

Investments in Higher Education and Research in Africa **2010–2019**

A Report From



Written by
Naureen Madhani

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From 2010 to 2019, Carnegie Corporation of New York invested \$134.43 million in strengthening higher education and research capacity in African countries. A total of 164 grants were awarded in this area, with a majority of grant dollars (59 percent) awarded directly to African organizations.

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BACKGROUND

From 2000 to 2010, Carnegie Corporation of New York was part of the Partnership for Higher Education in Africa (PHEA), a consortium of foundations working to support the institutional development of African universities in nine countries, including their physical infrastructure, technological capacity, management systems, and gender equity.¹ The Corporation provided leadership in the areas of academic support, institutional development (including library and archival support), information and communications technology, and enhancement of opportunities for women. In the 10 years following the end of PHEA, the Corporation gradually shifted its investment focus toward the continent's intellectual infrastructure, particularly its academic staff and research capacity.

This strategic evolution was informed by the needs identified by African organizations and universities. A 2015 policy brief from the Association for the Development of Education in Africa estimated that less than 1 percent of the global output of scholarly articles came from Africa. African universities voiced the need for more doctoral-trained academic staff, research funding, and supportive policy and institutional climates. Carnegie Corporation of New York's Higher Education and Research in Africa portfolio drew on these insights and input from key institutional stakeholders on the continent in deciding where and how to direct its support.

Building on initiatives established during PHEA, the Corporation supported university partners in Ghana (University of Ghana), South Africa (University of Cape Town and University of the Witwatersrand), and Uganda (Makerere University) to develop master's, doctoral, and postdoctoral programs. It also supported higher education and research institutions in sub-Saharan Africa to develop academic networks focused on innovation and high-quality research. In addition, the Corporation funded several pan-African convenings on higher education policy and transformation, as well as research and data, to inform discussions at these events.

This report documents the Corporation's investments in higher education in Africa from 2010 to 2019 and the accomplishments they supported. It begins with an overview and then provides a detailed analysis of the Corporation's three main investment objectives in this area:

1. the Next Generation of African Academics initiative, or NextGen;
2. the Diaspora Linkages Initiative; and
3. Higher Education Policy and Research.

The report closes with a discussion of how grant activities under the NextGen, Diaspora Linkages Initiative, and Policy and Research portfolios multiply each other's impact.

¹ For an overview of the partnership's accomplishments during those years, see Grant Lewis et al. (2010).

OVERVIEW

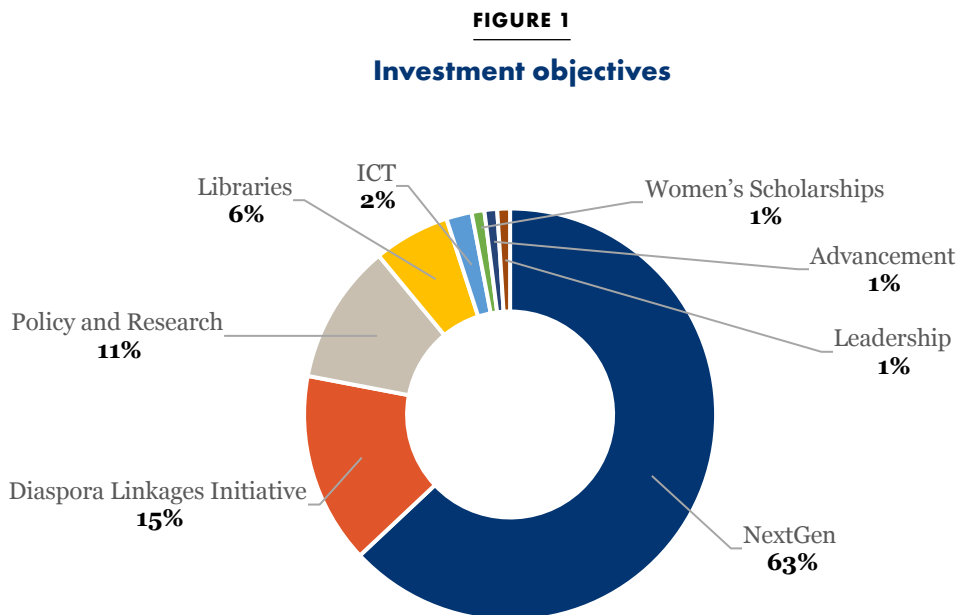
What We Fund

From 2010 to 2019, Carnegie Corporation of New York invested \$134.43 million in strengthening higher education and research capacity in African countries. A total of 164 grants were awarded in this area, with a majority of grant dollars (59 percent) awarded directly to African organizations. The two largest non-African organization recipients, the American Council of Learned Societies and the Institute of International Education, were administrators of major Africa-based fellowship programs.

Grantmaking during this period focused on three objectives:²

1. Developing and retaining the next generation of African academics (NextGen; \$84.16 million across 64 grants)
2. The Diaspora Linkages Initiative, which focuses on building connections between members of the African academic diaspora and African universities (\$20.35 million across 14 grants)
3. Higher education policy and research (\$15.59 million across 56 grants)

Figures 1 and 2 illustrate the distribution of grants by objective.³



² Investments in the current three grantmaking areas have continued beyond 2019. Thus, this report does not provide an analysis of all Corporation investments in these areas.

³ Investments in libraries, information and communications technology (ICT), leadership, women's scholarships, and advancement reflect continuing grants. No new investments were made in these areas between 2010 and 2019. Investments the Corporation made before 2010 in networks and fellowship programs, such as the Regional Initiative in Science and Education and the African Humanities Program, are not counted in this financial analysis.

FIGURE 2
Amount and number of grants by objective

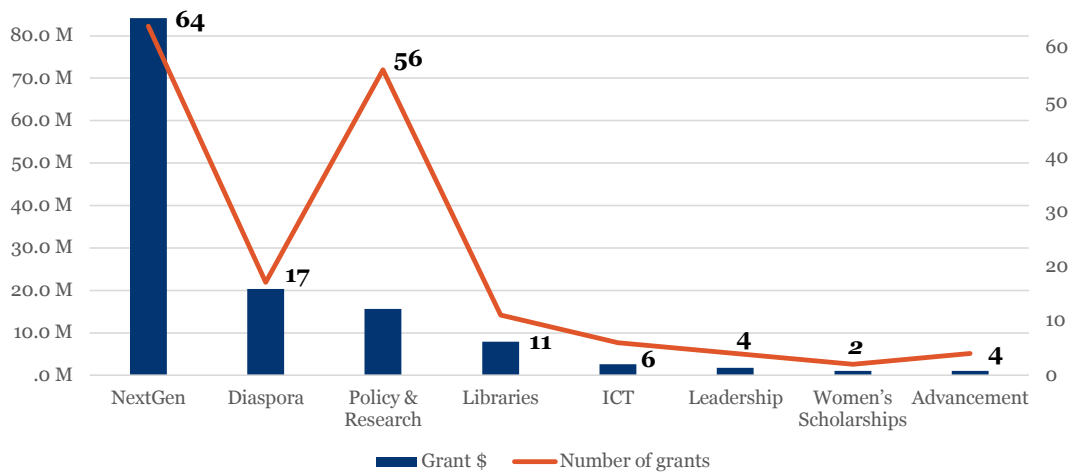


Table 1 and **Figure 3** provide an overview of annual investments in the top three investment objectives from 2010 to 2019. NextGen was the largest, with investments remaining consistently high across years (except for 2015). The Diaspora Linkages Initiative ramped up substantially in 2013. Investments in Policy and Research were consistently between about \$1–2 million per annum.⁴

TABLE 1
Investment trends for top three objectives (\$M)

Year	NextGen	Diaspora Linkages	Policy and Research	Total
2010	9.94	.19	.80	10.93
2011	10.75	.05	2.16	12.96
2012	11.90	.15	.16	12.21
2013	9.76	3.0	2.01	14.77
2014	8.61	1.85	2.15	12.61
2015	3.53	3.50	1.73	8.76
2016	6.80	.60	2.40	9.80
2017	8.34	3.50	.98	12.82
2018	5.53	3.74	1.99	11.25
2019	9.01	3.77	1.23	14.0
Total	84.16	20.35	15.59	120.11

⁴ The full financial commitment of a multiple-year grant is counted in the year in which the grant was made. Grant funding continued to flow even in years during which few new grants toward a specific objective were made.

FIGURE 3
Investment trends for top three objectives (\$M)

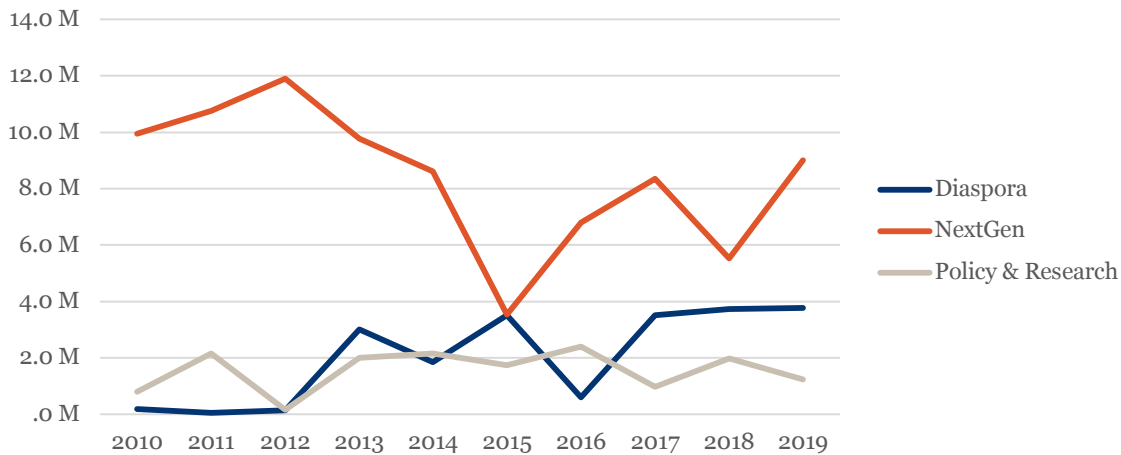


Table 2 shows the Corporation’s full slate of yearly investments from 2010 to 2019. Investments in libraries, information and communication technology, leadership, women’s scholarships, and advancement were phased out by the end of 2019.

TABLE 2
Investments in phased-out objectives (\$M)

Year	Libraries	ICT	Leadership	Women’s scholarships	Advancement
2010	4.38	0.40	1.0		
2011	0.50	0.05		1.0	0.45
2012	2.0	1.50			0.05
2013	0.05		0.25		
2014	1.0			0.05	0.50
2015		0.05	0.55		
2016					
2017		0.20			
2018		0.35			
2019					
Total	7.93	2.55	1.79	1.05	1.0

Top 10 Grantees

Overall, the American Council of Learned Societies received the largest amount of funding, \$14.35 million, primarily for the African Humanities Program, a NextGen fellowship program. The Institute of International Education received \$13.95 million, of which \$13 million was allocated to the Carnegie African Diaspora Fellowship Program and the remainder to NextGen programs. The University of Ghana received \$11.77 million, of which \$7.95 million was for its NextGen program; \$2 million was toward final grants for libraries, including the development of a research commons; and \$1.81 million was for the university's Diaspora Linkage Programme.

Among African grantees, the University of Ghana received the largest amount at \$11.77 million, followed by the University of Cape Town at \$9.5 million and Makerere University at \$8.56 million. **Figures 4–6** display the top 10 grantees, the top 10 African grantees, and the distribution of grants between African and non-African grantees, respectively.

FIGURE 4
Top 10 grantees

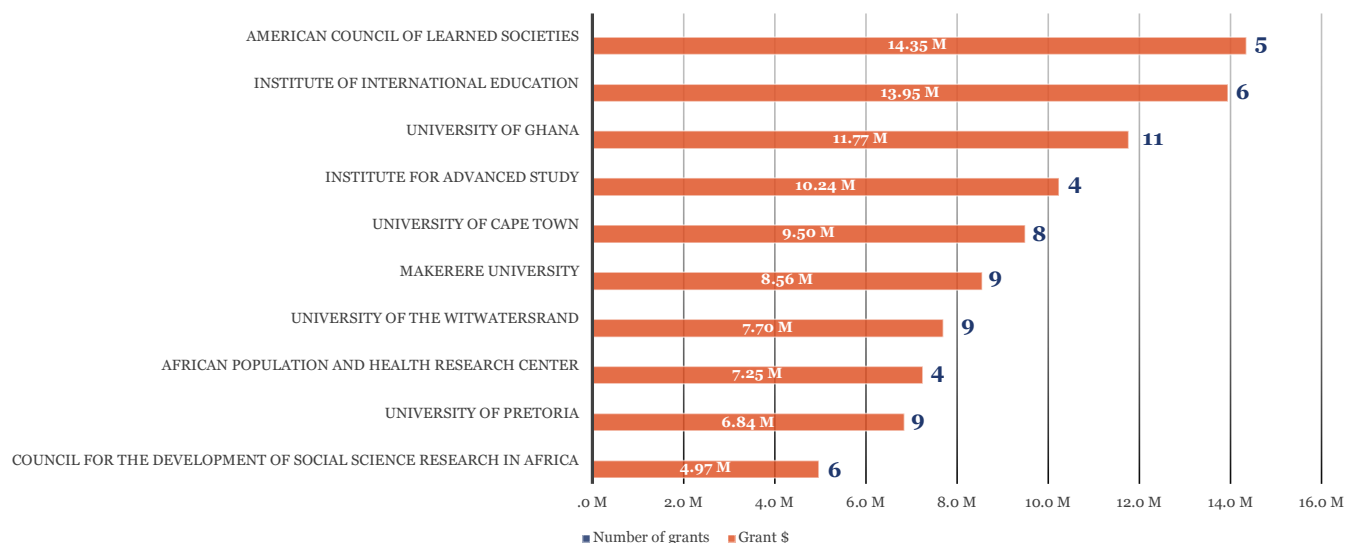


FIGURE 5
Top 10 African grantees

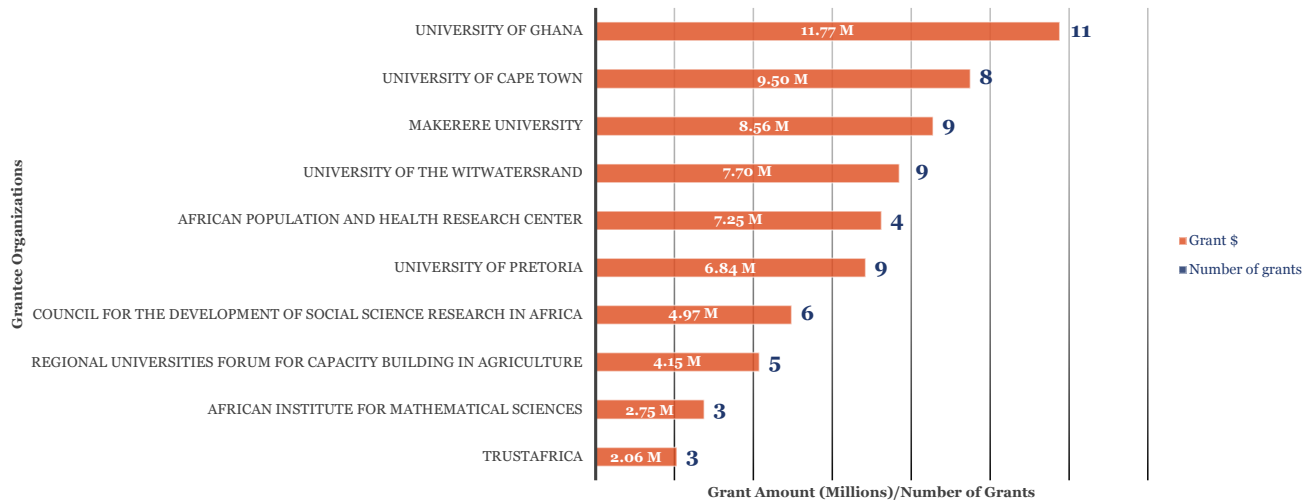
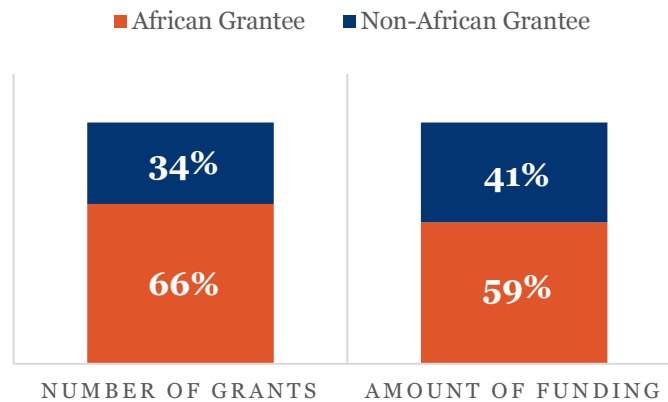


