack of funding opportunities in their own countries as a major challenge. Only the well-equipped South African laboratories were an exception in the interviews conducted. For the other African scientists, the poorly equipped laboratories were the greatest challenge in their work due to their importance for their own research. A poorly equipped laboratory means that they are unable to research certain topics in their own countries.

However, as described in the section on the distribution of funds, it frequently seems to be impossible or hardly possible in most international collaborations to financially support the equipment of African laboratories. In the eyes of the African early-career researchers, this led to sometimes bizarre situations, which they felt undermined an equal partnership: One African researcher reported on an American project that flew all the technical equipment for a research project to his country, used it to collect data on site and then flew it all back again. Other negative examples cited by the early-career researchers were collaborations in which the African partners only collected data sets that were flown out for further research. While the foreign partners used the data for their publications, the African scientists had to submit applications to use the data for their articles:

“When you have to apply for using the data, but it’s from here and then it starts to get really irritating,” one interviewee commented. In addition to the asymmetry in the distribution of funds, a clear hierarchy becomes apparent here, in which African scientists are again relegated to a role as data collectors.

Due to the poorly equipped laboratories, early-career researchers are frequently forced to send their samples abroad. However, sending samples abroad harbours a number of risks and prob-

lems that hindered or slowed down the research of our interviewees. One interviewee, e. g., reported that he frequently had to send samples abroad, especially at the beginning of his career, but that these very sensitive samples were frequently lost or damaged en route: Liquids leaked and cool boxes were destroyed during transport.

Sending samples is also made more difficult by the mutual mistrust that has grown from decades of asymmetries in academic cooperation. Several interviewees explained that a “material and data transfer agreement” must be concluded to prevent far-reaching problems. Despite such an agreement, one interviewee said that they frequently did not know what the other person would do with the sample once it was sent. It could also happen that the person who analysed the samples in a laboratory in the Global North then has to appear as a co-author in the publication, which was a very frustrating experience, as one interviewee noted: “It’s very frustrating, sometimes you need to send the sample to somebody somewhere and he will send it to you and you need to include him in the publication, while you are doing all the hard work. But this is how it works.”

It can also happen that the African scientist receives the desired data, but the foreign partner then uses the sample for their own research without giving the African side proper credit in their publication: “Once you send your sample outside, they can do whatever they want with it. They send you what you ask them for and then use the data without giving you proper credit.” If they wanted to carry out tests, several interviewees always waited a while until they were able to analyse the samples themselves in a laboratory with the appropriate equipment, e. g., as part of a conference or workshop in the Global North. Other interviewees had developed a basis of trust over many years of collaboration with selected scientists in the Global North to whom they could send their samples. However, the choice of potential partners is limited: If a country in the north has particularly complicated formalities for sending samples, African scientists are more likely to refrain from cooperation in the long term.

Overall, the interviews showed that cooperative partnership is made very difficult by the mistrust associated with sending samples. Non-cooperative tactics are used on both sides, some of which are based on previous negative experiences. Negative experiences in this area of cooperation are the standard narrative in the African scientific community. This is proven by the fact that many African scientists who had not had any negative experiences sending samples themselves cited their colleagues’ experiences.

Our interviewees in the natural sciences are reliant on well-equipped laboratories to produce publications at an international level. Whether the lack of access to such laboratories can be solved by equipment funding alone seems questionable. One creative solution pursued by the scientists was to endeavour to find a long-term option for the regular use of laboratories in the Global North. This long-term utilisation seemed to best suit the career phase of early-career scientists, especially in the transition to mid-career, as this career phase is usually associated with a permanent position in an African institution, with teaching and administrative work at one’s own institute running parallel to research.

4.5 Quality of publications

The list of publications is a key criterion for assessing researchers' eligibility for funding. The language and journal in which a person publishes, as well as the total number of publications, contribute to how a person's work is received. While Western academics are usually more widely recognised in publications by African academics, African academics are frequently less well known in the Global North. In addition, there are frequently prejudices regarding the quality of research and publications by African academics. This judgement can in turn affect the positions in the author lists of publications (cf. Lentz and Noll 2020: 19).³⁷

Without funding from abroad, it was frequently almost impossible for African early-career researchers to remain active and internationally visible in research and to publish in international journals (cf. Liebs 2020: 17). In addition, some early-career researchers stated that they taught at institutes where little had been published and very little international work had been done in the past due to a lack of research projects. An African psychologist, who received German funding for over six years, reported that the funding had helped her to publish much more and in higher quality by giving her space to develop her own ideas. The idea that her funding would soon end made her anxious:

"So, for me to have that for the past six years, it's like a luxury, it's not common. So sometimes I panic when I think about the fact that this grant ends next year. You know, I'm used to have on-going projects and research assistants, students coming in, you know, targets to be reached. So I don't know how it feels to be without a grant."

According to the German funders and, in particular, several foundations, this asymmetry was taken into account in Africa-specific funding programmes. When awarding scholarships, for instance, according to the representative of one foundation, consideration is given to whether the applicants come from countries with well or less well-equipped academic systems. According to the interviewee, a larger number of high-quality publications are expected from researchers in countries with better-equipped academic systems once they reach a certain career stage. When Africans were included in the development of programmes, there were sometimes lively discussions about how many publications a person would need to be considered at all for funding, the employee of one foundation said.

In the natural sciences, the equipment of the home laboratory also plays a decisive role in assessing the quality of publications. According to the scientists interviewed, poor laboratory equipment can have a negative effect on the publication list or the ability of scientists to publish their results. One interviewee, for instance, reported that some reviewers would first look at the methods section before reading a submitted article. If outdated instruments are used, the article stood no chance of being published in appropriately visible journals, according to one scientist:

37 On the asymmetry with regard to the authorship of scientific articles by authors from African countries, see Boshoff (2009).

“I should have something in the laboratory that I can get good papers out of. In our field, the quality of the paper is also judged by the type of equipment, so sometimes the reviewers look straight away at the method what equipment and then you are using this equipment, please. Then you are out.”

4.6 Sustainability of cooperation

Some of our African interviewees reported on what they saw as a lack of sustainability in the international funding landscape. German funders who endeavoured to cooperate with other international partners also reported similar experiences, although they distinguished themselves from these. The employee of a German foundation, for instance, explained that large American foundations in particular would only fund projects for a limited period of time and then withdraw the funding completely:

“I wanted to talk about a possible collaboration, and they said that they now had a new president, and that they had been active in Africa for 20 years, and that the new president of the foundation would want to pursue a different focus and therefore they would now give up Africa completely. So really, they’ve been at the same location for 20 years and have done all sorts of things there, and now they’re going to finish that for another three years, the big programmes are just going to end now, and there would be no re-entry strategy. So they would be out now, Africa would be boring (laughs) and now we’ll do South America or China or something. You’ve heard that the Ford Foundation once threw 20 million dollars somewhere, built something and then after five years it was gone again and no one was ever there to look at it.”³⁸

Most German funders told us that they place great importance on the sustainability of funding. At the same time, several interviewees emphasised that the programmes should not create any dependencies. Rather, sustainable funding should be considered from the outset, and in the course of or towards the end of the funding period, consideration should be given together with the African partner as to how the programme could continue in future. One interviewee on the German side mentioned that great importance is attached to designing programmes with African partners, also for reasons of sustainability. One interviewee criticised what she saw as a lack of willingness on the part of both African and German cooperation partners to seek follow-up funding: “What happens very, very often,” explained the interviewee, “is that the African partners are on board as long as the money is flowing, as are the German partners, and as soon as the money is no longer there, nothing happens.”³⁹ In fact, the question of how a programme could continue to be financed after the funding ended should be considered at the application stage, our interviewee clarified. However, as one interviewee explained, this rarely happens and frequently something would be claimed, but not subsequently implemented:

38 Translated from German by the authors.

39 Translated from German by the authors.

“If the commitment is not there and then that’s it. And then, to be honest, I can also understand donors, it shouldn’t be the case that we finance your things in the long term, that’s direct development aid, that can’t be the case. So either you set up a project that makes so much sense that the people themselves want it and then they frequently put up the money themselves or you don’t.”⁴⁰

Several interviewees explained that sustainability could not be achieved without ownership on the African side. In the case of longer-term projects, it was sometimes problematic, if the person responsible for the project retired and a successor was not prepared early at the host institution or if there was not enough ownership on the African side. If the programme was modified by a successor, it could also happen that scholarships were no longer awarded. As the employee of a funding organisation explained:

“Then we said we couldn’t give any more scholarships. So either what we have built up is still there and you endeavour to offer it, or you have to see if you can get support elsewhere.”

In some disciplines that work closely with industry, however, it would be much easier to raise third-party funding independently, according to the employee of a funding organisation. For this reason, it cannot be assumed that all initiatives have the same prospects of continuing after the German funding ends.

According to employees of German universities and research institutions, the sustainability of networks is also impaired by the fact that even established formats have to submit new applications time and again. Furthermore, good networks that have been established for years could no longer be put to good use, if travel funds cease when the programmes end.

Against this backdrop, some funders raised the question of how to achieve longer-term bonds of excellent African postdocs with German networks. As one possibility, various German funders support alumni networks and promote longer-term offers for repeated stays in Germany. The Alexander von Humboldt Foundation promotes such a long-term perspective in particular. This long-term perspective makes the foundation especially attractive for African researchers, according to our interviewee: “The fact that you can actually build on us for a lifetime, if you lead a difficult research life in a country with many problems.”⁴¹ An employee of the Volkswagen Foundation also emphasised that such a long-term perspective is highly beneficial for African researchers:

“I think the important thing with a programme like this is a very long-term perspective. I think it is still very important for the African fellows to have a long-term relationship with German partners.”⁴²

One German interviewee at a German university was rather sceptical of sustainability. Scholarship holders, who had received funding for a long period of time, but not an extension of their

40 Translated from German by the authors.

41 Translated from German by the authors.

42 Translated from German by the authors.

funding, did not even submit a proper final report. Contacts are sometimes broken off and proper accounts are no longer submitted:

“Well, there is also the fact that due to the multitude of funding opportunities, when one comes to an end or no longer works, people simply jump on the next bandwagon and then the cooperation, which you thought might last a lifetime and is a really good relationship and will certainly continue somehow in the future, simply comes to an end. Then it’s like, no, I’m a blah-blah director now and I don’t have any more time and then that’s it. So I’m very sceptical when it comes to sustainability. I think it’s very, very strongly characterised by a relatively radical pragmatism and pragmatism somehow means that I take care of what promises to be profitable and what will bring me the most success in the near future.”⁴³

So, the frequently inadequate sustainability of international academic cooperation was addressed by funders, employees at German universities and African academics alike. The African side criticised the fact that long-standing, successful programmes were discontinued. German sponsors stated that African academics themselves did not make sufficient efforts to secure sustainable funding for programmes, although the conditions for applied research were seen as much more favourable here. In this context, however, German university staff noted a radical pragmatism on the part of the recipients of funding. However, according to our interviewees, sustainability can be achieved if there is sufficient ownership on the African side and succession is prepared early. Trust was always seen as the basis for a long-term commitment.

4.7 Networking

In all interviews with African early-career researchers, it became clear how important personal networks and mentors, both on the African continent and in Germany and other countries of the Global North, were for their career paths and academic development.

Networking is also an important aspect of German funding. In the case of individual scholarships, it was important to the German funders that the early-career researchers built up as broad a network as possible in Germany and internationally. As already described, however, it was frequently difficult to establish contact with German cooperation partners, particularly for early-career researchers directly after completing their doctorate, especially as it was sometimes a prerequisite that former doctoral supervisors were not chosen as hosts.

German sponsors backed networking on the African continent e.g., by setting up alumni networks and by bringing cohorts together in structured scholarship programmes. Humboldtians, e.g., from all over sub-Saharan Africa have founded the African German Network of Excellence and Science (AGNES).

⁴³ Translated from German by the authors.

However, our interviewees reported that alumni networks are very differently developed on the African continent. Committed individuals, who promote the networks in their home countries, can ensure the vibrancy of such networks. The Alexander von Humboldt Foundation, which is particularly committed to promoting its alumni, does e.g., not have strong networks in Ghana and Tanzania, while the networks in Kenya and Nigeria are very vibrant thanks to committed individuals even though Humboldtians in both countries are scattered throughout the countries. Networks are also extremely important for promoting new and existing programmes. Programmes are advertised online mostly in English throughout Africa. However, all German interviewees agreed that the most successful way of publicising programmes is through informal networks and, in particular, through satisfied former participants. This informal way of promoting programmes via former participants has the advantage that the alumni is well aware of the outline of the programme and can advertise it accordingly. The best “mouthpiece”, according to one interviewee, are therefore “really satisfied graduates”⁴⁴.

However, this personal dependency of the networks harbours certain risks. On the one hand, personalised networks can reinforce existing inequalities within individual countries and between African countries. Secondly, networks that are supported by specific individuals frequently face a major challenge in the generational or general change of people. Unless a successor is found for key individuals at an early stage, these networks can quickly break down despite long-term cooperation agreements.

Networks were also a prerequisite for the early-career researchers to find mentors for their own projects. Mentors were crucial for the further course of their careers before and during their doctorate. In the best cases, the mentors encouraged the early-career researchers to apply for a doctorate in Germany in the first place, forwarded calls for proposals to the early-career researchers and supported them with letters of reference and the application process. Foreign mentors were also particularly important when there was a lack of role models in the early-career researchers’ subject areas in their own countries.

Early-career researchers in structured programmes found it much easier to find mentors. A best-practice example in this area, alongside the Alexander von Humboldt Foundation’s Humboldt Ambassador Scientists, was the Volkswagen Foundation’s Knowledge for Tomorrow initiative. Among others, the mentors in this programme helped the early-career researchers with methodological issues, networking and creating a larger platform for their projects. Two participants in the Volkswagen Foundation’s funding programme reported that they skyped with their mentors on a weekly basis. These personal relationships frequently resulted in numerous other contacts, which led to invitations to lectures and workshops or joint publication projects, among others.

In recent years, South-South cooperation has become more relevant and especially the younger generation increasingly works also across national, international and regional borders on the African continent. Reservations such as those between Central and East Africa or West and East Africa have become less relevant. The many new scientific institutions and their cooperation

44 Translated from German by the authors.

structures that have developed on the African continent in recent years reflect the great dynamic on the continent. There is a need for research into these new developments, and both donors and African scientists could benefit from the results of this research. However, several German funders still saw a lack of exchange between partners from the south. They attributed this lack of exchange as well as problems in the identification of new partners to the complexity of the numerous new research institutions:

“Institutions are emerging like crazy, so whether they’re private or whatever, but they’re all kind of isolated. If you ask someone at one university what the degree programme is like at your neighbouring university, there’s no exchange whatsoever.”⁴⁵

Solutions and best practice examples for promoting networks include the establishment of databases and contact points for academics in African countries as well as mentoring programmes. As mentioned above, to promote its programmes, the Alexander von Humboldt Foundation works with Humboldt Ambassador Scientists, i. e., the foundation’s alumni, who advise early-career researchers. A young Kenyan natural scientist, for instance, reported how she successfully applied for a Georg Forster Research Fellowship backed by the Kenyan Humboldt Ambassador Scientist. In sub-Saharan Africa, the DAAD has a Regional Office in Nairobi (Kenya), Information Centres in Accra (Ghana), Yaoundé (Cameroon) and Johannesburg (South Africa) and an information point in Addis Abeba (Ethiopia).

German funders also tried to initiate international cooperation by bringing academics from different world regions together in online conferences. However, German funders, German university staff and African academics lacked further networking tools: A Ghanaian early-career researcher reported on her experiences with the Oxford Africa Initiative, which aims to initiate collaborations between African researchers and those in Oxford. However, there was still potential for optimisation here too, she noted. The scientist reported how she had tried to contact potential partners via the database, but never received a response. According to our interviewee, technology-based solutions alone might not suffice.

45 Translated from German by the authors.

5 GERMANY'S ATTRACTIVENESS IN INTERNATIONAL COMPARISON

"It's changing in many ways; southern partners are now competitively looking for funding" – this is how an experienced researcher at an African institution, which was previously primarily funded by Germany, explained that other countries were also funding projects at his institution now. In our discussions with the African researchers, it became clear that German donors were increasingly competing with those in other countries and that German institutions have become somehow less attractive as partners in international competition in recent years.