FIGURE 6
Distribution of grants between African and non-African grantees





Types of Organizations We Fund

Carnegie Corporation of New York funded several types of organizations with different functions within the higher education and research sector in Africa:

- The Corporation worked closely with selected **African universities** to strengthen their staff credentials and research capacity.
- The Corporation provided complementary funding to **higher education and research support organizations**. For example, the American Council of Learned Societies and the Social Science Research Council offered research and fellowship programs for scholars, and the Institute of International Education facilitated academic mobility and networking with academic communities.
- Similarly, the Corporation provided funding to **research and training institutes, centers, and networks**, which further supported universities' ability to build research and training capacity through partnerships.
- The Corporation supported a few **non-African colleges and universities**, often led by African academics in the diaspora, for their work related to African higher education research and policy.
- The Corporation supported **academic and higher education associations and membership organizations** to host conferences, seminars, and workshops or conduct research that builds leadership and synergy across universities.
- **African government agencies**, such as the higher education councils under the phased-out leadership objective, received support for policy or institutional strengthening activities.
- Finally, **media and publishing organizations**, such as the University World News (Africa), were supported to increase public awareness of developments in the higher education sector and build support among all those with a stake in the sector.

The Corporation provided funding to research and training institutes, centers, and networks, which further supported universities' ability to build research and training capacity through partnerships.

Table 3 and **Figures 7** and **8** summarize the distribution of grants by organization type. A full list of institutional partners by organization type can be found in Appendix A. About three-quarters of grant dollars were spent on higher education and research support organizations (37 percent) and African universities (35 percent).

TABLE 3
Distribution of grants by organization type

Type of Organization	\$M	Number of grants	% of total grant \$
Higher education and research support organizations	49.65	37	36.93
African universities	47.60	56	35.40
Research and training institutes, centers, and networks	20.92	15	15.56
Non-African colleges and universities	6.63	18	4.93
Academic and higher education associations and membership organizations	3.74	15	2.78
Other organizations	2.56	6	1.91
African government agencies	1.99	6	1.48
Media	1.35	11	1.01
Total	134.43	164	100

FIGURE 7
Distribution of grants by organization type

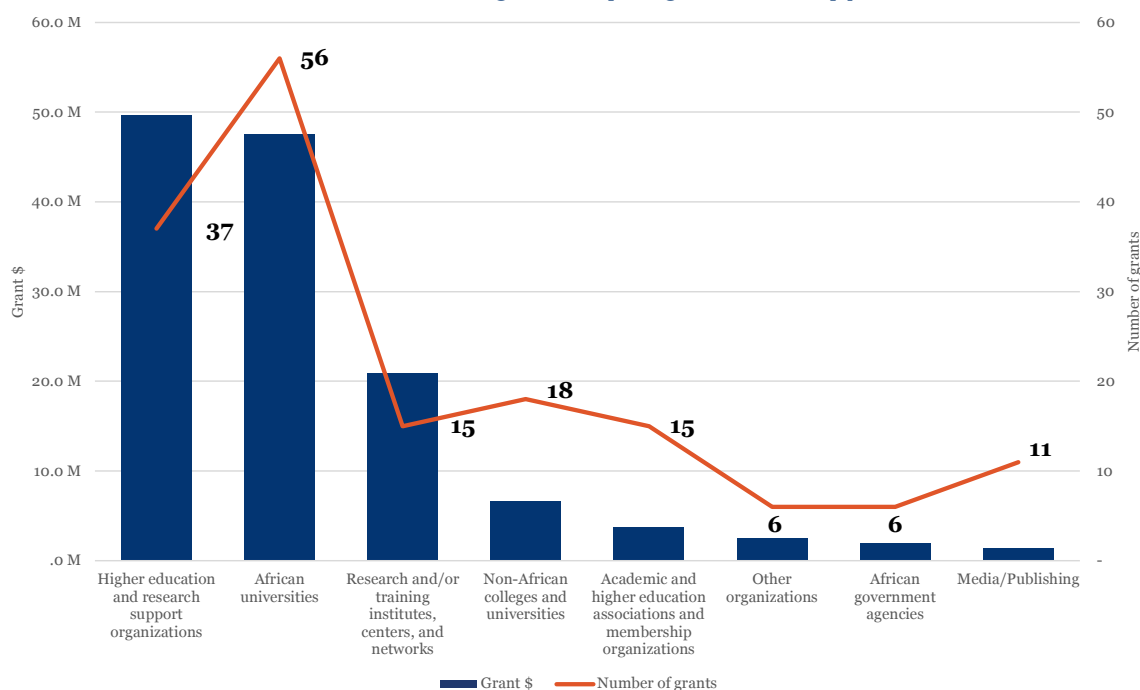
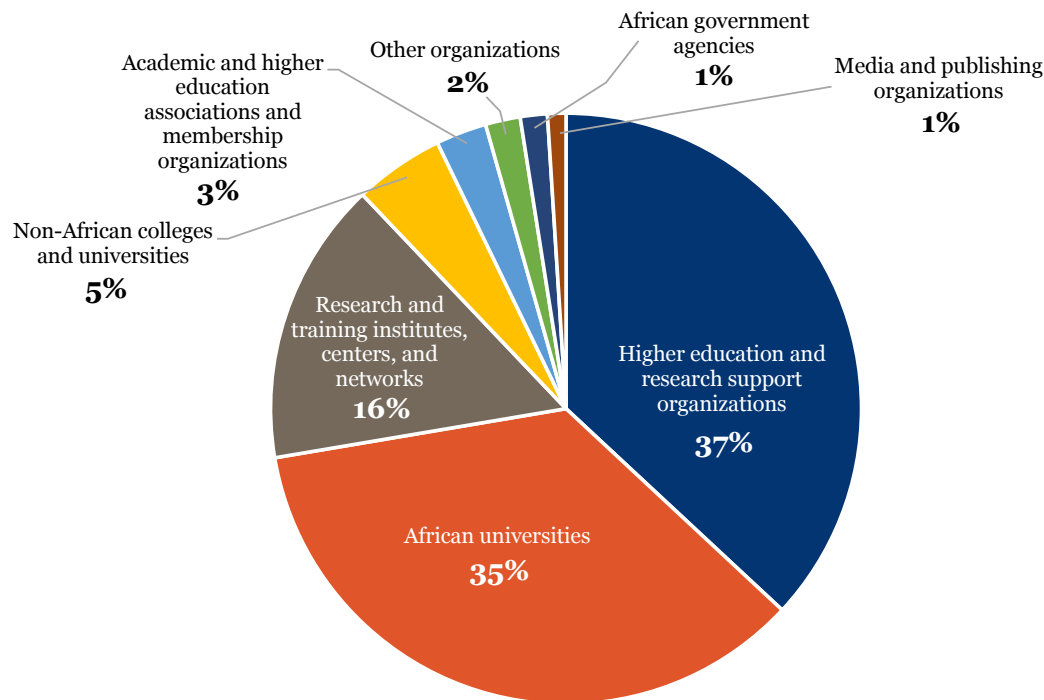


FIGURE 8
Distribution of grants by organization type



Higher education and research support organizations received the largest amount of funding, worth \$49.65 million, about 37 percent of total grant dollars during this period. African universities received \$47.6 million, which was 35.4 percent of the total grant dollars spent.

At about 16 percent of total grants, research and training institutes, centers, and networks received \$20.92 million across 15 awards and five organizations. Non-African colleges and universities received \$6.63 million (5 percent), and academic and higher education associations and membership organizations received \$3.744 million (2.78 percent).

Carnegie Corporation of New York also supported efforts at non-African colleges and universities to strengthen the African higher education sector. For example, funding to Boston College's Center of International Higher Education stimulated the development of the International Network for Higher Education in Africa and enabled the incorporation of Africa into the center's influential quarterly publication on international higher education.

African government agencies received \$1.99 million, and media and publishing organizations were awarded \$1.35 million. The Aga Khan Foundation, Kenya, the International Women's Forum Leadership Foundation, and TrustAfrica are included in the "other organizations" category since they did not fit neatly into any of the aforementioned categories.

Investments in higher education and research support organizations increased from about \$2 million in 2010 to \$8.57 million in 2019. Of the \$49.65 million spent on these organizations, a majority was focused on supporting NextGen (\$25.13 million) and the Diaspora Linkages Initiative (\$17.9 million).

Direct investments in African universities started strong, with \$12.25 million in 2010. Except for in 2013 (when \$7.91 million was invested), annual investments were approximately \$3–6 million. The focus of funding for African universities was on NextGen initiatives, with \$33.1 million of \$47.6 million awarded to African universities spent on this objective.

Where We Fund

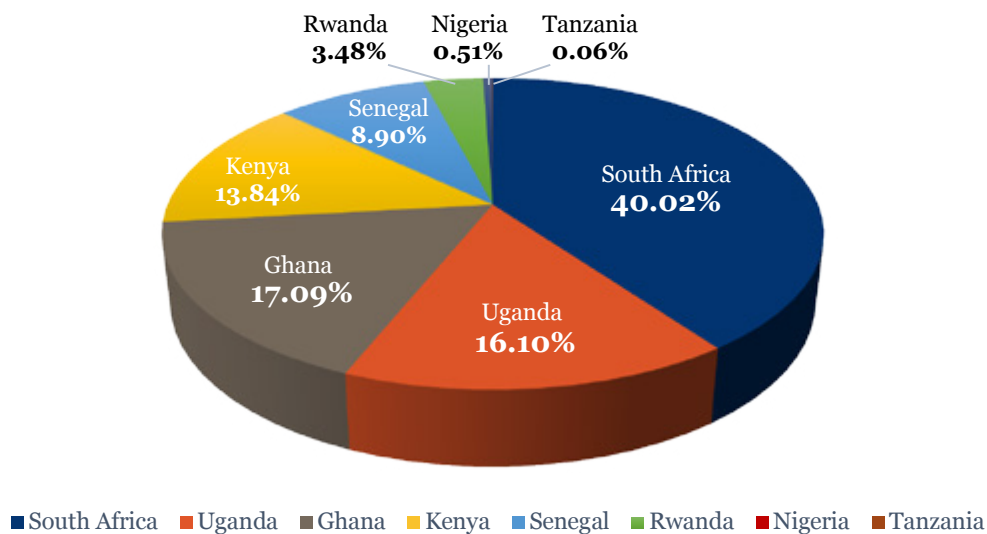
From 2010 to 2019, Africa-based organizations received \$78.94 million in grants. As **Table 4** and **Figure 9** illustrate, the largest share of these grants was awarded to South African organizations (40 percent), followed by organizations in Ghana (17 percent), Uganda (16 percent), and Kenya (13 percent). After 2008, the number of focus countries was reduced from five to three: Ghana, South Africa, and Uganda. Some residual grantmaking in Nigeria and Tanzania, two former focus countries, is also reflected in this data. In addition, while not formally a focus country, Kenya is a hub for regional organizations, which explains the relatively high level of investment there.

A majority of the grants awarded outside Africa were awarded to U.S. institutions for initiatives such as the Carnegie African Diaspora Fellowship Program, which is managed by the Institute of International Education, and the African Humanities Program, which is managed by the American Council of Learned Societies.

TABLE 4
Geographic distribution of investments in Africa

Country	\$M
South Africa	31.59
Ghana	13.49
Uganda	12.71
Kenya	10.92
Senegal	7.03
Rwanda	2.75
Nigeria	.40
Tanzania	.05
Total	78.94

FIGURE 9
Geographic distribution of investments in Africa



The large proportion of funding for African institutions awarded in South Africa reflects its role in training postgraduate students from across the continent. By positioning itself as a regional hub for education (“South Africa” 2017), South Africa plans to increase the number of doctoral degrees awarded in the country from 1,878 per year to 5,000 per year by 2030 (Department for Higher Education and Training 2015). South Africa also attracts the largest number of inbound African students on the continent — about 35,000 of the approximately one million students enrolled in 2014 (Schulmann 2017). Thirty percent of its doctoral enrollments (3,901 of 13,964 in 2012) were from other African countries (Cloete, Sheppard, and Bailey 2015, 83).

From 2010 to 2019, Africa-based organizations received \$78.94 million in grants. The largest share of these grants was awarded to South African organizations (40 percent), followed by organizations in Ghana (17 percent), Uganda (16 percent), and Kenya (13 percent).

INVESTMENT OBJECTIVE I: NEXTGEN

A key aspect of the Corporation's strategy for higher education in Africa has been to create enabling environments where local priorities and strengths can lead to innovation and growth. Accordingly, under the NextGen objective, the Corporation invested \$84.16 million in different types of organizations in the African higher education landscape to enable synergies, expand the capacity of higher education institutions, and foster regional and international networks conducive to innovative problem-solving. Appendix A provides a list of all NextGen grants.

The NextGen objective focuses on improving the credentials and research capabilities of academic staff members at African universities, which benefited the staff members themselves and expanded the capacity of the institutions where they were employed. With an aging professoriate and increasing demand for higher education, developing and retaining high-quality faculty at African universities is imperative (African Union 2016).