Of course, the experience of cooperating with different countries always depends very much on the individual people involved in a particular collaboration. However, some of our African interviewees had very clear ideas about national and institutional characteristics of their international cooperation partners. Even if these are partly stereotypes, they can also be powerful and have an influence on possible collaborations. An experienced African scientist noted the following about the competitiveness of German donors:

"I have the feeling that for some of the recent funding, Germany is coming to the table a bit late. And some of the requirements are really ridiculous, you see that they don't understand the ecosystem of how it works; some of the challenges from the German side are that they insist that things should be done differently."

Our interviewees criticised aspects of collaborations they perceived as specifically German and which we have already addressed in the previous section. These include difficulties making contacts and in communication; collaborations that are frequently not perceived as equal despite all efforts; and, above all, challenges arising from German bureaucracy and administration.

Numerous African academics criticised what they saw as the very meticulous administrative work of German implementing institutions. An experienced African humanities scholar, e.g., commented: "The funding agency is frequently asking for evidence that is not culturally possible, providing receipts for everything, I can't get a receipt for taxi, phone credits etc. physical receipt for everything, if you are planning together you can think of these things better."

Together with over-bureaucratisation, the African interviewees frequently criticised a perceived "obsession with control" on the German side. This frequently led to a feeling of German dominance rather than to a sense of equal partnership among the African academics. As the following quote illustrates, some of our interviewees developed their own, sometimes jokingly exaggerated typologies of national funding profiles and mentalities based on this:

"Every country has their unique identity in the way of collaboration, the Americans will have money and give it to you, and demand your activities and once you show by their activities, they are okay, the British will want receipts of a bottle of water and for you to scan the receipt and send it to them, it's the funder. Funders are different, when you work with a German collaborator, they always want to take control, nearly absolute control and that sometimes leads to prob-

lems; they pretend that he or she knows your problem better than you do. Overall, every funder has their differences depending on the partner you work with specifically, they have intrinsic variations and it's up to you to play along."

The internationalisation of African academic cooperation has expanded the range of potential partners for African researchers in recent years. In our opinion, the fact that African partners are now endeavouring to find additional cooperation partners in other countries is in line with the sustainability of collaborations frequently demanded by German funding bodies. However, some of our African interviewees had the feeling that the German side was not keen on this internationalisation. In their perception, the German partners sometimes viewed it with suspicion and as interference in "their" partnership.

African doctoral candidates frequently had little or no choice of country in which to do their doctorate. More options became available as they gained experience and their careers progressed. As a result of the criticisms mentioned above and on the basis of positive experiences with other actors in the Global North, and especially with actors in Asia and Arabia, scepticism towards German programmes has developed, particularly among the highly sought-after African cooperation partners at universities in South Africa, Ghana and Kenya.

Employees at German universities, for instance, have observed that African cooperation partners sometimes quickly withdraw from collaborations or preliminary work if, e.g., they find it difficult to cope with the German decision-making and hierarchical structures or if another, in their eyes more suitable or simpler, funding opportunity presents itself. According to an interviewee at a German university, the fact that international cooperation partners from an increasing number of countries are now interested in Africa has increased the self-confidence of African cooperation partners in a multipolar world order. If we look, for instance, at how many scholarships newer sponsors such as Malaysia or Turkey have awarded to African students in recent years, it quickly becomes clear that under certain circumstances Kuala Lumpur could be far more attractive for African students than some German universities, according to our interviewee. "You have to free yourself from any romanticism," said one interviewee, explaining: "This is a field where it's all about resources, hard-core resources and success. If you are no longer useful or have a dry spell and say, yes, we have nothing to offer for the next three years, then you are quickly out of the picture."^{46,47}

There was a consensus in the discussions that the recent internationalisation of the African scientific landscape and the partial, but in some cases significant, qualitative improvement in research at African universities and the consequences for scientific cooperation with Germany have not yet been fully grasped by German funding bodies and science policymakers. The increase in international cooperation should certainly be seen in the context of a new assessment of Africa's future economic and (security) political importance by China, Turkey and various Arab states. These countries have increased their cooperation measures in recent years. Against this backdrop,

⁴⁶ It should be noted here that the survey was conducted before the funding cuts announced for the DAAD and the Alexander von Humboldt Foundation in July 2022.

⁴⁷ Translated from German by the authors.

German sponsors noted that they have an increased need for information about the African research and science landscape and African cooperation with other partners. In particular, they have so far found little information on how their own funding programmes compare with standards and offers of a large number of funding bodies in other countries. Some third-party funders have already attempted to determine reliable figures that could be used to determine e.g., how grant rates could be measured locally. However, the search for figures for an international comparison has been unsuccessful so far, as the details of programmes offered by other international funding bodies are barely accessible, they stated.

Some of the points raised in this study were also mentioned in an open letter to the BMBF, the DFG and the DAAD in April 2022, in which academics from various German institutions criticised the practices and structures of German academic cooperation with the Global South. The open letter found fault with the overregulation of German research funding in particular. The predominance of project logic and the unequal treatment of researchers from the Global South hinders the establishment of long-term cooperation based on trust between institutions in the south and the north. The letter also discusses the consequences: As these points would not escape the attention of scientific partners, the partners would frequently consider German offers of cooperation less attractive, sometimes arrogant, contradictory and backward-looking. As a result, Germany's status in the field of international relations could suffer.

6 CONCLUSION

Some German programmes were perceived by African early-career researchers as very positive and outstanding in international comparison. The opportunity for early-career researchers, for instance, to apply for additional funding to reduce their teaching workload (e. g., in the Volkswagen Foundation's Knowledge for Tomorrow programme, which has since ended) was perceived as particularly well adapted to early-career researchers' needs. Despite these positive examples, African academics considered German cooperation programmes to be overly controlled and bureaucratic compared with those of other funding countries, particularly at the administrative level of project management, and not flexible enough or sufficiently adapted to the local context. Although some of these views are based on personal experience and may also be influenced by circulating national stereotypes, they can have a detrimental effect on the competitiveness of German scientific cooperation in international comparison.

The African scientific landscape has diversified considerably in recent years. This development is also reflected in increased South-South cooperation. In the course of these developments, German institutions have become less attractive as partners in the international competition for academic cooperation. Other sponsors from the Global North, but above all sponsors from Asia, for instance, have led to a certain scepticism towards German programmes, especially in university locations such as South Africa, Ghana or Kenya that are particularly sought-after for international cooperation. It is true that African early-career academics are dependent on international collaborations to continue working in research after completing their doctorate. However, the choice of collaborations increases for excellent African researchers during their careers, and researchers in the late early-career phase and mid-career phase can choose from a growing number of possible cooperation partners. However, the German side has frequently underestimated the degree of internationalisation of excellent African academics hitherto. There is an urgent need to exchange existing expertise on scientific cooperation and new practical research on German-African scientific cooperation. This is illustrated by the above-mentioned open letter on problems in scientific cooperation with the Global South signed by scientists at various German institutions, which was sent to the heads of the BMBF, DFG and DAAD in late April 2022.

Against this background, we propose the establishment of an interdisciplinary contact and information point for German-African academic cooperation at the BBAW with a focus on sub-Saharan Africa. The establishment of such a centre would create an interface between science research, science funding practice and African researchers. The programme would target German sponsors, German project implementation institutions and African partner institutions and researchers.

To boost German-African scientific cooperation, the proposed contact point would perform the following tasks:

- Monitoring and surveying German-African cooperation in international comparison

Our research has shown that German funders need more information on the offers and details of international funding and cooperation “competitors”. Several German sponsors expressed the desire to harmonise their own project conditions with international standards. Against this background, the contact point would observe and analyse German-African cooperation in an international comparison. The needs of African cooperation partners are to be continuously recorded. Information on German funding programmes is to be made available to the African side.

- Monitoring the African scientific landscape

Furthermore, the African research landscape is to be observed and information, particularly with regard to the potential for research cooperation, is to be made available to German funding organisations, implementing institutions and university staff. Knowledge of the African research landscape, such as the research funding departments at African universities, can help German partners to find cooperation partners on the African continent or to create a wider reach for cooperation offers.

- Practice-oriented, focussed individual studies

Practice-oriented, focussed individual studies on specific topics of German-African scientific cooperation are produced in close cooperation with African scientists. Among others, there is a need for individual studies on the specific challenges of African women scientists (e.g., funding schemes sometimes have a clear gender bias from the perspective of African women scientists), for exemplary studies on research funding and research management at African universities and for research on the training of young African scientists/mid-career conditions.

- Networking and exchange of experts with selected African partners

Regular topic-specific workshops organised at the BBAW should strengthen the exchange between experts from German funding and implementing organisations with selected African cooperation partners. If necessary, guidelines for young African researchers can also be produced (e.g., to help them find German cooperation partners).

- Cooperation with other university and national regional offices and centres

The contact and information point should work closely with university and national regional offices and centres in scientific cooperation. Possible cooperation partners could include the DAAD Competence Centre for International Academic Collaborations (KIWi), the Global Young Academy (GYA), the Arab German Young Academy (AGYA), the Berlin Center for Global Engagement (BCGE), the Centre for Interdisciplinary African Studies (ZIAF), the Global South Studies Center (GSSC), the Institute of African Studies at the University of Bayreuth (IAS) or the Africa Centre for Transregional Research (ACT), to name but a few.

In our opinion, the BBAW would be the ideal seat of such a research, contact and information centre for German-African academic cooperation. An independent institution such as the BBAW, which according to its statutes is dedicated to the “promotion of science” and “dialogue

between science and society” and performs “tasks of social and political consulting”, can perform tasks of scientific observation, support and consulting that the directly funding institutions cannot perform in the same way. At the same time, however, it is important to co-operate with these funding institutions, but from a critical and independent perspective. In the interest of making a constructive contribution to German science diplomacy, the geographical focus of the contact and information point could be extended to other regions after an initial concentration on Africa.

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APPENDIX

Data basis

Between January 2020 and November 2021, we conducted a total of 24 interviews and discussions with managing directors and representatives of the following institutions (including state actors, academies and foundations) in Germany on the challenges and future visions in German-African academic cooperation

- Federal Ministry of Education and Research (BMBF)
- German Research Foundation (DFG)
- German Academic Exchange Service (DAAD)
- Alexander von Humboldt Foundation
- Robert Bosch Stiftung
- Siemens Stiftung
- Volkswagen Foundation
- Gerda Henkel Foundation
- Die Junge Akademie
- Wissenschaftskolleg zu Berlin
- Leibniz-Zentrum Moderner Orient (ZMO)
- International Research Center: Work and Human Life Cycle in Global History
- Global Young Academy
- Forum Transregional Studies
- Centre for Interdisciplinary African Studies (ZIAF)
- Global South Studies Centre (GSSC)
- 'Africa Multiple' Cluster of Excellence University of Bayreuth
- Max Planck Institute for Social Anthropology
- Bayreuth International Graduate School of African Studies (BIGSAS)
- Bernhard Nocht Institute for Tropical Medicine (BNITM)
- DAAD Information Centre in Accra and the DAAD Regional Office in Nairobi.
- Branch of the DHIP (German Historical Institute Paris) in Senegal
- as well as other employees at university institutes that cooperate with Africa.

We selected these institutions as examples due to their high level of involvement in Africa and the Global South at the early-career level. Unfortunately, there was no response from a few of the German institutions contacted.

In order to determine the experiences and needs of the African partners, Andrea Noll conducted extensive interviews and discussions in Ghana in February 2020, including with staff and members of MIASA (Maria Sibylla Merian Institute for Advanced Studies in Africa), the University of Ghana, the KCCR (Kumasi Centre for Collaborative Research in Tropical Medicine), the Ghana Young Academy and the Ghana Academy of Arts and Sciences, WASCAL ("Competence Centre for Scientific Support against Climate Change and Adaptive Land Management in Western Africa") and the DAAD regional office.

While the talks with the Ghanaian scientists could still be held on site, all further talks had to take place via Zoom or Skype due to the coronavirus pandemic. From August 2020 to December 2021, Andrea Noll therefore conducted Skype and Zoom interviews with African cooperation partners in Senegal, South Africa and Kenya, similar to the interviews in Ghana. A total of 33 qualitative interviews were conducted with African scientists about their challenges, needs and visions for the future in international scientific cooperation. These included 27 interviews with early-career scientists and six interviews with established scientists. Access to the interview partners was gained via university employees and German sponsors, who kindly named contact persons, as well as via the science academies in Ghana, Senegal, South Africa and Kenya. Further interviewees were found via a snowball system.

Interviews by country

	Early-Career Researchers	Established Scientists
Ghana	11	4
Kenya	4	2
Senegal	4	1
South Africa	6	1

The fact that a larger number of interviews was conducted with researchers from Ghana is partly due to the fact that the interviews could be conducted on site. The interviews were all between 45 and 70 minutes long and were transcribed in full. Some of the differences between the individual countries are discussed in more detail below.

Interviews were conducted with natural scientists as well as humanities scholars and social scientists from the following disciplines:

Medicine	Political Science
Chemistry	Economics
Biology	History
Ecology	Psychology
Nutritional Sciences	Social Anthropology
Agricultural Sciences	African Studies
Engineering	German Studies
Astronomy	

Number of interviews by STEM subjects and social sciences and humanities

STEM-Subjects	16
Social Sciences and Humanities	17

All of the early-career researchers had received their doctorates between two to 12 years before our interview. In their own definition of early career, the African researchers themselves frequently used the years after the doctorate and the stages of their own development or their achievements up to that point as a benchmark. It was relevant to them what kind of funding they had already acquired and whether students, technical staff or younger researchers had assisted them. For natural scientists, it was essential whether they had already set up their own laboratory: "For instance you should have a lab space, you should have other people who work for you. I'm still trying to get my lab space together. I'm still early career," explained one interviewee. Furthermore, the interviewees used the structure of their own institute as a benchmark and compared themselves with other members of their institute.

The researchers interviewed have received various German and other funding from the Global North and the Global South. Our interviewees include (former) members of BMBF and DFG-funded projects as well as (former) scholarship holders from the DAAD, the Volkswagen Foundation, the Alexander von Humboldt Foundation, the Gerda Henkel Foundation, members of the Global Young Academy and graduates of the Bayreuth International Graduate School of African Studies (BIGSAS).

While all but one of the interviewees from Ghana, Kenya and Senegal located their origins in these countries, this was not the case for the interviews in South Africa. With the exception of one white South African woman, we only conducted interviews with researchers from other African countries who were based in South Africa at the time of the interview. They included, for example, a Kenyan chemist, a Madagascan astronomer and a Zambian political scientist. The African interviewees noted that South Africans were more likely to apply for South African scholarships and funding programmes. They had the impression that South Africans were favoured for permanent positions; for other Africans, a permanent position at a South African university was difficult to obtain.

The experiences and challenges of our interviewees in academic cooperation were similar; the Ghanaian and Kenyan interviewees in particular repeatedly mentioned extremely similar challenges and needs. The challenges and needs of our Senegalese interview partners were also very similar. In the case of the Senegalese, however, there was also the specific problem that applications and reports for almost all programmes have to be submitted in English (see 3.3.). For this reason, the Senegalese as well as the other francophone early-career researchers we interviewed saw themselves as disadvantaged in international comparison to researchers from anglophone countries. Scientists employed in South Africa had fewer challenges compared to the other three countries in terms of access to research materials or well-equipped laboratories. At the same time, early-career researchers in South Africa faced the challenge that they did not yet have a permanent position and were therefore sometimes confronted with job insecurity. Our interviewees from Ghana, Kenya, and Senegal, on the other hand, were all, with one exception, employed on permanent contracts at their universities.

OVERVIEW OF CURRENT EARLY-CAREER PROGRAMMES IN GERMAN-AFRICAN SCIENTIFIC COOPERATION

In the following, we provide an overview of the funding programmes and funding measures offered by German funding institutions. As mentioned above, we also examined experiences with funding programmes that have already ended. The 40 programmes listed here are German funding institutions' offers at present. We have also included funding programmes that are not regionally specific. Programmes that are frequently used by African researchers from the perspective of German funders were taken into account, as well as measures mentioned by African researchers. There are four types of funding measures in German-African academic cooperation: individual scholarships, project funding, network funding and the establishment of universities and institutes for advanced studies in Africa. We also list some examples of existing support structures at German universities for Africa-specific academic cooperation and cooperation with the Global South. African early-career academics are also involved in organising collaborations at the aforementioned locations. In addition, German universities and research institutes are increasingly entering into long-term collaborations with African universities (see above).