Snapshot of Investments in NextGen

Grant dollars:

\$84.16 million

Fellowships:

2,144 (985 doctoral, 701 postdoctoral, and 458 master's-level)

Partner universities:

Makerere University
University of Cape Town
University of Ghana
University of the Witwatersrand

Partner networks:

Regional Initiative in Science and Education (RISE)
Consortium for Advanced Research Training in Africa (CARTA)
Regional Universities Forum for Capacity Building in Agriculture (RUFORUM)
Partnership for African Social and Governance Research (PASGR)

Fellowship programs:

African Humanities Program (American Council of Learned Societies)
Cambridge-Africa Partnership for Research Excellence (Cambridge University)
Future Africa (University of Pretoria)
Next Generation Social Sciences in Africa Fellowship Program (Social Science Research Council)
African Leadership Centre (King's College London)⁵

⁵ The last two fellowship programs moved to the Corporation's Peacebuilding in Africa initiative in 2015.

Initially, the NextGen objective was focused on strengthening master's and doctoral programs. In 2017, its emphasis shifted to postdoctoral programs, with a particular focus on sustaining support for prior recipients of Corporation funding to deepen the research and supervisory skills of a cadre of emerging academics. In 2019, support was broadened to include all levels of early-career academics, enabling grantee institutions to target whichever level was their highest priority for training and research support.

African universities received the largest share of NextGen funds (\$33.31 million), followed by higher education and research support organizations (\$25.13 million) and research and training institutes, centers, and networks (\$18.98 million). **Table 5** details how grants under this program were allocated to different types of organizations.

TABLE 5
NextGen grantees by organization type

Type of organization	\$M
African universities	33.10
Higher education and research support organizations	25.13
Research and training institutes, centers, and networks	18.98
Non-African colleges and universities	4.23
Academic and higher education associations and membership organizations	2.25
African government agencies	0.45
Media and publishing organizations	0.02
Total	84.16

A key aspect of the Corporation's strategy for higher education in Africa has been to create enabling environments where local priorities and strengths can lead to innovation and growth.



Support for Universities

An essential element of the NextGen objective was the development of contextually relevant postgraduate programs at four universities: Makerere University, the University of Cape Town, the University of Ghana, and the University of the Witwatersrand. Projects in this area were developed with the involvement and support of the universities' vice-chancellors and executive leaders, ensuring that they met each country's needs and had support from key stakeholders. The four universities were selected based on their capacity to produce academic staff for their countries and regions. As long-term partners, these universities gained extensive international connections and became hubs for the higher education sectors in their countries and regions. Each is a model of excellence for postgraduate training and postdoctoral research on the continent.

Makerere University

At Makerere University, in addition to providing doctoral research grants and other training opportunities, NextGen funding supported a team-based postdoctoral fellowship designed to fill gaps in the preparation of faculty who had recently completed their doctorates. To promote multidisciplinary research, the 15 competitively selected postdoctoral fellows were required to work with a peer researcher from another discipline. To strengthen postgraduates' supervisory skills, teams included at least one master's student supervised by the fellow. To foster a culture of mentorship and provide guidance to the fellows, a senior academic was assigned to each team to serve as a mentor. Based on the fellows' experiences, most elements of this model were incorporated into a fellowship program for early-career faculty — those just beyond the postdoctoral stage but not yet advanced enough to supervise doctoral students. Corporation support for Makerere University NextGen work continues, with the focus currently on support for academics vying for promotion from lecturer to senior lecturer position, the level at which academic staff can begin supervising doctoral students.

University of Cape Town

The University of Cape Town, the highest-ranked university in Africa by major rankings, benefits from a strong research reputation and extensive experience in postdoctoral support, attracting high-caliber applicants from all over the world. As a result, the university has the most postdoctoral fellows of any South African (and possibly African) university, with 333 in 2019, along with approximately 2100 doctoral and 5700 master's students of 29,000 students every year.

Building on a successful Corporation-supported project, Growing the Next Generation of Academics in Africa (2011–16), which focused on master's and doctoral completion, the university implemented the Developing Emerging Academic Leaders (DEAL) program to address gaps in the development pipeline from earning a PhD to completing a postdoctoral tenure and establishing a research career. Both projects were located in the Department of Civil Engineering, the School of Economics, the Institute of Infectious Disease and Molecular Medicine, and the Department of Molecular and Cell Biology. The 2017–19 DEAL grant supported 24 postdoctoral fellows and four early-career researchers. An important objective of the program was to increase the number of Black and female scholars, and 23 Black researchers were supported, 10 of whom were female. Members of the cohort published 110 journal articles. In total, 96 doctoral, 50 postdoctoral fellows, and 4 early-career researchers were supported by the Corporation over the 2010–19 period, producing 210 academic publications.

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Funding from 2010–19 allowed the University of Cape Town to develop first-rate structures and systems for post-graduate training, from research administration offices to information systems that track alumni and staff and their research performance. Beyond supporting graduate studies, the program exposed African postgraduate fellows to academic life through tailor-made programs and skills development that strengthened the international profile of young African researchers and enticed them into academic careers on and for the African continent. Corporation support for DEAL has continued beyond 2019.

University of Ghana

The University of Ghana embarked on an aggressive program to enhance its faculty strength and capacity to deliver post-graduate training in 2010 through its Next Generation of Academics in Africa program. At the outset, the university had a faculty–student ratio of 1:35, and less than 50 percent of faculty had PhDs or other terminal degrees. Only about 20 percent of faculty were below age 40, and as much as 47 percent were above age 50. The program focused on supporting faculty PhD training, development of additional post-graduate programs, strengthening facilities for graduate training and enhancing skills, knowledge and quality of post-graduate output. Under the same program, the university established a Pan-African Doctoral Academy, which aimed to improve PhD scholarship and open doors for PhD students from universities in other West African countries to benefit from UG’s training and facilities.

By 2016, the university’s faculty–student ratio increased to 1:29, the proportion of faculty with PhDs increased to 66.5 percent, and the number of faculty under 40 years of age rose to 27 percent. Faculty research output increased by 71 percent in that timespan. With the significant improvement in faculty strength in terms of numbers holding PhD and the university’s renewed aspiration to become one of Africa’s research-intensive universities, the Corporation’s partnership with University of Ghana shifted focus slightly from faculty PhD training to enhancing faculty research productivity, resulting in development of a follow-up project “Building a New Generation of Academics in Africa,” in 2016, followed by a second phase in 2019. The primary focus of BANGA was supporting early-career faculty to enhance their research productivity, enhancing UG faculty strength to improve the university’s capability to deliver high-quality research and graduate training, and enhancing PhD outputs.

Under BANGA, 142 PhD candidates benefited from thesis research and thesis completion grants; while over 800 PhD candidates from 61 universities in 16 West African countries benefited from the doctoral academy by 2019. Faculty who received Corporation support had over twice as many numbers of publications per year as the UG faculty average (1.3 compared to 0.6 per faculty per year for 2018). These programs contributed to a 400 percent increase in the number of doctoral degree candidates graduating from UG, from less than 30 PhD graduates annually prior to 2010 to 115 in 2018. Between 2010 and 2019, 71 master’s and 82 doctoral fellows benefited from Corporation support.

These developments supported the university’s strategic priorities and enhanced its profile in university rankings. The University of Ghana moved from ranking 46th in Africa in 2005 to seventh in 2016 and 22nd in 2019 in the *Times Higher Education* World University Rankings of Africa. From 2010 to 2016, University of Ghana faculty produced 43 percent of Ghana’s research publications (about 377 articles) per year (Cloete et al. 2018, 229). From 2011 to 2019, the number of students enrolled in the university’s doctoral programs more than tripled from 316 to 1,014 (Cloete et al. 2018, 224 and UG statistics <https://www.ug.edu.gh/about/enrolment-and-graduation-statistics>). Furthermore, the university’s 2014–24 strategic plan demonstrates a clear focus on becoming a research university. Corporation support for UG BANGA has continued beyond 2019.



University of the Witwatersrand

The Global Change Institute at the University of the Witwatersrand was established in 2011 as a research platform focused on “global significance and local impact.” The university dedicated a portion of its NextGen grants to setting up the institute and attracting doctoral students and postdoctoral researchers from a wide range of disciplines. The institute aimed to develop broad expertise in global change and sustainability research, increase the number and quality of students receiving postgraduate degrees in transdisciplinary global change and sustainability research, and support transdisciplinary research in these areas at Wits University and partner institutions. The institute is now well established, with funding from a variety of sources. With Corporation support during this period, 24 doctoral students received fellowships, and another 16 fellowships were awarded for postdoctoral and early-career research. The Corporation also supported a complementary program in clinical medical research, which resulted in 25 doctoral and postdoctoral fellowships. Corporation support for Wits University NextGen work continues, with an emphasis on achieving racial and gender equity within the early-career pipeline.

Support for Postgraduate Training and Research Networks

Networks of institutions advance excellence in postgraduate research and training while promoting retention and fostering vibrant intellectual communities. In Africa, in particular, disciplinary and thematic networks are considered valuable vehicles for providing academic training and research opportunities, reducing scholars’ isolation, and advancing their careers (Jowi et al. 2013). Networks can also provide an effective and cost-efficient mode of strengthening institutions’ research capacity.

Several networks were supported under the NextGen objective, including the Regional Initiative in Science and Education (RISE), the Regional Universities Forum for Capacity Building in Agriculture (RUFORUM), the Consortium for Advanced Research Training in Africa (CARTA), and the Partnership for African Social and Governance Research (PASGR).

Regional Initiative in Science and Education

RISE was launched in 2008 to strengthen higher education in the sciences and engineering by increasing the population of skilled master’s- and doctoral-level scientists and engineers teaching in Africa’s universities. In its first phase, from 2008 to 2017, the program comprised five science and engineering postgraduate training networks involving 15 universities and research institutes in nine countries in the fields of materials science, natural products, marine science, and water resources. The Science Initiative Group, housed within the Institute for Advanced Study in Princeton, New Jersey, led RISE in consultation with African partners. By the end of the first phase in 2017, 183 students had collectively earned 93 master’s degrees and 95 doctorates, and nine had completed postdoctoral work. Now in its second phase, RISE is housed at the African Academy of Sciences as a postdoctoral fellowship program. Seven RISE doctoral graduates received three-year postdoctoral research grants by the end of the period covered by this report.



Consortium for Advanced Research Training in Africa

CARTA is a collaborative initiative currently cofunded by Carnegie Corporation of New York; the Wellcome Trust, through the Alliance for Accelerating Excellence in Science in Africa at the African Academy of Sciences; the Swedish International Development Cooperation Agency; and the Foreign, Commonwealth, and Development Office in the United Kingdom. Hosted by the African Population and Health Research Center, CARTA has developed a training enrichment program for doctoral fellows in population and public health, which member universities are encouraged to adopt and adapt as needed. CARTA offers a range of postdoctoral opportunities, including reentry grants and residential appointments, as well as workshops on proposal writing and other critical skills. As of fall 2019, 62 fellows had earned their doctorates, and another 206 fellows were enrolled in the program. Fellows had produced more than 900 peer-reviewed publications and had raised \$10 million in additional research support. Corporation support for CARTA has continued beyond 2019.

Regional Universities Forum for Capacity Building in Agriculture

Founded by a group of African university vice-chancellors in 2004, RUFORUM aims to strengthen universities' capacity to foster innovation to meet the demands of smallholder farmers by training high-quality researchers, producing impact-oriented research, and maintaining working relationships between training and research organizations, farmers, and governments. As of 2019, its members included 126 universities in 39 African countries.

Network members collaborate on doctoral training through regional programs in which one university develops strong training capacity in a field of study, such as plant breeding at Makerere University, and extends that capacity to others in the network. Vice-chancellors also underwrite a graduate assistantship program where predoctoral faculty from one member university can enroll in a doctoral program at another member university without paying tuition. By the end of 2019, the Corporation had supported 168 doctoral students, some through the regional doctoral programs and most through doctoral research and writing grants to faculty training under the graduate assistantship program. Nineteen of the doctoral graduates also received postdoctoral research support. Corporation support for RUFORUM has continued beyond 2019.

Partnership for African Social and Governance Research

PASGR is an independent, nonpartisan, pan-African nonprofit organization established in 2011 and located in Nairobi, Kenya. Currently engaged in more than 12 African countries, PASGR works to enhance research excellence in governance and public policy to promote individuals' overall well-being. Through PASGR, 132 early- to mid-career researchers and policy actors received training on topics such as critical policy-engaged research, social inquiry design, and survey design. The Corporation currently supports PASGR's new collaborative doctoral program, operating at three African universities: the University of Ibadan in Nigeria, the University of Nairobi, and the University of Pretoria. Corporation support for PASGR's doctoral program has continued beyond 2019.



Support for Fellowship Programs

Several fellowship programs complemented the Corporation's support for universities and postgraduate training and research networks by providing opportunities for individual scholars to hone their research skills:

- The African Humanities Program, supported through the American Council of Learned Societies
- The University of Pretoria's Early Career Research Leader Fellowship Program, through the Future Africa Institute
- The Cambridge-Africa Partnership for Research Excellence, a primarily postdoctoral fellowship program and collaboration between the University of Cambridge, the University of Ghana, and Makerere University
- The Next Generation Social Sciences in Africa program, supported through the Social Science Research Council
- Competitive fellowships in peace, security, and development administered by the African Leadership Centre, colocated at King's College London and in Nairobi

In 2015, fellowships through the Social Science Research Council and King's College London were moved from Carnegie Corporation of New York's Higher Education portfolio to its Peacebuilding portfolio and therefore are not discussed in this report. The Cambridge-Africa Partnership for Research Excellence supplemented institutional support to the University of Ghana and Makerere University.

African Humanities Program

Carnegie Corporation of New York initiated the African Humanities Program in 2008 in response to the lack of investment in the humanities in African higher education institutions. Over 10 years, the Corporation invested \$14.3 million to support NextGen fellowships in the humanities in Ghana, Nigeria, South Africa, Tanzania, and Uganda. A total of 400 academics received dissertation completion or postdoctoral research fellowships, and nearly 110 application reviewers continue to provide mentorship in the humanities. These fellowships enable fellows to commit time to a humanities-related research project and complete a two-to-three-month residency at a higher education institution in one of the five host countries.

The African Humanities Series is a book-publishing project of the African Humanities Program of the American Council of Learned Societies. The series, which presents works by fellows, covers topics in African history, languages, literature, and culture. One of the most tangible outcomes of this program is the number of fellows who have published articles. Of the 166 fellows who responded to an American Council of Learned Societies survey in 2018, almost all had published two articles or more, and 35 had published five articles or more. The program has also helped revitalize the humanities, especially at the University of Dar es Salaam, where the College of Humanities has gained prominence.

Future Africa Institute

The University of Pretoria's [Future Africa Institute](#) offers an Early Career Research Leader Fellowship funded by Carnegie Corporation of New York, which provides funding for postdoctoral research. It serves early-career research leaders in basic and applied sciences, engineering, social sciences, the humanities, and the arts, encouraging a trans-disciplinary research orientation. It aims to support African academics in their thought leadership, team development, stakeholder engagement, and collaboration to stimulate the emergence of centers of research excellence to solve complex problems facing Africa and the world. The program focuses on adaptability, resilience, and codesign of systems for sustainable and equitable development in Africa. As of 2019, the program supported 13 fellows.

About the Fellows

From 2010 to 2019, 2,144 NextGen fellowships were awarded for master's, doctoral, and postdoctoral work. Most beneficiaries were from South Africa, Uganda, Nigeria, and Ghana. Fellows represented 36 nationalities and studied or conducted research at 48 universities across 29 countries. Almost 40 percent of the fellowships were awarded for graduate programs in South Africa, reflecting the demand for degrees from the country's universities and its goal to become a hub for higher education in Africa. This figure also reflects the high number of non-South Africans residing or studying in South Africa — only 22 percent of fellows identified South Africa as their country of origin. **Figure 10** provides an overview of the fellows' countries of origin, and **Figure 11** provides enrollment numbers by country. Ghana, Nigeria, South Africa, Tanzania, and Uganda were all host countries for the African Humanities Program, and therefore a large proportion of fellows were from these countries.

FIGURE 10

NextGen fellows' top 10 countries of origin

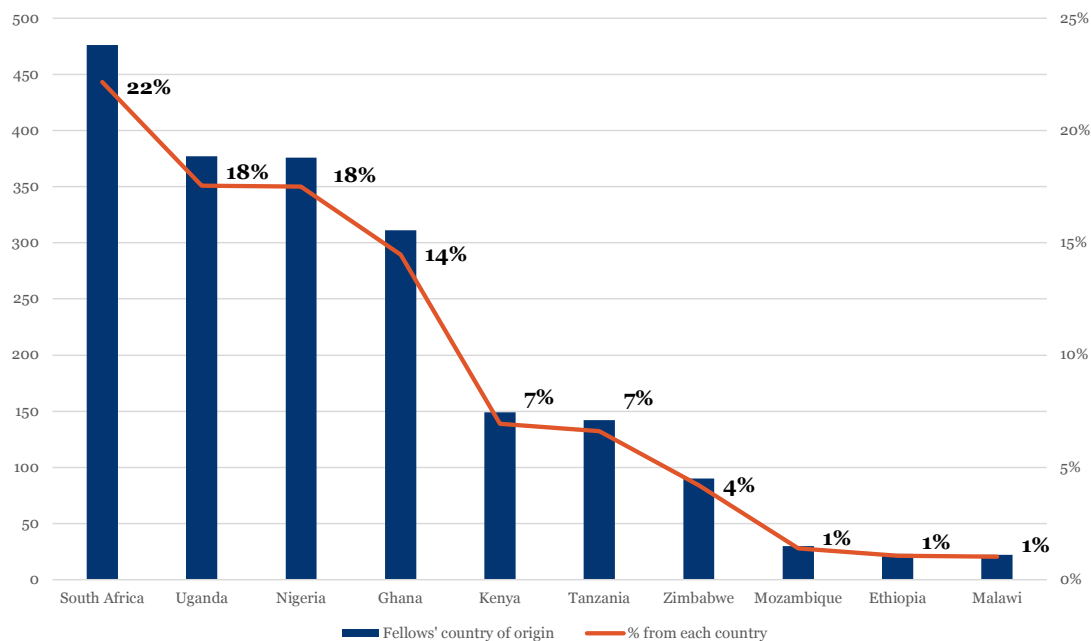


FIGURE 11
NextGen fellowships by top 10 locations

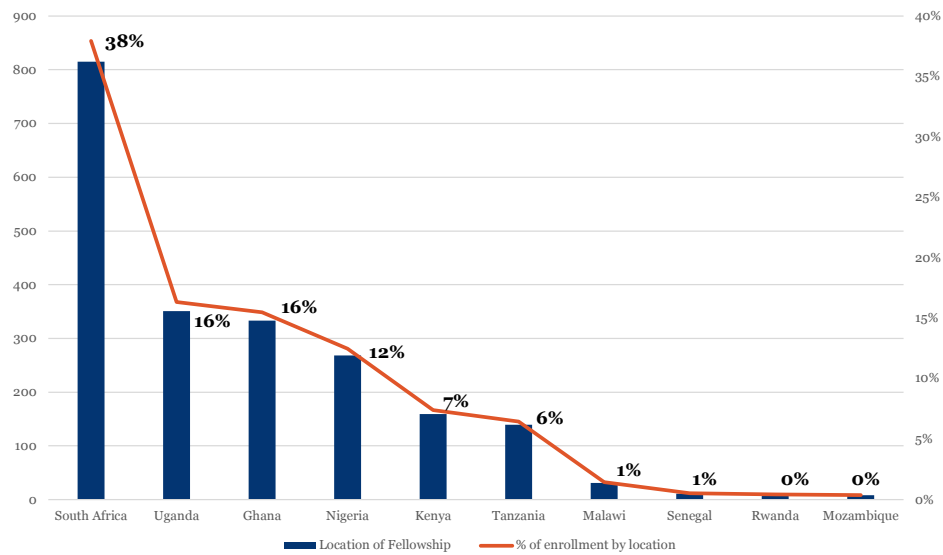
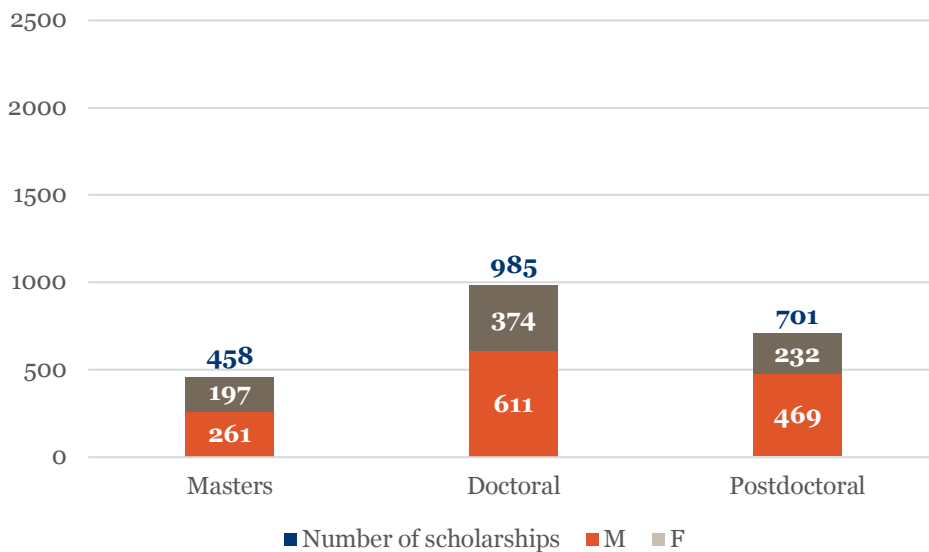
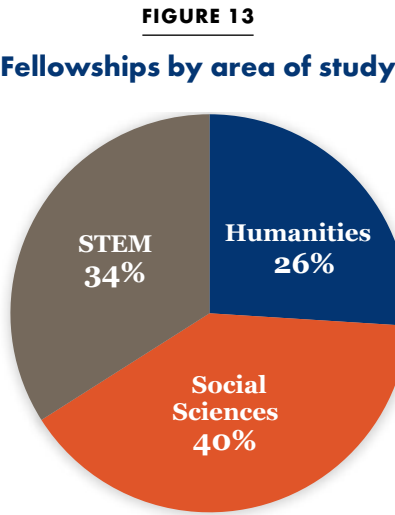


FIGURE 12
NextGen fellows by level of study and gender



As **Figure 12** illustrates, the largest number of fellowships were for doctoral-level work (985 fellowships), followed by 701 for postdoctoral research and 458 for master’s-level programs. In 2013, recognizing that most fellows were male, Carnegie Corporation of New York implemented incentives to increase women’s participation in doctoral and master’s degree programs within the four anchor universities and networks. However, recruiting fellows with a more balanced gender profile was and continues to be a challenge, especially given the gender imbalances in these institutions overall.

NextGen fellowships have supported research and study of 114 distinct disciplines, 40 percent of which were in the social sciences, 34 percent of which were in science, technology, engineering, and mathematics, and 26 percent of which were in the humanities (see **Figure 13**).



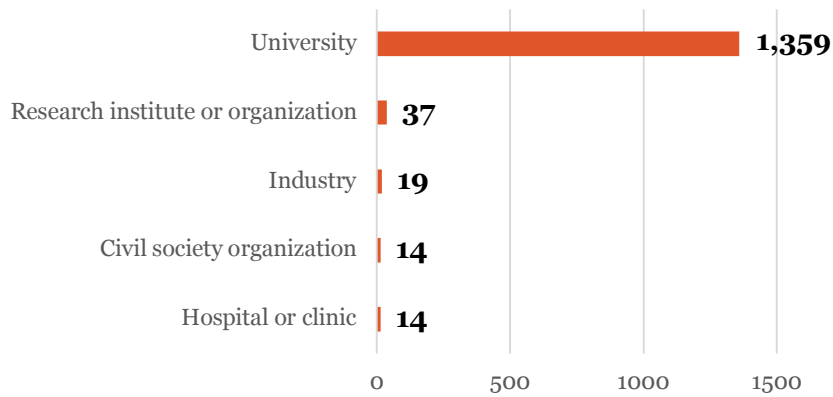
Data on employment outcomes was available for 1,443 of the 2,144 fellows (see **Table 6**). Most (1,359) were employed by a university, increasing their likelihood of retention in the higher education sector and enabling institutions to increase their research productivity. The remainder were working for research organizations, in industry, in hospitals or clinics, or in civil society organizations. A further 108 were continuing their education.

TABLE 6

Employment outcomes of NextGen fellows

Type of organization	Number of fellows
University	1,359
Research institute or organization	37
Industry	19
Hospital or clinic	14
Civil society organization	14

FIGURE 14
NextGen fellows' employment institutions



Most fellows (1,359) were employed by a university, increasing their likelihood of retention in the higher education sector and enabling institutions to increase their research productivity.

INVESTMENT OBJECTIVE II: AFRICAN ACADEMIC DIASPORA LINKAGES INITIATIVE

The African Union (2017) defines the African diaspora as “peoples of African origin living outside the continent, irrespective of their citizenship and nationality and who are willing to contribute to the development of the continent and the building of the African Union.” Twenty of 150 seats at its Economic, Social, and Cultural Council are allocated to diaspora representatives. As Joseph Legwaila, then under-secretary-general and special adviser on Africa to the United Nations, noted in his keynote address at the African Diaspora Leadership Forum in 2006, diaspora groups have the unique advantage of being familiar with the needs and cultural settings of their countries of origin and having at their disposal “a multitude of intellectual, economic, and political resources” to “make a significant contribution to development and poverty reduction efforts in Africa.”

A 2013 needs assessment found that many African diaspora academics have largely informal relationships with individuals or institutions in Africa for research collaborations, curriculum development, or graduate student supervision (Zezeza 2013). However, a lack of financial support and formal structures for these collaborations creates barriers to sustained, mutually beneficial partnerships (Jowi et al. 2013; Foulds and Zezeza 2014; Madhani 2016). The findings of the needs assessment informed a consultation convening at the Corporation with African higher education experts on the role of the African diaspora in the higher education sector. As a result of this consultation, Carnegie Corporation of New York began to direct its efforts toward strengthening these relationships and enabling institutional support for long-term engagements between institutions and individuals. An underlying premise of the Corporation’s Diaspora Linkages Initiative is that diaspora partnerships “build relationships with African universities that are symbiotic and benefit the institutions in addition to the individual” (Vartan Gregorian, quoted in Moock and Namuddu 2017, 3).

From 2013 to 2019, through the Diaspora Linkages Initiative, the Corporation provided \$20.35 million in grants to seven institutional partners, through which 537 diaspora fellowships were awarded. A total of 141 sub-Saharan universities partnered with diaspora faculty at 213 universities in Australia, Canada, France, the United Kingdom, and the United States.

The Diaspora Linkages Initiative explored innovative models of diaspora engagement to strengthen research collaboration, postgraduate training and research, and curriculum co-development and to build scholarly networks. For example, fellowships awarded through the African Institute for Mathematical Sciences focused on field-building in data science in Africa. The University of Ghana used targeted diaspora interventions to rebuild depleted departments, like Mathematics and Computer Science. Wits University’s diaspora program targeted public health and medical sciences alumni to help develop capacity within the Faculty of Health Sciences at Wits. Fellowships through the Council for the Development of Social Science Research in Africa (CODESRIA) were focused on developing social science and humanities research skills through diaspora mentorship of doctoral students, multinational research groups incorporating diaspora, and visiting professorship engagements at African universities. The Carnegie African Diaspora Fellowship Program, the largest program under this objective in terms of both investments and number of countries reached, focused on activities like co-curriculum development, postgraduate supervision, and joint research without a disciplinary focus.

TABLE 7
Diaspora Linkages Initiative grantees

Institution	\$M	%
Institute of International Education for the Carnegie African Diaspora Fellowship Program	13.00	63.87
African Institute for Mathematical Sciences	2.50	12.28
Council for the Development of Social Science Research in Africa	2.40	11.80
University of Ghana	1.81	8.90
University of the Witwatersrand	.50	2.46
Loyola Marymount University ⁶	.10	0.49
Institute for Advanced Study ⁷	.04	0.20
Total	20.35	100

Support for Universities

Carnegie African Diaspora Fellowship Program

Managed by the Institute of International Education, and in partnership with the United States International University–Africa, the Carnegie African Diaspora Fellowship Program worked with African universities in six host countries (Ghana, Kenya, Nigeria, South Africa, Tanzania, and Uganda) to build their connections with scholars in the African academic diaspora in North America and their universities. Between 2013 and 2019, 471 African Diaspora Fellowships enabled scholars to travel to Africa.

University of Ghana Diaspora Linkage Programme

The University of Ghana’s Diaspora Linkage Programme, launched in 2012, built on the university’s Next Generation of African Academics program by tapping into the African diaspora to strengthen doctoral training in West Africa. The program strengthens faculty members’ capacity for postgraduate training, supervision, and thesis examination.

Fellows were initially placed in four departments to enhance doctoral training capacity: Biosphere Sciences, Computational Sciences and Engineering, Sociology and Social Work, and the Institute of African Studies. As capacity in these departments increased, the university developed a program called Accelerated PhD Training through University of Ghana–Diaspora Linkages, which encompassed the Diaspora Linkage Programme and the new Pan-African Doctoral Academy (Moock and Namuddu 2017).

The Pan-African Doctoral Academy invited 20 academics from the diaspora to cofacilitate with university faculty week-long training sessions for doctoral students in specialized skills. It became established as a center for PhD scholarship by bringing together doctoral students in West Africa for skills development, mentorship, and career guidance. Over 1,000 doctoral students from West Africa were trained through this program. A lead facilitator from

⁶ Loyola Marymount University was awarded a grant for a needs assessment of diaspora engagement for graduate training in African universities (2011–12).