As of November 2023

1. Individual scholarships

Programme	Funding institution	Discipline	Eligible applicants	Link / Short description
Research Grants – Short-Term Grants	German Academic Exchange Service / DAAD	All disciplines	PhD candidates / Graduates / Post-docs	The programme provides funding for a research project or course of continuing scientific education at a state or state-recognised institution of higher education or a non-university research institute in Germany, which is carried out in coordination with an academic adviser in Germany for 1–6 months. Monthly payments of 1,300 euros for doctoral candidates and postdocs, 934 euros for those not yet taking a doctoral degree, travel allowance. daad.de/go/en/stipa50015434
Research Grants – One-Year Grants for Doctoral Candidates	German Academic Exchange Service / DAAD	All disciplines	PhD candidates / Graduates	The programme provides funding for a research project or continuing academic training at a state or state-recognised institution of higher education in Germany or a non-university research institute, which is carried out in agreement with a supervisor in Germany. 7–12 months; monthly payments of 1,300 euros for doctoral candidates, 934 euros for those not taking a doctoral degree, travel allowance and further support options. daad.de/go/en/stipa57140602

Programme	Funding institution	Discipline	Eligible applicants	Link / Short description
Research Grants – Doctoral Programmes in Germany	German Academic Exchange Service/ DAAD	All disciplines	PhD candidates/ Graduates	<p>The programme provides funding for a doctoral project at a state or state-recognised institution of higher education or a non-university research institute in Germany (either an individual project supervised by a university teacher or participation in a structured doctoral study programme). Funding is provided for a maximum of four years; grants are initially awarded for a maximum of one year; monthly payments of 1,300 euros, annual research allowance, travel allowance, payments towards health, accident and personal liability insurance cover.</p> <p>daad.de/go/en/stipa57135739</p>
Research Grants – Bi-nationally Supervised Doctoral Degrees/ Cotutelle	German Academic Exchange Service/ DAAD	All disciplines	PhD candidates/ Graduates	<p>The programme gives applicants an opportunity to do a bi-national doctoral degree at the home university and at a university in Germany. Funding is provided for 7 to 24 months maximum. Monthly payments for doctoral candidates during their stay in Germany: 1,300 euros (no scholarship payments during stays at the home university), payments towards health, accident and personal liability insurance cover, research allowance and travel allowances and further support options.</p> <p>daad.de/go/en/stipa57507783</p>
Re-invitation Programme for Former Scholarship Holders	German Academic Exchange Service/ DAAD	All disciplines	Assistant teachers/assistant professors/lecturers/professors (former holders of DAAD research grants or study scholarships who have been funded for more than six months, former East German scholarship holders who studied for at least one year in Germany)	<p>The programme provides funding for research and working projects at state or state-recognised institutions of higher education or non-university research institutes in Germany. Working stays at an institution in business, administration, culture or media for former scholarship holders who work outside the scientific sector.</p> <p>1–3 months, monthly payments of 2,000 euros for assistant teachers, assistant professors and lecturers 2,150 euros for professors, travel allowance.</p> <p>daad.de/go/en/stipa50015492</p>
In-Country/ In-Region Programme Sub-Saharan Africa	German Academic Exchange Service/ DAAD	Selected programmes at selected partner universities	Master candidates/ PhD candidates	<p>The programme provides funding for graduates and postgraduates from sub-Saharan Africa with a first academic degree, if they are applying for a Master's course or holders of a Master's degree, if applying for a doctoral programme and who want to pursue Masters or PhD course in their home country (In-Country scholarships) or in another sub-Saharan African country (In-Region scholarships). Funding is provided for the usual duration of a course – generally, up to two years for Masters and up to three years for the PhD degree programmes.</p> <p>Monthly allowance, study and research allowance, printing allowance, tuition fees; only applicable for In-Region scholarship holders: travel allowance and health insurance.</p> <p>daad.de/go/en/stipa10000486</p>

Programme	Funding institution	Discipline	Eligible applicants	Link / Short description
Research Stays for University Academics and Scientists in Germany	German Academic Exchange Service / DAAD	All disciplines	University teachers/established academics and scientists (who have usually completed a doctoral degree)	The programme provides funding for research stays at state or state-recognised institutions of higher education or non-university research institutes in Germany. 1–3 months, monthly payments of 2,000 euros for assistant teachers, assistant professors and lecturers, 2,150 euros for professors. daad.de/go/en/stipa50015456
DIES Training Courses	German Academic Exchange Service / DAAD	All disciplines	University managers	DIES Training Courses offer modular, practice-oriented training opportunities for management-level professionals from universities in developing countries. The courses focus on specific challenges faced by university staff at various levels. They range from faculty, research, and financial management to quality assurance and third-party funding acquisition. https://www.daad.de/en/information-services-for-higher-education-institutions/further-information-on-daad-programmes/dies-training-courses/
Development-Related Postgraduate Courses (EPOS)	German Academic Exchange Service / DAAD	All disciplines	Postgraduates	The EPOS programme offers individual scholarships to participants from developing countries so that they may study development-related postgraduate courses at selected universities in Germany. https://www.daad.de/en/information-services-for-higher-education-institutions/further-information-on-daad-programmes/epos/
Postdoctoral Researchers International Mobility Experience (PRIME)	German Academic Exchange Service / DAAD	All disciplines	Postdoctoral researchers	The programme supports the international mobility of postdoctoral researchers by offering temporary positions at German universities. Support is provided for 18 months of which 12 months have to be spent abroad and 6 months (re-integration phase) at a German university. The German university administers the salary throughout the funding period. https://www.daad.de/en/study-and-research-in-germany/scholarships/postdoctoral-researchers-international-mobility-experience/
Georg Forster Research Fellowship	Alexander von Humboldt Foundation (AvH)	All disciplines	Postdoctoral and experienced researchers with above-average qualifications contributing to sustainable development, see list of countries	The Georg Forster Research Fellowship enables postdoctoral and experienced researchers to conduct their own research in collaboration with a host at a German research institution. Postdoctoral researchers: Monthly fellowship amount: 2,670 euros. Fellowships may last from 6 to 24 months. Experienced researchers: Monthly fellowship amount: 3,170 euros. Fellowships may last from 6 to 18 months and can be divided into up to three stays within three years. Possibility of attending an intensive language course prior to the fellowship, also for marital partners. Further financial support including family benefits for children and marital partners, subsidies for private, comprehensive health insurance and allowances for travel expenses, is also available. https://www.humboldt-foundation.de/en/apply/sponsorship-programmes/georg-forster-research-fellowship

Programme	Funding institution	Discipline	Eligible applicants	Link / Short description
Humboldt Research Fellowship	Alexander von Humboldt Foundation (AvH)	All disciplines	Postdoctoral researchers, experienced researchers	<p>The Humboldt Research Fellowship for researchers of all nationalities and research areas supports researchers with above-average qualifications from across the globe with their research in Germany.</p> <p>Postdoctoral researchers: Monthly fellowship amount is 2,670 euros. Fellowships may last from 6 to 24 months.</p> <p>Experienced researchers: Monthly fellowship amount is 3,170 euros. Fellowships may last from 6 to 18 months and can be divided into up to three stays within three years.</p> <p>Possibility to attend an intensive language course prior to the fellowship, also for marital partners. Further financial support, including family benefits for children and marital partners, subsidies for private, comprehensive health insurance and allowances for travel expenses, is also available.</p> <p>https://www.humboldt-foundation.de/en/apply/sponsorship-programmes/humboldt-research-fellowship</p>
International Climate Protection Fellowship	Alexander von Humboldt Foundation (AvH)	Climate expertise required	Prospective leaders and postdocs from non-European developing and transition countries List of countries	<p>Prospective leaders can apply for a one-year research-related project in Germany; postdocs for a long-term academic research (12–24 months). It should focus on combatting climate change, adaptation strategies, preserving ecosystems and biodiversity or on the sustainable use of the seas and oceans. Sustainability topics relating to natural resources, resource-efficient consumption or urban development are also welcome.</p> <p>Prospective leaders: Monthly fellowship of 2,170 euros, 2,470 euros or 2,670 euros (depending on training and career level).</p> <p>Postdoctoral researchers: Monthly fellowship of 2,670 euros.</p> <p>Additional financial support e. g., for accompanying family members, travel expenses, full private health insurance or for a German language course.</p> <p>https://www.humboldt-foundation.de/en/apply/sponsorship-programmes/international-climate-protection-fellowship</p>
Return Fellowship	Alexander von Humboldt Foundation (AvH)	All disciplines	Humboldt and Georg Forster Research Fellows after successfully completing the initial stay sponsored by the Alexander von Humboldt Foundation in Germany.	<p>After successfully completing the initial stay sponsored by the Alexander von Humboldt Foundation in Germany, Humboldt and Georg Forster Research Fellows can apply for a return fellowship to sponsor reintegration into an institute abroad. To be eligible, Humboldt and Georg Forster Research Fellows must return to research institutions in the following countries:</p> <p>Developing or threshold countries Countries in Central and Eastern Europe</p> <p>https://www.humboldt-foundation.de/en/apply/alumni-programmes/alumni-abroad/return-fellowship</p>