⁷ The Institute for Advanced Study received a matching grant to support collaborations between diaspora scholars and African sciences academies to advance African science policy.

the diaspora, the late Pius Adesanmi, professor of literature and director of the Institute of African Studies at Carleton University in Canada, was invited and supported by vice-chancellors to replicate the Pan-African Doctoral Academy model at Kwara State University, Malete in Nigeria and the University of Johannesburg in South Africa.

Wits Alumni Diaspora Programme

The Wits Alumni Diaspora Programme began in 2010 and aimed to attract alumni to partner with faculty to improve research outcomes in the Wits Faculty of Health Sciences. From 2010 to 2013, it was funded by Wits University and hosted 22 alumni from Canada, Europe, New Zealand, and the United States for short-term research fellowships. In 2013, Carnegie Corporation of New York provided additional support to enable fellows to return for longer-term, sustainable collaborations with Wits faculty. A total of 46 alumni visits were supported from 2013 to 2019, including several repeat visits.

Snapshot of Investments in the Diaspora Linkages Initiative

Grant dollars: \$20.35 million

Grants awarded: 14

Number of fellowships: 537 (471 Carnegie African Diaspora Fellowship Program, 70 CODESRIA, 46 Wits, and 20 University of Ghana)

Number of host sub-Saharan universities: 141

Number of sending institutions in Australia, Canada, France, U.K., and the U.S.: 213

Support for Networks

Council for the Development of Social Science Research in Africa

Diaspora fellowships through CODESRIA focused on supporting teaching and research in the social sciences, the humanities, and higher education studies. The program included a College of Mentors from the diaspora to assist doctoral students with their dissertations, a visiting professor program, and a multinational joint research program. From 2014 to 2018, the program mobilized 12 research teams that enhanced social science and humanities curricula and produced six publications; engaged 24 diaspora academics in mentoring 46 postgraduate students from more than 25 African universities; supported 14 professorship visits that filled gaps in teaching, exposed students to new ways of learning, and enabled updates to curricula; and supported seven postdoctoral research fellows, three of whose research has contributed to policy debates. Overall, the program engaged 70 diaspora academics who interacted with 100 emerging African academics in the humanities and social sciences and reached over 400 Africa-based faculty members through visiting professor workshops and mentoring.

African Institute for Mathematical Sciences

AIMS, headquartered in Kigali, Rwanda, is a pan-African network of centers of excellence for postgraduate education, research, and outreach in the mathematical sciences. Through the AIMS Research Chair program, Carnegie Corporation of New York enabled “exceptional African graduates” to gain cutting-edge training in data sciences under

the supervision of visiting scholars from the diaspora and to establish themselves in Africa. The program supports scientific development in Africa through “international and inter-African collaboration” (Frittelli 2018).

About the Diaspora Fellows

In the Carnegie African Diaspora Fellowship Program, 151 fellows were female, and 320 were male. Data on gender is not available for the other programs. Most of these collaborations were in STEM fields (318 projects), followed by projects in the social sciences (149 projects) and the humanities (102 projects). These numbers include repeat visits by fellows.

Diaspora fellows collaborated on curriculum development, contributed to graduate student teaching and mentoring, and partnered with faculty at their host institutions on research projects.

As **Figures 15** and **16** illustrate, the partnership between Vanderbilt University and the University of the Witwatersrand attracted a relatively large number of fellows. Twelve fellows were from Vanderbilt, and Wits University hosted 51 fellowship visits. Through the CADFP, the University of North Carolina system and the City University of New York system were top partner institutions under this investment objective. While most fellows were from the United States, 23 fellows were from Canadian universities, including Carleton University and the University of Toronto.

FIGURE 15

Top home institutions of diaspora fellows

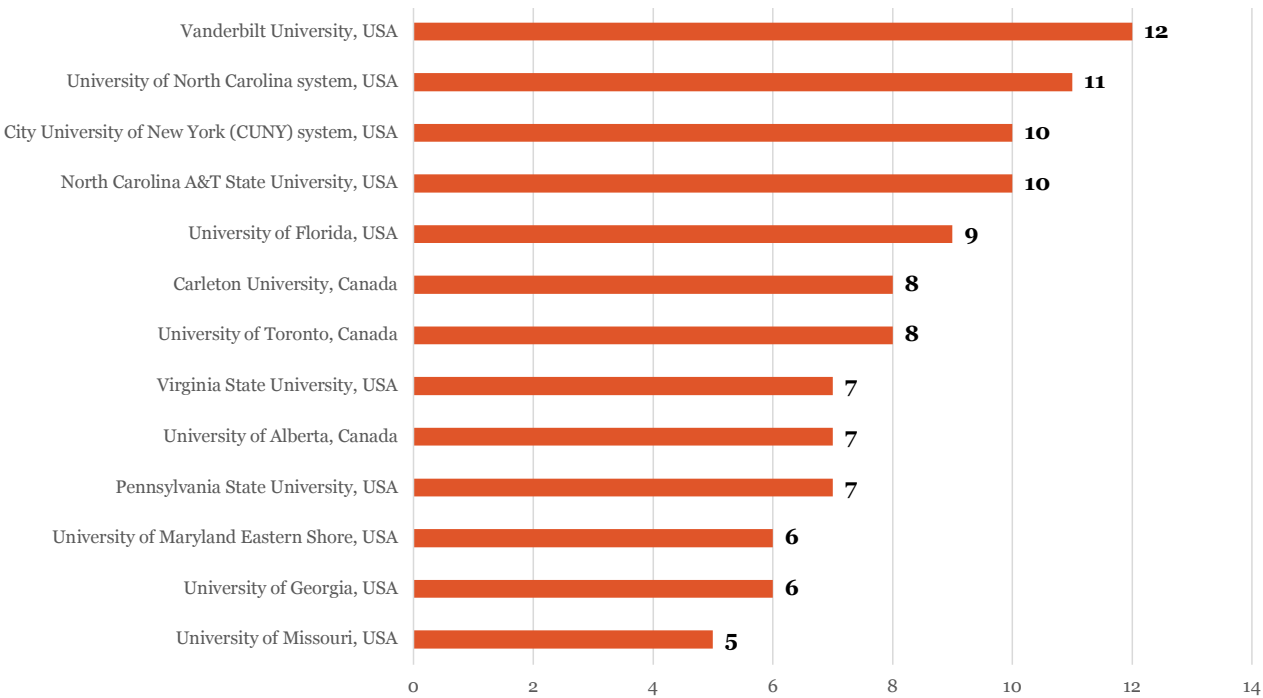
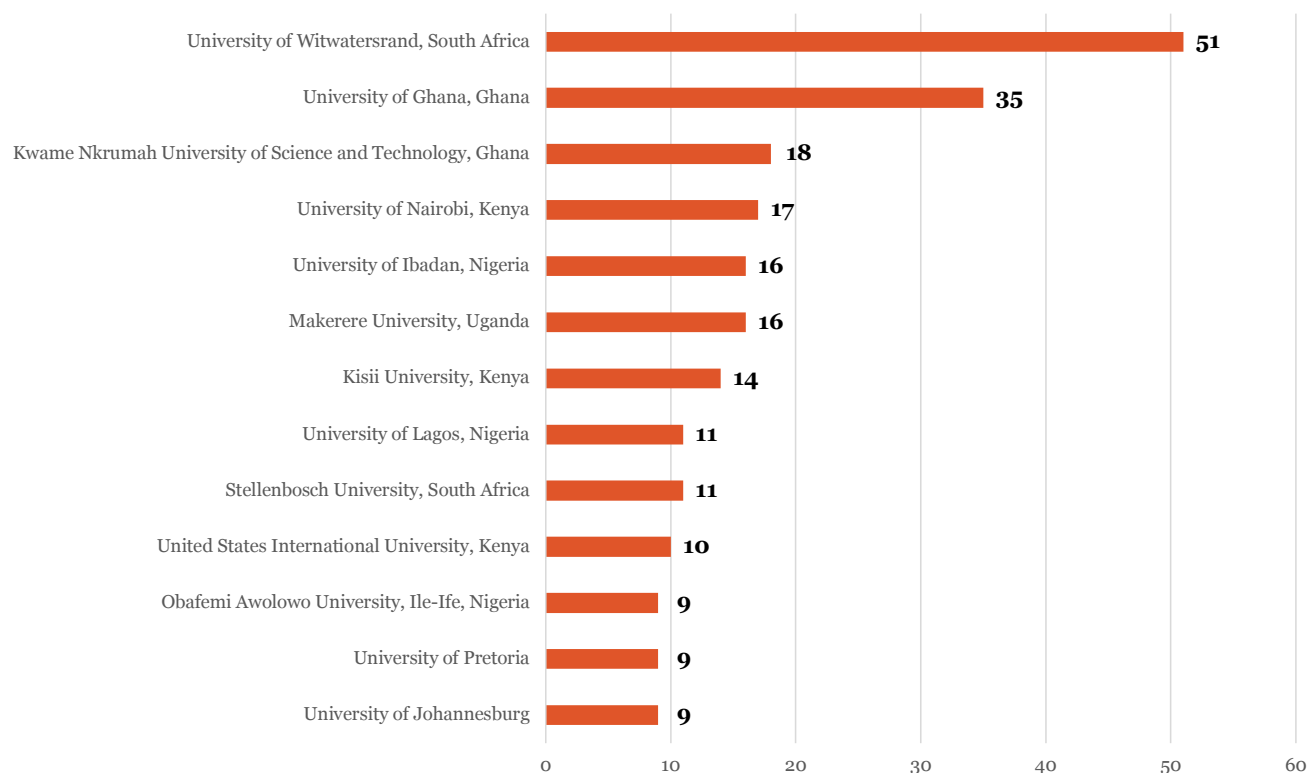


FIGURE 16
Top host institutions of diaspora fellows



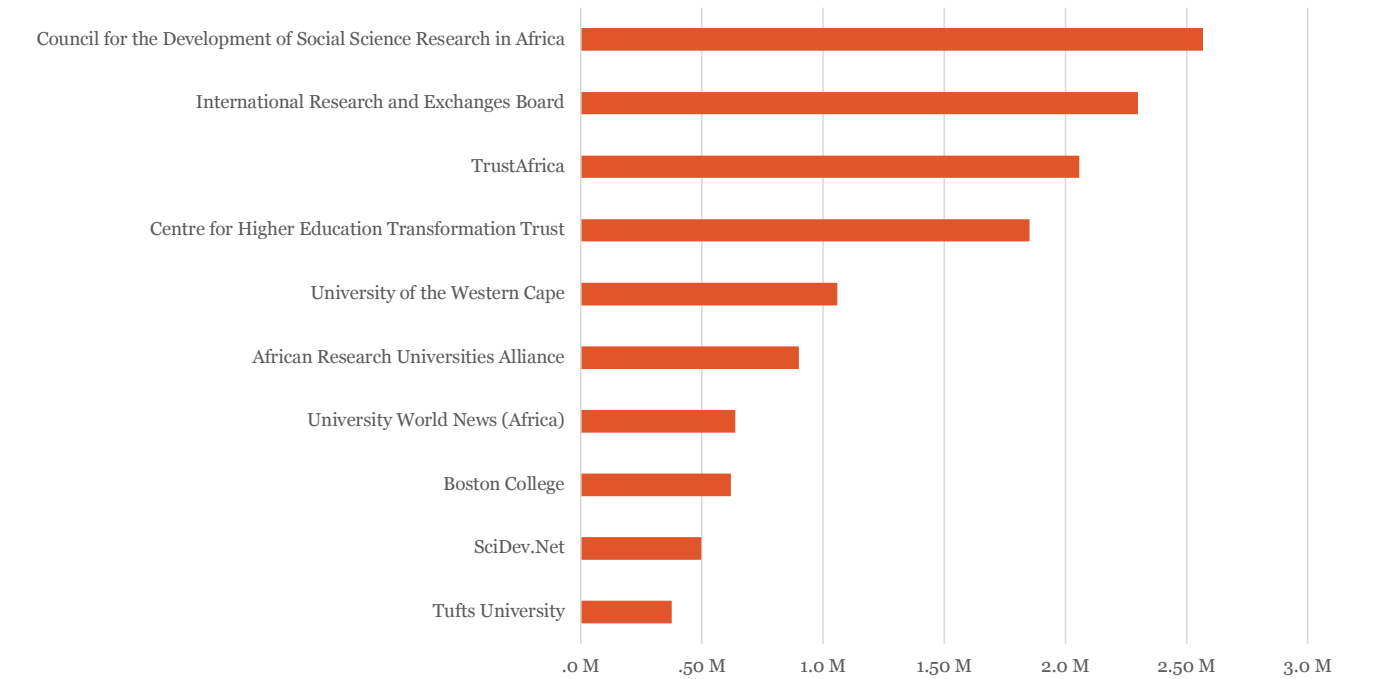
Diaspora fellows collaborated on curriculum development, contributed to graduate student teaching and mentoring, and partnered with faculty at their host institutions on research projects.

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INVESTMENT OBJECTIVE III: HIGHER EDUCATION POLICY AND RESEARCH

The third-largest investment objective under the Higher Education and Research in Africa portfolio is centered on policy and research. Carnegie Corporation of New York spent \$15.59 million over 10 years to support evidence-based policy development on the continent. **Figure 17** lists the top 10 institutional partners under this investment objective.

FIGURE 17
Top 10 institutional partners for Policy and Research



As with the NextGen and Diaspora Linkages objectives, the Corporation took a multipronged approach with its Policy and Research investments to support and strengthen the higher education system in Africa. The Corporation brought together key stakeholders, including country presidents, government higher education officials, senior university leaders and staff, staff and student unions, industry and private sector representatives, and eminent research scientists and faculty from the region. It also supported higher education institutions to collect data to inform their development, and it enabled universities to network and collaborate on research and advocacy efforts on the continent. The key aspects of this strategy are discussed below, along with examples of how the Policy and Research objective strengthened the higher education sector and supported other components of the Corporation’s higher education strategy in Africa.

Table 8 provides a list of institutional partners by subobjective, and **Figure 18** illustrates the proportion of investments by subobjective. See **Appendix A** for a list of funded activities by organization.

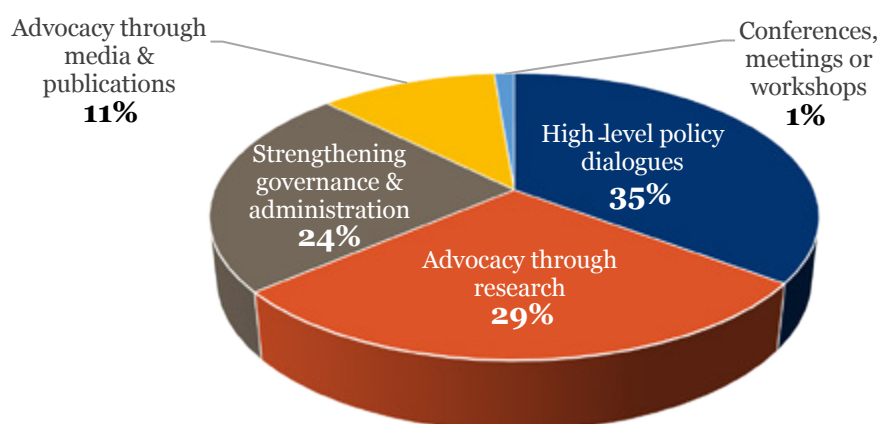
TABLE 8
Policy and Research grantees by subobjective

Grantee	\$M
High-level policy dialogues	5.50
TrustAfrica	2.06
Council for the Development of Social Science Research in Africa	1.37
Tufts University	.38
Association of African Universities	.33
Carleton University	.30
University of Texas at Austin	.28
African Institute for Mathematical Sciences	.25
University of Pretoria	.20
Regional Universities Forum for Capacity Building in Agriculture (RUFORUM)	.10
National Research Foundation	.10
Human Sciences Research Council	.05
Ontario Confederation of University Faculty Associations	.05
Partnership for African Social and Governance Research	.04
Advocacy through research	4.44
Centre for Higher Education Transformation Trust	1.85
University of the Western Cape	1.06
African Research Universities Alliance*	.80
Indiana University	.20
University of Johannesburg	.18
Cape Higher Education Consortium	.16
Aga Khan Foundation, Kenya	.10
African Minds Trust	.10
Strengthening governance and administration	3.70
International Research and Exchanges Board	2.30
Council for the Development of Social Science Research in Africa	1.20
African Research Universities Alliance*	.10
University of California, Berkeley	.05
King College London	.05
Advocacy through media and publications	1.75
University World News (Africa)	.64
Boston College	.62
SciDev.Net	.50
Conferences, meetings, and workshops	.20
American Council of Learned Societies	.05
Regional Universities Forum for Capacity Building in Agriculture (RUFORUM)	.05
Comparative and International Education Society	.05
University of Cape Town	.05
Total	15.59

* The University of the Witwatersrand was the fiscal agent for grants to the African Research Universities Alliance.

FIGURE 18

Policy and Research spending by subobjective



High-Level Policy Dialogues

Carnegie Corporation of New York brought together country presidents and senior government officials; university presidents and senior staff; student leaders; regional stakeholders, including industry and community representatives; and senior academic faculty for general assemblies and summits. These gatherings enabled African leaders to discuss their higher education agendas and aspirations and to recommend continental, national, and institutional strategies for strengthening the sector. Funding for this subobjective totaled \$5.5 million (35 percent of Policy and Research funding), with the largest awards made to TrustAfrica (\$2.06 million) and CODESRIA (\$1.37 million). The forums organized by these two institutional partners are described below.

Other grants in this area include support for the Association of African Universities to host several conferences of rectors, vice-chancellors, and presidents of universities to discuss pan-African and regional initiatives for transforming higher education. Similarly, RUFORUM received support to organize a series of convenings for African higher education leaders and policymakers on implementing the recommendations of the African Union Committee of 10.

TrustAfrica

TrustAfrica seeks to strengthen African initiatives that address the most difficult socioeconomic challenges confronting the continent. Through funding from Carnegie Corporation of New York, it organized a series of policy dialogues, including a 2015 Continental Summit on Higher Education with 12 African partner organizations hosted by President Macky Sall of Senegal. The aim of the summit was to organize a pan-African, multistakeholder platform to identify strategies for transforming the African higher education sector. It was attended by key stakeholders from across the continent, including high-level officials such as the African Union Commission chairperson, ministers, and vice-chancellors. The summit resulted in a declaration and action plan, followed by national summits in Ghana, Nigeria, and Tanzania to set priorities for the transformation of higher education in those countries. A subsequent outcome was

the creation of the African Union Committee of 10, composed of heads of state championing education, science, and technology.

Council for the Development of Social Science Research in Africa

CODESRIA hosted several conferences and pan-African stakeholder gatherings, including the 14th General Assembly on the theme *Creating African Futures in an Era of Global Transformations*. The council also led a higher education policy engagement project with the main goal of contributing to better governance and leadership of African universities in terms of their ability to strengthen the academic core of the institutions. The overarching question was how new governance and leadership structures in African institutions were creating conditions for quality academic programs and successful outcomes.

Advocacy through Research

To establish a strong research foundation for evidence-based advocacy and policymaking, Carnegie Corporation of New York invested in multiple policy research projects. The largest grant in this category (\$1.85 million out of \$4.44 million) was to the Centre for Higher Education Transformation (CHET) for its Higher Education and Research Advocacy Network in Africa (HERANA), which developed a set of performance indicators for eight emerging African research universities. The project was later expanded to 16 universities through a grant to the African Research Universities Alliance, with Wits University as a funding vehicle.

Other grants in this area included a grant to the University of the Western Cape for a landscape study of African higher education policymakers and practices and a grant to the University of Johannesburg for a research study and policy dialogue on the transformation of higher education curricula in South Africa.

Centre for Higher Education Transformation

CHET is a nongovernmental organization in South Africa focused on mobilizing transdisciplinary skills for specific research and capacity-development projects. It does this by tapping available expertise in the national and international higher education sector. Toward the end of PHEA, CHET and PHEA partners discussed the importance of a coordinated approach to strengthening higher education studies in Africa. Carnegie Corporation of New York continued to support HERANA's activities after the end of PHEA in 2010.

With CHET as the key coordinating body, HERANA was established in 2007 as a partnership with eight flagship universities: the University of Botswana, the University of Cape Town, the University of Dar es Salaam, Eduardo Mondlane University, the University of Ghana, Makerere University, the University of Mauritius, and the University of Nairobi. CHET coordinated the collection and sharing of empirical data on these universities' performance on key indicators, and it conducted and published research on the role of higher education in socioeconomic development. CHET also supported HERANA's activities related to research partnerships among the universities and beyond and used research outcomes for evidence-based advocacy (Cloete and van Schalkwyk 2018). Several books and reports resulted from this research on higher education. More importantly, the universities increased the focus on research in their strategic plans.

HERANA also contributed to the launch of the African Research Universities Alliance, a network of 16 institutions working together on enhancing research and graduate training in member universities through a number of channels, including the establishment of 13 Centers of Excellence to be hosted by member universities. By the final phase of HERANA, the percentage of tenured faculty with doctorates increased at all partner universities. The number of doctoral graduates increased significantly, as did research outputs such as publications. The University of Cape Town had the most doctoral graduates in 2015 with 223, followed by the University of Nairobi at 100 and Makerere University at 64 (Cloete and van Schalkwyk 2018, 44).

CODESRIA's Higher Education Leadership Programme

Supported by the Corporation from 2011 to 2016, HELP was focused on understanding higher education leadership and governance in Africa to address the indirect ways in which university leadership influences societies. In developing this initiative, CODESRIA was motivated by the desire to contribute to the knowledge base and initiate policy debates that would deepen reforms, as leadership and governance are central to ensuring the quality and relevance of higher education in the continent.

Through 12 national and regional comparative working groups, research topics included strengthening leadership and democratic governance; internationalization; the changing leadership roles of deans, senates, and councils; faculty and student involvement; women and leadership; and quality assurance. Several higher education vice-chancellors were commissioned to write books on their experiences of higher education reform. Eleven books and manuscripts were published on CODESRIA's open-access website following several dissemination seminars. HELP also led to CODESRIA's Higher Education Policy Initiative, which received Corporation renewal support from 2016 to 2020 for six additional comparative research groups, two institutes, policy dissemination activities, and publications. A list of publications developed through the program are available on the CODESRIA website.

Strengthening Governance and Administration

International Research and Exchanges Board (IREX) and University Administration Support Program (UASP)

IREX developed and implemented the University Administration Support Program (UASP), which aimed to enable university administrators to analyze their institutional research management capacities and create strategic workplans for improving them. It provided administrators a two-week training in Washington, D.C., followed by a four-week field placement at a U.S. institution with coaching calls and online support and a small grants competition upon return to implement reforms. The IREX UASP website offers the following examples of UASP program success:

- Between 2001 and 2019, UASP supported 214 fellows from 18 countries across Eurasia and Africa.
- More than 80 leading universities across the U.S. have hosted UASP fellows.
- More than 84 percent of fellows have implemented reform projects at their home universities and 72 percent have driven sustainable institutional change as a result of their participation.

- Reform projects have included establishing offices of sponsored research, creating technology transfer centers, developing research ethics policies, and launching courses and training on research methods, proposal writing, and grants management.
- More than 68 percent of UASP alumni maintain the professional networks they developed through UASP, some for over a decade.
- More than 33 percent of alumni established formal collaborations between their home universities and U.S. host universities.

Advocacy through Media and Publications

Another key aspect of the Policy and Research objective was to support higher education media and publications on the growing higher education sector in building a platform of local and global constituencies to sustain the sector. This area of work included policy advocacy to increase Africa's academic research output and postgraduate training to build a pipeline of emerging academic leaders who could address local challenges.

For example, University World News (Africa) is an Africa-led and Africa-based publication founded in 2008, providing a platform for higher education stakeholders to access and share news, opinions, and experiences of higher education in Africa. An upgrade to a mobile platform in 2018 led to almost doubling readers in Africa from 82,168 users to 146,101 (by comparison, the US had close to 31,000 users). In 2019, UWN's total number of subscribers grew by 44 percent, from 620,000 to 890,000, and the website had over 1.08 million users, a growth of 31.34 percent compared with the previous year. This reflects the rapid growth of the higher education sector in Africa, and as such is an area of intense interest for a wide range of readers including policymakers, governments and sectoral stakeholders, academics, parents, and students.

Funding from Carnegie Corporation of New York also enabled a multimedia series hosted by SciDev.Net on strengthening doctoral training and research in Africa, which brought successes and challenges related to doctoral training to the forefront of public dialogue. The project funded films on topics such as investing in female scientists to feed Africa, creating a new generation of African research leaders, and profiting from concrete research networks.

International Network for Higher Education in Africa

The Center for International Higher Education at Boston College is an influential research department in the field of international higher education. Philip Altbach, its founding director, is also known as the founding scholar of the field of international higher education. Carnegie Corporation of New York's support for the center is an exemplar of strategic investments in increasing the visibility, knowledge, and understanding of African higher education. The center led influential research related to higher education in Africa, incorporated African higher education into its highly visible quarterly publication on international higher education, and enabled the creation of the International Network for Higher Education in Africa.

IMPACT MULTIPLIERS

Carnegie Corporation of New York's higher education and research strategy for Africa has focused on developing in-depth, long-term partnerships with prominent institutions, deliberately strengthening networks of individuals and institutions engaged in higher education transformation. The benefits of these partnerships can have several dimensions (Sutton 2016). First, partnerships offer direct benefits to individual institutions, such as through funding for collaborative work. The Corporation's funding for research and curriculum development through NextGen and the Diaspora Linkages Initiative is a good example of this type of benefit.

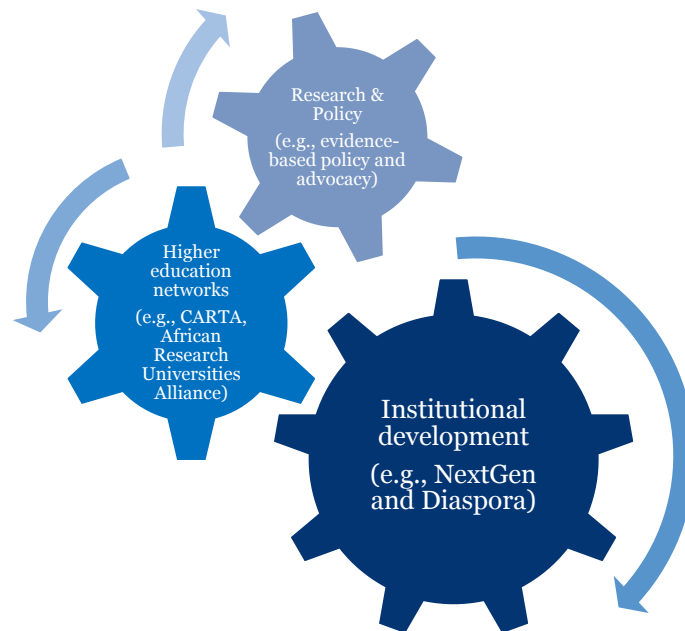
Second, partnerships produce "benefits shared by partners as a result of collaboratively producing something new, something that did not exist before and could not exist without collaboration" (Sutton 2016, 183). This could, for example, include collaborative research that draws on the strengths of each partner to support a project that neither could do alone. The large volume of work produced under HERANA and CODESRIA, the publications produced through the African Humanities Program, and the establishment of CARTA and RISE are excellent examples of this dimension of outcomes.

The third dimension extends the benefit of institutional partnerships to the higher education sector more broadly, with the partnerships serving as the "building blocks of a global system of higher education that challenges, rather than perpetuates, gaps, and inequities" in higher education (Sutton 2016, 183). The 2015 African Higher Education Summit on Revitalizing Higher Education for Africa's Future, funded by Carnegie Corporation of New York and other partners, exemplifies how thoughtful partnerships can lay the foundations for an equitable, global system of higher education. Attended by country presidents, presidents of regional bodies such as the African Union and the Association of African Universities, university presidents, senior academics, and other stakeholders, the summit culminated in a declaration outlining 16 steps for the transformation of higher education on the continent (Nolan 2015). It emphasized the need for collaborative research among African universities and continued partnerships with the African diaspora. While the summit was a one-time event, it launched the African Research Universities Alliance, a 16-university partnership for enhanced doctoral training and research collaborations. The declaration that came out of the summit was also influential in the inclusion of higher education in the African Union Commission's 2016–25 Continental Education Strategy for Africa and the creation of the Committee of 10 heads of state championing higher education, science, and technology. Similarly, the membership meetings and conferences held by the Association of African Universities, CODESRIA, and RUFORUM attract government ministers of higher education for information sharing and policy discussions.

Figure 19 illustrates the multidimensional nature of the Corporation's work in higher education and research in Africa. Institutional development through NextGen and Diaspora Linkages Initiative partnerships lays a strong foundation for higher education networks, associations, and alliances that engage in research and policy dialogue. These networks create a powerful means for advocacy through data aggregation, research, and dissemination, and their enablement of high-level policy dialogues leads to long-lasting building blocks for improved higher education on the continent. Specific examples of how the impacts of the Corporation's investments were multiplied are provided here.

FIGURE 19

Impact multipliers for Carnegie Corporation of New York's investments in higher education in Africa



Taking a Multipronged Approach

Each investment objective used a multipronged approach, enabling different types of networks and organizations to come together in dynamic and synergistic ways. For example, under the NextGen objective, RUFORUM, as a large network of universities for whom strengthening research capacity is a priority, is able to combine its expertise in designing advanced training and research support activities for individual faculty members with its extensive knowledge of the needs of its member universities and use its convening power to bring both to the attention of policymakers. As an illustration of RUFORUM's multipronged approach, the 20 ministers of education and higher education attending RUFORUM's biennial conference in October 2018 identified the postdoctoral program as particularly valuable in promoting the retention of the young scientists in their home universities. Vice-chancellors valued the generative capacity of the postdoctoral fellows they hosted, noting that, collectively, the fellows had mentored more than 90 master's and doctoral students.