Programme	Funding institution	Discipline	Eligible applicants	Link / Short description
Sponsorship of Renewed Research Stays in Germany	Alexander von Humboldt Foundation (AvH)	All disciplines	Alumni of Alexander von Humboldt Fellowship programmes	<p>Alumni are eligible to apply for support for a renewed research stay in Germany after completing an initial research stay in Germany and returning abroad. During short visits of up to 30 days, participants can take an active part in international congresses in Germany (lecture, posters, leading a working group), lecture tours or informative visits, making and nurturing academic contacts, or go on short working visits to research institutes in Germany. A research stay of up to 3 months can be used to continue or complete work begun during the first research stay in Germany or to initiate new joint research outlines with specialist colleagues in Germany.</p> <p>https://www.humboldt-foundation.de/en/apply/alumni-programmes/alumni-abroad/sponsorship-of-renewed-research-stays-in-germany</p>
Alumni Programmes	Alexander von Humboldt Foundation (AvH)	All disciplines	Alumni of Alexander von Humboldt Fellowship programmes	<p>AvH alumni can apply for funding to attend specialist conferences in Germany or they can request grants for equipment, donations for books and printing cost subsidies.</p> <p>https://www.humboldt-foundation.de/en/apply/alumni-programmes/alumni-abroad/participation-in-specialist-conferences-in-germany https://www.humboldt-foundation.de/en/apply/alumni-programmes/alumni-abroad/participation-in-specialist-conferences-in-germany https://www.humboldt-foundation.de/en/apply/alumni-programmes/alumni-abroad/book-donations https://www.humboldt-foundation.de/en/apply/alumni-programmes/alumni-abroad/printing-cost-subsidies</p>
TWAS-DFG Cooperation Visits Programme	DFG	All disciplines	Postdoctoral researchers	<p>The TWAS-DFG Cooperation Visits Programme gives postdoctoral researchers from sub-Saharan Africa including South Africa an opportunity to undertake a three-month 'Cooperation Visit' to a research institute in Germany. The aim of the visit is to forge research collaborations between African and German scientists with the ultimate goal of developing longer-term links. DFG will cover travel expenses and provide subsistence costs for the stay in Germany.</p> <p>https://twas.org/opportunity/twas-dfg-cooperation-visits-programme</p>
Bayreuth Academy of Advanced African Studies	DFG	Humanities and social sciences	Early career researchers/ established scientists	<p>The Bayreuth Academy of Advanced African Studies is a centre of interdisciplinary research at the University of Bayreuth. Since 2019, the Bayreuth Academy has been part of the Cluster of Excellence <i>Africa Multiple</i>. The Bayreuth Academy hosts international fellows at different career stages and is particularly open to Africa-based scholars. International fellows can be selected among applicants who respond to internationally advertised competitive calls for applications, or they may be invited based on proposals from a unit of the cluster.</p> <p>Duration: 1–6 months</p> <p>https://www.bayreuth-academy.uni-bayreuth.de/en/fellowship-programme/index.html</p>

Programme	Funding institution	Discipline	Eligible applicants	Link / Short description
Bayreuth International Graduate School of African Studies	DFG	All disciplines	PhD candidates	Funded by the DFG since 2007, BIGSAS has been part of the Cluster of Excellence <i>Africa Multiple</i> since 2019. The graduate school focuses on academic and career-orientated training and individual support for more than 100 doctoral students from 25 African, American, Asian and European countries. The graduate school cooperates with six African partner universities. https://www.bigsas.uni-bayreuth.de/en/index.html
Lisa Maskell Fellowships	Gerda Henkel Foundation	Archaeology, History, Historical Islamic Studies, Art History, History of Law, Pre-history and Early History, History of Science	PhD candidates	Funding is provided for three-year, full-time doctoral scholarships at three training centres namely the Graduate School of Arts and Social Sciences in Stellenbosch (South Africa), the Graduate School of the College of Humanities and Social Sciences at Makerere University in Kampala (Uganda) and the College of Humanities Accra at the University of Ghana. https://www.gerda-henkel-stiftung.de/en/lmf https://www.sun.ac.za/english/faculty/arts/graduate-school https://chuss.mak.ac.ug/graduateschool/ https://coh.ug.edu.gh/
African Science Leadership Program (ASLP)	Robert Bosch Stiftung	Basic and Applied Science, Engineering, Social Sciences, Arts, Humanities	Postdoctoral candidates	The ASLP is an initiative of the University of Pretoria in partnership with the Global Young Academy, and is funded by the Robert Bosch Stiftung Foundation. It serves early to mid-career researchers in basic and applied science, engineering, social sciences, arts and the humanities. The programme aims to grow mid-career academics in Africa in the areas of thought leadership, team development, engagement and collaboration to enable them to solve the complex issues that face both Africa and the global community. https://www.aslp.science/ https://globallyoungacademy.net/activities/african-science-leadership-programme/ https://aslp.science/index.php/application/aslp/info
Pan-African College on Sustainable Cities	Robert Bosch Stiftung	Thematic focus on urbanization and sustainable urban planning	PhD candidates/ Postdoctoral candidates	The Pan-African Research College on Sustainable Cities is a collaborative development with five African universities. 13 excellent junior researchers will undertake further doctoral and post-doctoral qualifications at five African universities in three countries (University of Nairobi in Kenya, University of Ghana and UNU-IN-RA in Ghana, University of Cape Town and University of Witwatersrand in South Africa). The college focusses on finding solutions to the challenges that African cities are currently facing and will be facing on an increasing basis in the future. Fellows and university staff will meet regularly for three annual fellow workshops around the African continent. https://www.bosch-stiftung.de/en/project/pan-african-college-sustainable-cities

Programme	Funding institution	Discipline	Eligible applicants	Link / Short description
Max Planck Africa Mobility Grant	Max Planck Society (MPG)	All disciplines	PhD candidates in their final year and early career researchers	<p>Max Planck Africa Mobility Grants are a distinction awarded to highly qualified African scientists who should be in their final year of doctorate or have obtained their doctorate no longer than ten years ago. The grant is awarded for 3 years enabling the candidates to initiate and pursue research links to a Max Planck Institute of their choice. Candidates have the right to visit a Max Planck Institute (MPI) for a minimum of one month per year. Travel allowance of 5.000 euros p. a.</p> <p>https://www.mpg.de/16392509/info-sheet-max-planck-africa-mobility-grants.pdf</p>
ARTEMIS – African Research Talents Experiencing Mentoring in Science	Max Planck Society (MPG)	All disciplines	Students, graduates, doctoral candidates	<p>The programme is aimed at students, graduates and doctoral candidates at African universities and research institutions. The mentees are given the opportunity to gain knowledge and experience backed by mentors (PhDs and postdocs at Max Planck Institutes) and to expand their personal and professional skills. Funds of 1,500 euros are available for a one-week research stay at the respective Max Planck Institute; one-year collaboration between ten mentors and ten mentees; training for the mentors.</p> <p>https://www.mpg.de/16384579/africa</p>