Supporting Faculty from Early- to Mid-Career

Another impact multiplier is the focused investment on supporting faculty from early- to mid-career. In 2010, the University of Ghana had a faculty–student ratio of 1:35, and less than 50 percent of faculty had a PhD or other terminal degree. Only about 20 percent of faculty were below age 40, and as many as 47 percent were above age 50.

Between 2010 and 2019, University of Ghana benefited from the Corporation's direct support for postgraduate education, the support of the Diaspora Linkages Initiative, and the university's involvement in CAPREx, the African Humanities program. By 2016, the faculty–student ratio was 1:29, 66.5 percent of faculty held doctoral or other terminal degrees, and 27 percent of faculty were below age 40. These programs, plus the many projects funded by other donors, undoubtedly contributed to the university's progress in credentialing its academic staff.

Strengthening Universities by Augmenting Academic Staff Members' Credentials and In-Region Doctoral Training

Carnegie Corporation of New York made the strategic decision to focus on supporting African universities to develop the credentials and skills of existing academic staff. This strategy promoted universities' development in several ways. First, it aimed to increase retention of the academic staff. Second, supporting academic staff to attain advanced degrees enabled them to obtain promotions and improve their competitiveness in research grant competitions. Third, in-region training ensured that academic staff members' skills and research were compatible with the needs of their home institutions and countries. Increased staff retention, along with the experience of providing doctoral training to larger numbers of students, strengthened universities in a sustainable manner.

Attracting Additional Support for Networks

The most successful networks have been able to attract additional funding to sustain their work. For example:

- RUFORUM has received support from organizations such as the Bill & Melinda Gates Foundation and the MasterCard Foundation.
- CARTA leveraged Corporation and Wellcome Trust support to obtain significant funding from the Swedish International Development Cooperation Agency.
- Support to AIMS was matched by the Government of Rwanda's Quantum Leap Africa program.
- The African Research Universities Alliance received 20 million pounds in funding from UK Research and Innovation within three years of its launch.
- Makerere University leveraged research capacity built through support from the Swedish International Development Cooperation Agency, the Corporation, and other international funders to obtain the equivalent of \$8 million from the Ugandan government for research necessary for national development, with the promise of annual contributions over five years.
- University of Ghana faculty members associated with NextGen proposal writing workshops won two major grants: \$8 million under the World Bank Centres of Excellence initiative and \$7.186 million from Wellcome Trust to establish the West Africa Centre for Cell Biology of Infectious Pathogens.



Providing a Model for Diaspora Linkages

The impact of the Corporation's work can be seen in the replication of its diaspora models. For example, vice-chancellors at Kwara State University, Malete, in Nigeria and the University of Johannesburg in South Africa have replicated versions of the Pan-African Doctoral Academy model (Frittelli 2018). The Pan-African Doctoral Academy itself was modeled on Stellenbosch University's African Doctoral Academy, which received start-up support from the Corporation. The Carnegie African Diaspora Fellowship Program was replicated by Ethiopia and the U.S. Embassy in the Ambassador's Distinguished Scholars Program to strengthen Ethiopian universities; by the Stavros Niarchos Foundation's Greek Diaspora Fellowship Program to strengthen Greek universities; and by a component of the Foundation for a Smoke-Free World's Fellowship and Scholarship Fund to strengthen research capacity in areas related to agricultural transformation in Malawi through graduate study or postdoctoral research in the United States or South Africa.

Building Mutually Beneficial Partnerships

Most importantly, several institutions have been strengthened by and in turn played a role in strengthening Carnegie Corporation of New York's cross-cutting investment objectives. For example, the University of the Witwatersrand:

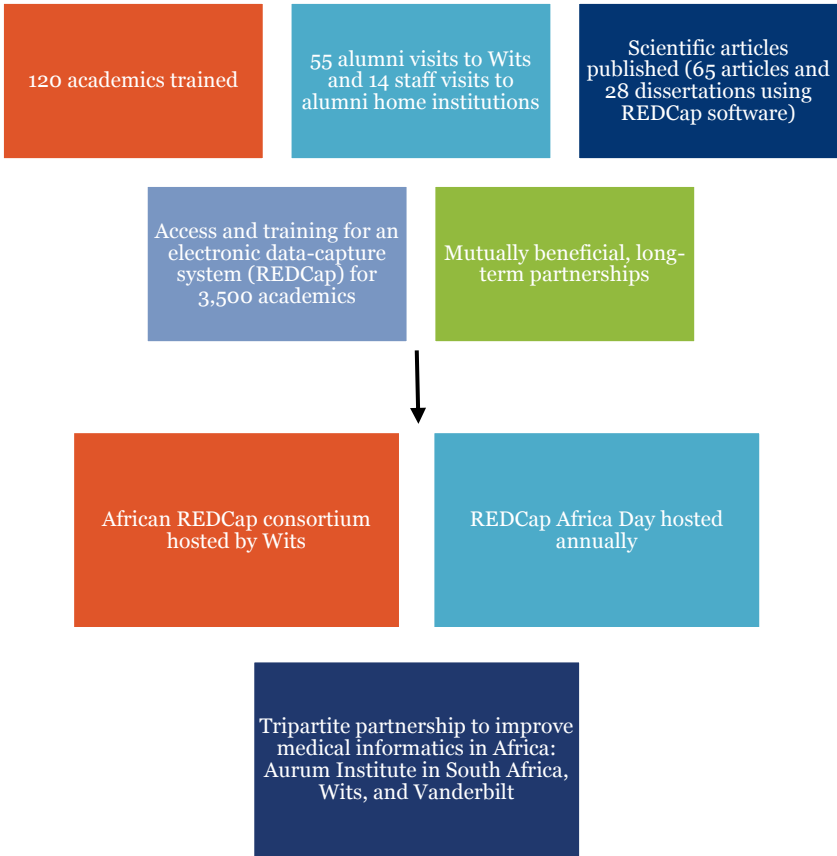
- received NextGen support directly,
- was involved in at least three supported postgraduate training and research networks,
- was active in the African Humanities Program,
- received support for the Wits Alumni Diaspora Programme,
- hosted six diaspora fellows from the Carnegie African Diaspora Fellowship Program, and
- was instrumental in the formation of the African Research Universities Alliance, including hosting its secretariat, serving as fiscal agent, and having the vice-chancellor serve as co-chair of its executive council.

These investments, along with those of other funders and the university itself, resulted in an 80 percent increase in scholarly publications over five years, with 87 percent of publications in high-impact international journals. At the same time, the university progressed toward achieving its equity objectives; by 2019, academics from previously underrepresented groups comprised 50 percent of Wits University's faculty.

The multiplier effect of one relationship with a powerful alumnus is evident in the Wits–Vanderbilt partnership (see **Figure 20**, page 42). The vice chair for research in the Department of Medicine at Vanderbilt University is a Wits alumnus who has facilitated collaborations between 10 fellows from Vanderbilt and faculty at Wits in the field of health sciences. Through this work, Vanderbilt University gained experience working with a population with a massive disease burden different from that in the United States, developing expertise in diseases such as HIV, tuberculosis, and malaria. Wits University gained expertise in sophisticated data science techniques and software. Faculty from both universities were able to publish their work, and the two universities signed a memorandum of understanding for long-term collaboration.

The benefits of this partnership extend beyond Vanderbilt and Wits. One of the partnership’s early collaborations was in the field of biomedical informatics, with Wits faculty trained to use REDCap, an open-source software package developed by the Vanderbilt Medical Center. Infrastructure was established at Wits to enable faculty to use REDCap for clinical studies and other applications. As of 2019, on average, 650 different users logged into the software daily; there were 2,700 projects, 945 of which were in production and 1,400 of which were in development (Kramer and Zent 2019).

FIGURE 20
 Multipliers of the Wits Alumni Diaspora Programme



The partnership between Wits and Vanderbilt was extended to include Aurum Institute, a public-benefit, nonprofit organization in South Africa, leading to an exchange of staff and faculty and the establishment of medical informatics at Aurum. In 2014, an African consortium was initiated at Wits in partnership with Vanderbilt, creating a hub of expertise and support for medical informatics for the region (Kramer and Zent 2019). The collaborations have led to 12 publications; presentations at international congresses; and joint funding, including Wits–Vanderbilt grants from the National Institutes of Health.



CONCLUSION

This report presents a valuable snapshot of progress toward a set of objectives that is still being addressed. The data will not be complete until all the grants under the three objectives conclude. Moreover, the impact of the grants, individually and collectively, will not be known for some years into the future. The careers of academics take years to develop fully; the strength of university programs can rise or fall on the basis of consistent availability of effective leadership and sufficient human and financial resources; and the intricate relationships among sectoral policy and data analysis, policy influence, and policymaking make impact of funded activities difficult to detect. Moreover, ascertaining impact—the “real and permanent good” sought by the Corporation’s founder—will require extensive fieldwork, beyond the review of grant reports and desk evaluations. While the career trajectories of fellows supported by grants can be tracked, only field research can translate output data into evidence of the Corporation’s long-term contributions to strengthening higher education and research in Africa.

REFERENCES

- African Union. *Continental Education Strategy for Africa, 2016–2025*. Addis Ababa, Ethiopia: African Union, 2016.
- African Union. Letter from the director of the Citizens and Diaspora Directorate. September 20–29, 2017. <https://au.int/sw/node/32960>.
- African Union. *The First Extra-Ordinary Summit for the Committee of Ten Heads of State and Government (C10) Championing Education, Science, and Technology* (Draft concept note, Lilongwe, Malawi, 2018). https://au.int/sites/default/files/newsevents/conceptnotes/35322-cn-c10_summit_concept_note_en.pdf.
- Cloete, Nico, Ian Bunting, and François van Schalkwyk. *Research Universities in Africa*. Cape Town, South Africa: African Minds, 2018.
- Cloete, Nico, Peter Maassen, and Tracy Bailey, eds. *Knowledge Production and Contradictory Functions in Higher Education*. Cape Town, South Africa: African Minds, 2015.
- Cloete, Nico, Johann Mouton, and Charles Sheppard. *Doctoral Education in South Africa: Policy, Discourse and Data*. Cape Town, South Africa: Centre for Higher Education Transformation, 2015.
- Cloete, Nico, Charles Sheppard, and Tracy Bailey. “South Africa as a PhD Hub in Africa?” In *Knowledge Production and Contradictory Functions in Higher Education*, edited by Nico Cloete, Peter Maassen, and Tracy Bailey, 75–108. Cape Town, South Africa: African Minds, 2015.
- Cloete, Nico, and François van Schalkwyk. “HERANA — 10 Years of Growing Research Universities.” *University World News*, March 30, 2018. <https://www.universityworldnews.com/post.php?story=20180328135155625>.
- Foulds, Kim, and Paul Tiyambe Zeleza. “The African Academic Diaspora and African Higher Education.” *International Higher Education* 76 (Summer 2014): 16–17.
- Frittelli, Claudia. “African Academic Diaspora: Training and Research,” Carnegie Corporation of New York, October 8, 2018. <https://www.carnegie.org/topics/topic-articles/african-academic-diaspora/african-academic-diaspora-training-and-research/>.
- Grant Lewis, Suzanne, Jonathan Friedman, and John Schoneboom. *Accomplishments of the Partnership for Higher Education in Africa, 2000–2010*. New York: New York University, 2010.
- Jowi, James Otieno, Milton Obamba, Chika Sehoole, Maria Barifaijo, Ogachi Oanda, and Goski Alabi. *Governance of Higher Education, Research and Innovation in Ghana, Kenya and Uganda. Programme on Innovation, Higher Education and Research for Development (IHERD)*. Paris: OECD, 2013.
- Kramer, Beverley, and Roy Zent. “Diaspora Linkages Benefit Both Sides: A Single Partnership Experience.” *Global Health Action* 12, no. 1 (July 2019): 1–7.

Legwaila, Joseph. "The Role of the Diaspora in Support of Africa's Development." Keynote address at the African Diaspora Leadership Forum, London, October 3, 2006.

Madhani, Naureen. "International Partnerships in Africa: A Review of Faculty Experiences." In *Global Perspectives on Strategic International Partnerships: A Guide to Building Sustainable Academic Linkages*, edited by Clare Banks, Birgit Siebe-Herbig, and Karin Norton, 217–30. New York: Institute of International Education and DAAD, 2016.

Moock, Joyce Lewinger, and Katherine Namuddu. *Carnegie Corporation of New York Africa Diaspora Initiative Review (2013–2016)*. New York: Carnegie Corporation of New York, 2017.

Nolan, Robert. "A Road Map for African Higher Education," Carnegie Corporation of New York, March 31, 2015. <https://www.carnegie.org/topics/topic-articles/african-higher-ed-policy/road-map-african-higher-education/>.

Pillay, V. (2015). The Role of Research and Post Graduate Studies in African Higher Education. (Policy brief). Retrieved from https://www.adeanet.org/en/system/files/policy_brief_research_en.pdf.

Schulmann, Paul. "African Student Mobility: Regional Trends and Recommendations for U.S. HEIs." *World Education News and Reviews*, March 7, 2017. <https://wenr.wes.org/2017/03/african-student-mobility-insights-and-recommendation-for-u-s-heis>.

"South Africa Remains an Important Regional Hub for Education." *ICEF Monitor*, March 13, 2017. <https://monitor.icef.com/2017/03/south-africa-remains-important-regional-hub-education/>.

Sutton, Susan Buck. "Mutual Benefit in a Globalizing World: A New Calculus for Assessing Institutional Gain through International Academic Partnerships." In *Global Perspectives on Strategic International Partnerships: A Guide to Building Sustainable Academic Linkages*, edited by Clare Banks, Birgit Siebe-Herbig, and Karin Norton, 175–85. New York: Institute of International Education and DAAD, 2016.

Teferra, Damtew. "Funding Higher Education in Africa: State, Trends and Perspectives." *Journal of Higher Education in Africa* 11, no. 1–2 (2013).

TrustAfrica. *African Higher Education Summit: Revitalizing Higher Education for Africa's Future*. (Dakar, Senegal: TrustAfrica, 2015). <http://www.trustafrica.org/en/publications-trust/books-and-ebooks>.

Zezeza, Paul Tiyaambe. *Engagements between African Diaspora Academics in the U.S. and Canada and African Institutions of Higher Education: Perspectives from North America and Africa*. New York: Carnegie Corporation of New York, 2013.