2. Project funding

Programme	Funding institution	Discipline	Eligible applicants	Link / Short description
Cooperation with Developing Countries	German Research Foundation (DFG)	All disciplines	Researchers/scientists from all subjects and disciplines at German research institutions who have completed their academic education (typically by having completed a doctorate)	<p>The DFG funds research projects conducted by scientists in Germany in cooperation with scientists in developing countries. The goal is to boost cooperation between researchers in Germany and in developing countries on a defined topic for a limited period. Funding for personnel, scientific instrumentation and apparatus, consumables, travel, miscellaneous expenses and publications for both the partner institute in Germany and the cooperation partner/institute in the developing country.</p> <p>https://www.dfg.de/en/research_funding/programmes/international_cooperation/developing_countries/index.html</p>
Initiation of International Collaboration	German Research Foundation (DFG)	All disciplines	Researchers who have already achieved their doctorates and who are working in the German scientific system may apply.	<p>This grant backs the initiation of international research collaboration. It consists of the components "Exploratory Workshops", "Project-related Trips Abroad" and "Project-related Guest Visits". The funding remains available for a maximum of 12 months after the approval date, and the individual collaborative measures must be carried out within this timeframe.</p> <p>https://www.dfg.de/en/research_funding/programmes/international_cooperation/initiation_international_collaboration/index.html</p>

Programme	Funding institution	Discipline	Eligible applicants	Link / Short description
German-African Cooperation Projects in Infectiology	German Research Foundation (DFG)	Infectiology, especially human and veterinary medicine	The principal investigator submitting the proposal must be integrated into the German research system and is in charge of the project. Funding for the African co-applicants has to be applied for within the full proposals later on.	<p>Since 2009, joint research projects by German and African scientists dedicated to research into neglected tropical infectious diseases in humans and animals, including their social and behavioural aspects, have been funded in annual calls for proposals.</p> <p>Duration: initially 3 years, applications for continuation are possible. Funding can only be requested for work carried out by participants in Germany and in the participating African countries. Applications for payment of project leaders' salaries in Africa are not possible. An additional central goal is to provide support and funding for the academic and professional careers of young African researchers in their home countries in order to contribute to building research capacities in Africa.</p> <p>https://www.dfg.de/en/research_funding/announcements_proposals/2021/info_wissenschaft_21_55/index.html</p>
Patrimonies	Gerda Henkel Foundation	History, Archaeology, Art History	Applications must be submitted from the target countries.	<p>Projects that aim to preserve historical cultural heritage, particularly in crisis regions, and in some cases initial scientific research in history, archaeology and art history are eligible for the Patrimonies grant. The foundation supports measures that help preserve cultural heritage, augment scientific infrastructure, educate young scientists and establish networks in science, politics and society in the regions in question. There is no formal applications procedure for the Funding Initiative Patrimonies. Projects are developed jointly with the Foundation.</p> <p>https://www.gerda-henkel-stiftung.de/en/patrimonies</p>
Perspectives on Wealth: The (Re-) Production of Wealth (Inter-) National cooperation projects	Volkswagen Foundation	Humanities, cultural and social sciences (lead); Cooperation with natural, life, data and technical sciences possible	(Inter-)national research groups, inter- and transdisciplinary teams possible	<p>The Volkswagen Foundation's "Perspectives on Wealth" funding scheme aims to change the perspective from poverty research to facets of the phenomenon of wealth. Applications can be submitted for cooperation projects in which researchers from German universities or research institutions work together with German or international partners on equal terms in order to generate empirical findings on the (re)production and genesis of wealth in a global perspective and to initiate a target group-specific transfer.</p> <p>https://www.volkswagenstiftung.de/en/funding/funding-offer/perspectives-wealth-re-production-wealth</p>
Circularity with recycled and biogenic resources	Volkswagen Foundation	Natural sciences and engineering, if required social sciences	Project team of 2 to 3 researchers with contact to practitioners. Interdisciplinary, national or international collaboration, lead in Germany.	<p>The funding line 'Collaborative projects' targets the natural and engineering sciences. Other fields can be involved, if respective expertise is needed. Two to three researchers from different subfields work on a joint topic. Funding is provided for original and practically relevant research problems for closing raw material-product cycles. Topics for funding include bio-inspired material design, microbial and molecular conversion, valorisation of complex waste streams, and recycling-friendly product design. A second funding line for 'Practice transfer' is in preparation.</p> <p>https://www.volkswagenstiftung.de/en/funding/funding-offer/circularity-recycled-and-biogenic-resources</p>

3. Network funding

Programme	Funding institution	Discipline	Eligible applicants	Link / Short description
Programme Point Sud	German Research Foundation (DFG)	Humanities and social sciences	The programme is open to all researchers based in Germany working on Africa-related themes. Co-applicants from Africa, Europe and the rest of the world are welcome.	The programme supports Africa-related workshops and conferences on the African continent. The DFG covers the travel and accommodation costs of all participants. The programme's activities are organised by a network consisting of the Goethe-University in Frankfurt, the Institute for Advanced Studies in Nantes and several African institutions. http://pointsud.org/programme-2/?lang=en
Perspectives on Wealth: The (Re-) Production of Wealth Summer schools and workshops	Volkswagen Foundation	Humanities, cultural and social sciences (lead); Cooperation with natural, life, data and technical sciences possible	The respective lead applicants must be based at a German university or research institution. The inclusion of international partners is possible.	The Volkswagen Foundation's "Perspectives on Wealth" funding scheme aims to change the perspective from poverty research to facets of the phenomenon of wealth. National and international summer schools and workshops can be funded (up to 80,000 euros). The aim is to discuss new theoretical and/or methodological perspectives on wealth research and to communicate these to young researchers (doctoral students, but also post-docs). The events can take place worldwide and – digitally as well. https://www.volkswagenstiftung.de/en/funding/funding-offer/perspectives-wealth-re-production-wealth
African German Network of Excellence in Science (AGNES)	AGNES / Bayer Science Foundation	Agricultural sciences and biodiversity	PhD candidates	The AGNES network was founded in 2011 by alumni of the Alexander von Humboldt Foundation together with the Alexander von Humboldt Foundation. AGNES is currently funding the AGNES-BAYER Science Foundation Research Grant for Biodiversity Conservation & Sustainable Agriculture in sub-Saharan Africa, see: https://agnes-h.org/agnes-bayer-science-foundation-research-grant-for-biodiversity-conservation-sustainable-agriculture-in-sub-saharan-africa-2-2/
Global Young Academy (GYA)	Federal Ministry of Education and Research (BMBF) / Saxony-Anhalt	All disciplines	Applicants have usually completed their doctoral thesis 3–10 years ago and are between 30 and 40 years old.	The Global Young Academy (GYA) is a global association of young scientists. The number of members is limited to 200 and the duration of membership to five years. GYA members are involved in working groups, strategic projects and collaborations with international partner organisations. Members participate in the GYA Annual Meeting and actively contribute to one or more of the organisation's programmes. https://globallyoungacademy.net/about/ https://globallyoungacademy.net/call-for-new-members/

4. Establishment of universities and institutes for advanced studies in Africa

Programme	Funding institution	Discipline	Eligible applicants	Link / Short description
"Pilot African Post-graduate Academy" (PAPA)	Gerda Henkel Foundation	Humanities and Social Sciences	Postdoctoral candidates	<p>The Pilot African Postgraduate Academy (PAPA), an initiative of the Goethe-University in Frankfurt/Main, financed by the Gerda Henkel Foundation, targets early career scholars who have recently completed their doctoral theses and are based at universities in Africa.</p> <p>The aim is to foster their commitment to the value of science for its own sake, to cultivate their interest in conceptual understanding and to encourage a focus on using the knowledge acquired in Africa to advance science in general. The programme focusses on early career scholars from francophone African countries, which in spite of remarkable strides over recent years still play only a minor role in global knowledge production. The three-year programme includes mentorship and two workshops per year for all scholarship holders in Bamako. Fellows will receive a monthly stipend of 300 euros, a lump sum of 10,000 euros for the whole period for self-organized workshops or conferences at their home institution, conference travel, invitations of colleagues and collaboration partners, a lump sum of 2,000 euros for the whole period for proofreading, publication fees.</p> <p>http://pointsud.org/pilot-african-postgraduate-academy-papa/?lang=en</p>
Maria Sibylla Merian Institute for Advanced Studies in Africa (MIASA)	Federal Ministry of Education and Research (BMBF)/ University of Ghana	Humanities and Social Sciences	Early-career researchers/ Established scientists	<p>MIASA is an international institute for advanced studies at the University of Ghana. It is dedicated to the topic of 'Sustainable Governance'. MIASA's three research foci are: sustainable environmental transformation, sustainable conflict management, and sustainable democracy. Overarching aims of MIASA are reducing global asymmetries in knowledge production and bridging the cultural divide between anglophone and francophone Africa. MIASA provides a hub for exchange, networking and collaboration amongst leading researchers from Germany, Ghana, the African and European continent and beyond. It also offers funding opportunities for early career researchers.</p> <p>https://www.ug.edu.gh/miasa-africa/ https://www.ug.edu.gh/miasa-africa/fellowship-programme https://www.ug.edu.gh/miasa-africa/open-calls</p>
WASCAL (West African Science Service Centre on Climate Change and Adapted Land Use)	Federal Ministry of Education and Research (BMBF)	Disciplines related to climate change and land management	Development of research infrastructure Support for students (Bachelor, Master) and doctoral candidates	<p>WASCAL is a large-scale, research-focussed and capacity building Climate Service Centre designed to tackle the challenge of climate change by enhancing the resilience of human and environmental systems to climate change and increased variability. This is facilitated by strengthening research infrastructure and capacity in West Africa in terms of climate change and by pooling the expertise in 11 West African countries. WASCAL is a leading academic, trans-disciplinary organization that builds graduate-level scientific capacity and gives policymakers in West Africa scientifically sound advice on adapting to climate change and land use management.</p> <p>https://wascal.org/ https://wascal.org/climate-change/ https://wascal.org/renewable-energies/</p>

Programme	Funding institution	Discipline	Eligible applicants	Link / Short description
SASSCAL (Southern African Science Service Centre for Climate Change and Adaptive Land Management)	Federal Ministry of Education and Research (BMBF)	Disciplines related to climate change and land management	Development of research infrastructure Support for students (Bachelor, Master) and doctoral candidates	The Southern African Science Service Centre for Climate Change and Adaptive Land Management (SASSCAL) is a joint initiative by Angola, Botswana, Namibia, South Africa, Zambia and Germany in response to the challenges of global change. The current processes of global change, including demographic change, climate change and the globalisation of economic systems pose an enormous challenge for societies worldwide. Science and research offer proactive approaches for dealing with the current and the expected changes. In this context, the role of science should be understood as serving the societies most affected by climate change and providing evidence-based results and advice to decision-makers. The establishment of SASSCAL adds value for the whole southern African region. The centre is conceptualised and operationalised to complement the existing research and capacity development infrastructure and research initiatives in the region. https://www.sasscal.org/
African Excellence – Centres of African Excellence	German Academic Exchange Service (DAAD)	Varies depending on the Centre of Excellence https://www.african-excellence.de/home/	The DAAD helps African universities establish centres of excellence that cooperate with German partner universities.	The DAAD helps African universities establish centres of excellence. The African Excellence programme seeks to raise the quality and relevance of selected disciplines at African universities, create research capacities, and establish networks between African universities and research institutes including German partners. Support for future managers and leaders plays a special role here. They can receive an excellent education in accordance with international standards at the centres of excellence which will foster an environment conducive to sustainable research and favourable conditions for international partnerships at the same time. Each centre should have a transregional impact. https://www.daad.de/en/information-services-for-higher-education-institutions/further-information-on-daad-programmes/african-excellence-centres-of-african-excellence/
Higher Education Cooperation with the African Institute for Mathematical Sciences (AIMS)	German Academic Exchange Service (DAAD)	Mathematics and related sciences	Cooperations between German universities and various African Institutes for Mathematical Sciences (AIMS) that are home to a chair funded by the Alexander von Humboldt Foundation.	The programme promotes cooperations between German universities and various African Institutes for Mathematical Sciences (AIMS) that are home to a chair funded by the Alexander von Humboldt Foundation. The aim of the programme is to conduct research with the respective chair holders and to promote young scientists in mathematics. https://www.daad.de/en/information-services-for-higher-education-institutions/further-information-on-daad-programmes/african-institute-for-mathematical-sciences/

5. Structures at German universities for Africa-specific scientific cooperation

As explained above, some German universities with strong African research links have support structures for Africa-specific academic cooperation or with the Global South. Here are four examples of long-term collaborations or where the initiation and implementation of collaborations is facilitated by staff continuity (see above):

Bayreuth: The regional focus on Africa was established at the University of Bayreuth when it was founded in 1975. It encompasses all Africa-related research and training activities of Bayreuth academics in 40 disciplines including cultural studies and linguistics, economics and law, geosciences, biosciences and engineering. All Africa-related activities at the University of Bayreuth are coordinated by the Institute of African Studies (IAS) (<https://www.ias.uni-bayreuth.de/en/index.html>). Since 2019, the DFG has funded the Cluster of Excellence “*Africa Multiple*”: *Reconfiguring African Studies* at the University of Bayreuth to reorient African studies with African partner institutions. The focus is on the continental and transcontinental interdependencies of cultural, linguistic, social, religious, political, economic and ecological processes. New forms of academic cooperation are to be created through four newly-founded African Cluster Centres in Burkina Faso, Kenya, Nigeria and South Africa (<https://www.uni-bayreuth.de/en/exzellenzcluster>).

Cologne: In 2014, the Global South Studies Center Cologne (GSSC) was founded at the University of Cologne as part of the German Excellence Initiative. The members conduct research on social, economic, political, and cultural change in countries across the Global South. The GSSC pools research expertise at the University of Cologne in relation to Africa, Asia and, Latin America and promotes interdisciplinary cooperation among leading researchers in Germany and internationally. Disciplines linked to the network include Geography, Social and Cultural Anthropology, History, Sociolinguistics, Latin American History, Romance Philology, Southeast Asian Studies, Islamic Studies, Modern Chinese Studies, and African Studies. With the aim of making cultural changes more visible, the participating academics research the social, economic, political and cultural changes in countries across the Global South (<https://gssc.uni-koeln.de/en/>).

Frankfurt/Main: The Centre for Interdisciplinary African Studies (ZIAF) was founded in 2003 as a research centre at Goethe University Frankfurt to link the various different Africa-oriented activities in one single network of competence. ZIAF has around 60 members in ten different faculties at Goethe University, and more than 70 associated members in the partner institutions the Senckenberg Research Institute, the Institute for Social-Ecological Research, the Peace Research Institute Frankfurt and other institutions. Disciplines active at ZIAF comprises African Studies, Social and Cultural Anthropology, Archaeobotany, Archaeology, Biology, Economics, English Studies, Film Studies, Geophysics, German Literature, Human Geography, Musicology, Palaeobiology, Physical Geography, Political Science, Romance Studies and Catholic and Protestant Theology. In addition, the ZIAF coordinates the networking of Africa research within the framework of the Rhine-Main-Alliance of the universities in Frankfurt, Mainz and Darmstadt (<https://www.rhein-main-universitaeten.de/en>). ZIAF coordinates the DFG programme Point Sud, the Pilot African Postgraduate Academy (PAPA) funded by the Gerda Henkel Foundation and organises an Africa-wide programme of events for the Maria Sibylla Merian Institute for Advanced

Studies in Africa (MIASA) (see above) https://www.goethe-university-frankfurt.de/50798396/Zentrum_f%C3%BCr_Interdisziplin%C3%A4re_Afrikaforschung__ZIAF.

Freiburg: Founded in 1960, the Arnold Bergstraesser Institute (ABI) is an independent research institute based in Freiburg im Breisgau. The institute conducts research on politics and society in Africa, Asia, Latin America and the Middle East in the areas of conflict and migration, state and governance as well as resource policy. The institute examines the consequences of colonialism and the subsequent global inequalities as well as the reduction of global knowledge asymmetries (<https://www.arnold-bergstraesser.de/en>). Together with other consortium partners from Germany, France and Accra (Ghana) and a partner in Dakar (Senegal), the ABI was involved in setting up the Maria Sibylla Merian Institute for Advanced Studies in Africa (MIASA) (see above) on the campus of the University of Ghana in Legon, Accra. The ABI helps MIASA develop and design the research programme and identifying a large number of actors in science and society who are active in the MIASA network (<https://www.arnold-bergstraesser.de/ueber-miasa-0>). The ABI cooperates closely with the Africa Centre for Transregional Research (ACT), a competence centre for transregional, reciprocal African Studies and societal exchange at the University of Freiburg. Act is host of African researchers and aims to establish a differentiated image of African reality in the public sphere (<https://act.uni-freiburg.de/en>).

The series "Denkanstöße" publishes papers by members of Berlin-Brandenburg Academy of Sciences and Humanities (BBAW) on current research policy issues as well as on scientific topics. The articles reflect the views of the authors. They do not necessarily represent the position of the Academy as an institution.