APPENDIX A: SUPPLEMENTAL TABLES

APPENDIX TABLE 1

Institutional partners by organization type

Institutional Partner	Grant (\$M)
Higher education and research support organizations	49.65
African Institute for Mathematical Sciences	2.75
African Renaissance Institute of Science and Technology	.04
American Council of Learned Societies	14.35
Council for Advancement and Support of Education	.90
Council for the Development of Social Science Research in Africa	4.97
Institute of International Education	13.95
International Foundation for Science	1.61
International Research and Exchanges Board	2.30
Nigeria ICT Forum of Partnership Institutions	.40
Regional Universities Forum for Capacity Building in Agriculture (RUFORUM)	4.15
Social Science Research Council	4.24
African universities	47.60
Makerere University	8.56
Rhodes University	.05
Stellenbosch University	1.80
University of Cape Town	9.50
University of Dar es Salaam	.05
University of Ghana	11.77
University of Johannesburg	.23
University of KwaZulu-Natal	.05
University of Pretoria	6.84
University of the Western Cape	1.06
University of the Witwatersrand	7.70
Research and training institutes, centers, and networks	20.92
African Population and Health Research Center	7.25
Centre for Higher Education Transformation Trust	1.85
Institute for Advanced Study	10.24
Partnership for African Social and Governance Research	1.48
World Agroforestry	.10
Non-African colleges and universities	6.63
Boston College	.62
Carleton University	.30
Indiana University	.20

Institutional Partner	Grant (\$M)
King's College London	2.10
Loyola Marymount University	.10
The New School	.38
Rutgers, The State University of New Jersey	.02
Tufts University	.38
University of California, Berkeley	.05
University of Cambridge	2.21
University of Texas at Austin	.28
Academic and higher education associations and membership organizations	3.74
African Academy of Sciences	2.0
African Research Universities Alliance	.90
African Studies Association	.25
Association of African Universities	.33
Cape Higher Education Consortium	.16
Comparative and International Education Society	.05
Ontario Confederation of University Faculty Associations	.05
Other organizations	2.56
Aga Khan Foundation, Kenya	.10
International Women's Forum Leadership Foundation	.40
TrustAfrica	2.06
African government agencies	1.99
Human Sciences Research Council	.05
National Council for Tertiary Education	1.39
National Research Foundation	.55
Media and publishing	1.35
African Journals Online	.05
African Minds Trust	.10
Megan Lindow	.05
Research Africa (Pty) Ltd.	.02
SciDev.Net	.50
University World News (Africa)	.64
Total	134.43

APPENDIX TABLE 2
Grants funded under the NextGen objective

Grants funded under the NextGen objective	\$M
American Council of Learned Societies	14.30
As a final grant for fellowships in the humanities in Africa	14.25
For planning a research project on theatre for conflict resolution	.05
Institute for Advanced Study	10.20
As a final grant for the Regional Initiative in Science and Education, supporting development of science professionals in sub-Saharan Africa	5.0
For enhancing the capacity of selected science and technology postgraduate training and research networks	.20
For the Regional Initiative in Science and Education (RISE), supporting development of science professionals in sub-Saharan Africa	5.0
University of Ghana	7.95
As a final grant for postgraduate training and research programs to advance scholarship and improve the retention of African academics	2.25
For support of early-career doctoral and postdoctoral candidates and a pan-African doctoral academy deploying diaspora linkages	2.34
For support of early-career academics and diaspora fellowships	1.76
Toward postgraduate training and research programs to advance scholarship and improve the retention of African academics	1.61
Makerere University	7.55
As a final grant for postgraduate training and research programs to advance scholarship and improve the retention of African academics	2.60
For a competitive postdoctoral research support program	1.0
For facilitating and managing a reference group of four African universities focused on the next generation of African academics	.05
For postgraduate training and research programs to advance scholarship and improve the retention of African academics	1.90
For a competitive fellowship program for early-career academics	1.0
For the doctoral program in social studies at the Makerere Institute for Social Research	1.0
University of Cape Town	7.50
Final grant for postgraduate training and research programs to advance scholarship and improve the retention of African academics	2.70
For developing emerging academic leaders through postdoctoral support	2.30
Toward postgraduate training and research programs to advance scholarship and improve the retention of African academics	2.50
African Population and Health Research Center	7.25
As a final grant for a consortium of African universities to strengthen postgraduate training and research capacity in public health and population studies	2.65

Grants funded under the NextGen objective	\$M
For a consortium of African universities to strengthen postgraduate training and research capacity in public health and population studies	2.50
For a study of the feasibility of developing and implementing a service to track career progression of graduates of education and training programs in Africa	.10
For competitive postdoc fellowships open to graduates of the Consortium for Advanced Research Training in Africa doctoral program	2.0
University of the Witwatersrand	6.70
As a final grant for postgraduate training and research programs to advance scholarship and improve the retention of African academics	2.34
As a one-time grant for a competitive postdoctoral research support program	1.95
As a one-time only grant to evaluate programs aimed at transforming the university's faculty	.11
For research on African philanthropy by early-career African scholars	.20
For tracing the trajectory of Corporation-supported academic staff in South African universities	.05
Toward postgraduate training and research programs to advance scholarship and improve the retention of African academics	2.05
Social Science Research Council	4.24
For a competitive fellowship program to promote doctoral research and writing by university-based social scientists in selected African countries	4.19
For planning a program to support early-career social scientists in selected African countries	.05
Regional Universities Forum for Capacity Building in Agriculture (RUFORUM)	4.0
As a final grant for strengthening regional doctoral programs in African universities	1.51
As a one-time grant for a competitive postdoctoral research support program	1.50
For strengthening regional doctoral programs in African universities	1.0
University of Cambridge	2.21
As a final grant for collaboration with the University of Ghana and Makerere University to promote research excellence and retention of early- and mid-career scholars and scientists	1.01
For collaboration with the University of Ghana and Makerere University to promote research excellence and retention of early- and mid-career scholars and scientists	1.20
King's College London	2.0
A final grant for building a next generation of scholars in peace, security, and development in African universities	2.0
African Academy of Sciences	2.0
For a postdoctoral program in support of rising research leaders in science and engineering	2.0
Stellenbosch University	1.80
As a final grant to the African Doctoral Academy for creating excellence in African academic research	.80
For the African Doctoral Academy, creating excellence in African academic research	1.0

Grants funded under the NextGen objective		\$M
International Foundation for Science		1.61
For a competitive fellowship program for early-career scientists in African universities		1.54
For a conference in Africa to share the results of a pilot project on fostering collaborative research		.07
University of Pretoria		1.44
As a one-time grant for a competitive postdoctoral research support program		1.25
As a one-time only grant for a convening of Corporation-supported postdoctoral fellows		.14
For piloting of a virtual research environment for the Southern African Biochemistry and Informatics for Natural Products network		.05
Partnership for African Social and Governance Research		1.44
As a one-time grant for strengthening social research methods training in Africa		.56
For an early-stage assessment of outcomes of a multi-methods research course		.08
For support to launch a doctoral program in public policy		.80
Institute of International Education		.95
For a fund to support conference attendance by fellows and graduates of selected African postgraduate training programs		.85
For a meeting on developing and retaining the next generation of African academics		.10
National Research Foundation		.45
For documenting postdoctoral training models and analyzing and disseminating results		.45
African Studies Association		.25
For participation of African early-career academics in skills-enhancement workshops		.05
For participation of early-career African scholars in the association's annual meetings		.10
For participation of early-career African scholars in the association's annual meetings		.10
World Agroforestry		.10
For participation of emerging female African researchers in the Global Forum on Women in Scientific Research		.10
University of Dar es Salaam		.05
As a one-time only grant for participation of African early-career academics in a continental conference		.05
University of Jos		.05
For a study on how selected African postgraduate training and research networks are using information and communication technologies		.05
University of KwaZulu-Natal		.05
For a study on how early-career African academics are learning to teach		.05
African Renaissance Institute of Science and Technology		.04
For the seventh international conference of the Africa Materials Research Society		.04
Research Africa (Pty) Ltd.		.02
For production of a short film on expanding and sustaining excellence in doctoral programs in sub-Saharan Africa		.02
Rutgers, The State University of New Jersey		.02
For support of African postdoctoral and graduate students attending the African Linguistics School 2013		.02
Total		84.16

APPENDIX TABLE 3

Grants funded under the Diaspora Linkages Initiative objective

Grants funded under the Diaspora Linkages Initiative objective	\$M
Institute of International Education	13.0
For an African Diaspora Fellowships program	2.80
For the Carnegie African Diaspora Fellowship Program	10.20
African Institute for Mathematical Sciences	2.50
As a one-time grant for an African diaspora research chair program in data science	2.50
Council for the Development of Social Science Research in Africa	2.40
For an African diaspora fellowship program in the humanities and social sciences	2.40
University of Ghana⁸	1.81
As a final grant for postgraduate training and research programs to advance scholarship and improve the retention of African academics	.10
For accelerated PhD training through diaspora linkages	.65
For support of early-career doctoral and postdoctoral candidates and a pan-African doctoral academy deploying diaspora linkages	.60
For support of early-career academics and diaspora fellowships	.27
Toward postgraduate training and research programs to advance scholarship and improve the retention of African academics	.19
University of the Witwatersrand	.50
Diaspora component ⁹	.20
For an alumni diaspora program	.30
Loyola Marymount University	.10
For research on diaspora models for graduate training in African universities	.05
For structured models of connecting African diaspora faculty with African universities	.05
Institute for Advanced Study	.04
For a matching grant to support collaborations between Africa diaspora scholars and African sciences academies	.04
Total	20.35

8 Grants made to the University of Ghana in the NextGen portfolio were dedicated to the NextGen objective as well as the Diaspora Linkages objective. Figures here, taken from the grant budgets, estimate the costs for the Diaspora Linkages component.

9 A grant made to the University of the Witwatersrand in the NextGen portfolio included diaspora activities. This figure, taken from the grant budget, estimates the cost for the Diaspora Linkages component.

APPENDIX TABLE 4

Grants funded under the Policy and Research objective

Grants funded under the Policy and Research objective	\$M
Council for the Development of Social Science Research in Africa	2.57
For participation of African academics in the 15th General Assembly conference on "Africa and the Crisis of Globalization"	.07
For a higher education policy engagement initiative	1.20
For research on African higher education governance, leadership, and policy	1.20
For the 14th General Assembly and conferences on "Creating African Futures in an Era of Global Transformation: Challenges and Prospects"	.10
International Research and Exchanges Board	2.30
As a final grant for improving university administration in Eurasia, Ghana, Uganda, and Tanzania	.70
For improving university research administration in Eurasia and Africa	1.60
TrustAfrica	2.06
As a final grant for a policy dialogue series on higher education transformation in sub-Saharan Africa	.93
For a continental summit on African higher education	.54
For a policy dialogue series in higher education transformation in sub-Saharan Africa	.59
Centre for Higher Education Transformation Trust	1.85
As a final grant for the Higher Education Research and Advocacy Expertise Network in Africa	1.05
For the Higher Education Research and Advocacy Expertise Network in Africa	.80
University of the Western Cape	1.06
As a one-time grant for doctoral and postdoctoral training in higher education studies	.80
For a research study of African higher education policymakers and practices	.26
African Research Universities Alliance*	.90
For an African Research Universities Alliance secretariat	.10
For building capacity of institutional data gathering, monitoring, and analysis at African Research Universities Alliance universities	.80
University World News (Africa)	.64
For support of University World News (Africa) higher education editorial projects	.20
For support of University World News (Africa) higher education editorial projects	.40
For the African university leadership interview series	.04
Boston College	.62
As a final grant for the Center for International Higher Education's <i>International Higher Education</i> publication and the International Network of Higher Education in Africa	.46
For the Center for International Higher Education's publication, <i>International Higher Education</i>	.16
SciDev.Net	.50
As a final grant for a multimedia series on strengthening doctoral training and research in Africa	.25
For a multimedia series on strengthening doctoral training and research in Africa	.25

Grants funded under the Policy and Research objective	\$M
Tufts University	.38
For an international conference of university presidents on the role of higher education in encouraging civic participation	.08
For participation of African academics in the Talloires Network Leaders Conference	.25
For the Talloires Network Leaders Conference	.05
Association of African Universities	.33
For a conference of rectors, vice-chancellors, and presidents of African universities	.05
For a biennial conference of African university leaders, and media programming	.13
For a conference of rectors, vice-chancellors, and presidents of African universities	.05
For a conference of rectors, vice-chancellors, and presidents of African universities	.05
For a conference of rectors, vice-chancellors, and presidents of African universities	.05
Carleton University	.30
As a one-time grant for a continental policy forum on the role of the academic diaspora in Africa's development	.30
University of Texas at Austin	.28
For a study and policy dialogues on the impact of private universities on public universities in Africa	.28
African Institute for Mathematical Sciences	.25
For African participation in the Next Einstein Forum Global Gathering 2018	.15
For the next Einstein Forum Global Gathering 2016 with the theme of "Connecting Science to Humanity"	.10
University of Pretoria	.20
For a study and policy dialogue on governance of African science granting councils	.20
Indiana University	.20
For inclusion of sub-Saharan Africa in global indices of philanthropy	.20
University of Johannesburg	.18
For research and policy on transformation of South Africa's higher education curricula	.18
Cape Higher Education Consortium	.16
One-time only grant for a research review of U.S. foundation initiatives in equity and transformation at South African universities	.16
Regional Universities Forum for Capacity Building in Agriculture (RUFORUM)	.15
For a workshop on escalating PhD production in Africa in the agricultural and life sciences	.05
For organizing a series of convenings for African higher education leaders and policymakers on implementing plans for strengthening higher education in Africa	.10
Aga Khan Foundation, Kenya	.10
As a one-time grant to build a database for mapping of African policy expertise	.10

Grants funded under the Policy and Research objective	\$M
National Research Foundation	.10
For a convening on expanding and sustaining excellence in doctoral training in sub-Saharan Africa	.05
For a meeting on transformation in African higher education to meet 21st-century demands	.05
African Minds Trust	.10
For a research study on African academic presses in a digital age: practices and opportunities	.05
For publication of a book on student representation in higher education governance in Africa	.05
University of California, Berkeley	.05
For planning the Kerr Institute Africa Program, an Africa-based higher education institute	.05
Human Sciences Research Council	.05
For the World Social Science Forum 2015, "Transforming Global Relations for a Just World"	.05
Ontario Confederation of University Faculty Associations	.05
For a conference on media coverage of higher education in the 21st century	.02
For WorldViews 2019 conference on the democratization of higher education and the media	.03
American Council of Learned Societies	.05
For a forum on the humanities in Africa	.05
Comparative and International Education Society	.05
For the annual conference of the Comparative and International Education Society	.05
King's College London	.05
For a grantee meeting on higher education leadership, policy, and governance	.05
University of Cape Town	.05
For a workshop on the online discoverability of African research	.05
Partnership for African Social and Governance Research	.04
As a one-time grant for advising with the planning of the continental summit "Revitalizing Higher Education for Africa's Future"	.04
Total	15.59

*The University of the Witwatersrand was the fiscal agent for grants to the African Research Universities Alliance.



ABOUT THE AUTHOR

Naureen Madhani is director of research strategy and consulting at Columbia University's Center for Public Research and Leadership and teaches leadership development at New York University. With over 20 years of experience in the field of education, Naureen has designed, implemented, and evaluated education programs in Canada, India, Kenya, Pakistan, Syria, Tanzania, Uganda, and the United States. As the associate director of administration at Aga Khan University's Institute for Educational Development for East Africa, she managed regional and international academic partnerships and had oversight of academic administration. At Columbia University's School of Professional Studies, Naureen designed and led faculty development programs. Naureen has an MBA in educational management from the University of Leicester, an MEd in higher education from the University of British Columbia, and a PhD in higher education from New York.



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