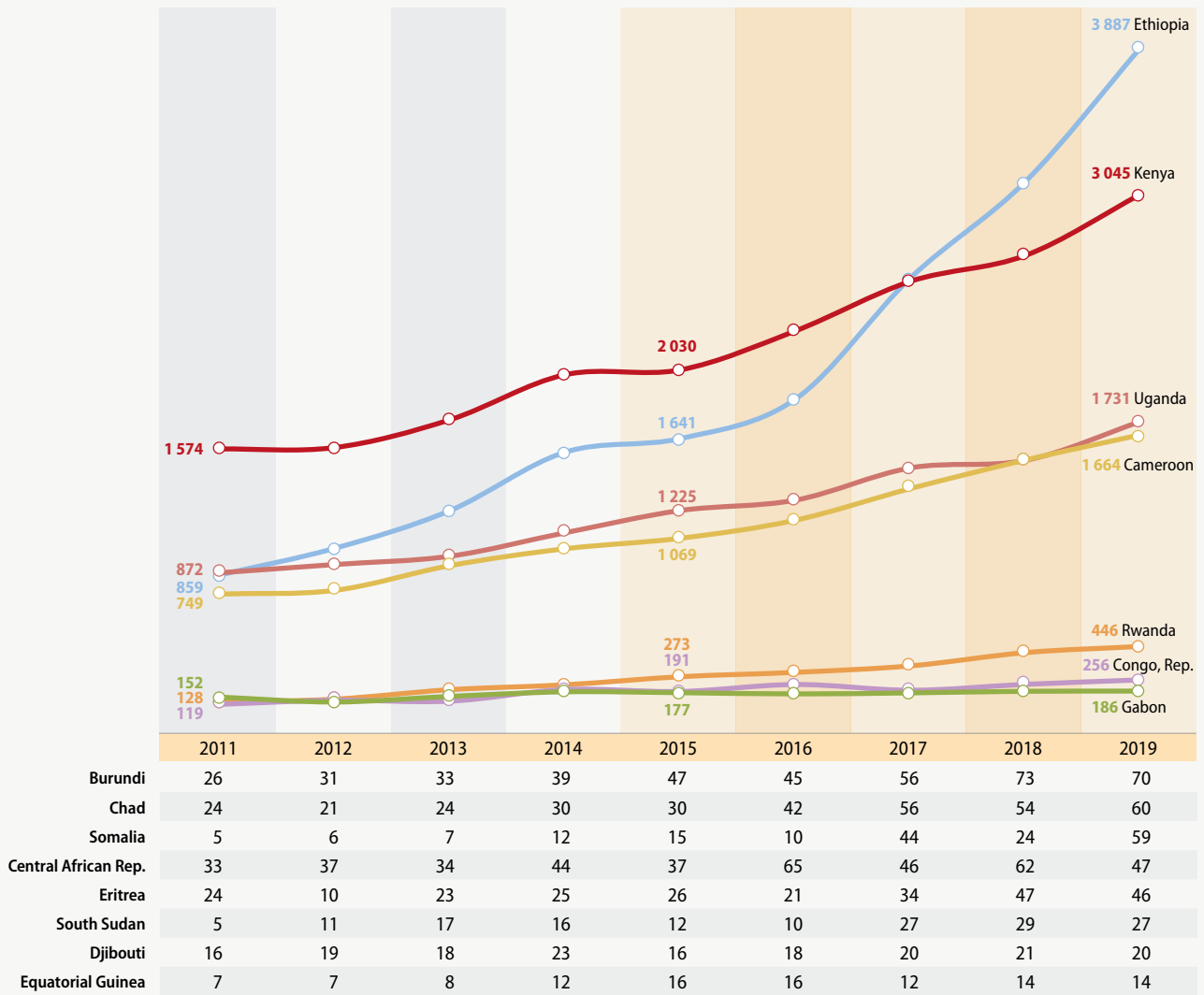


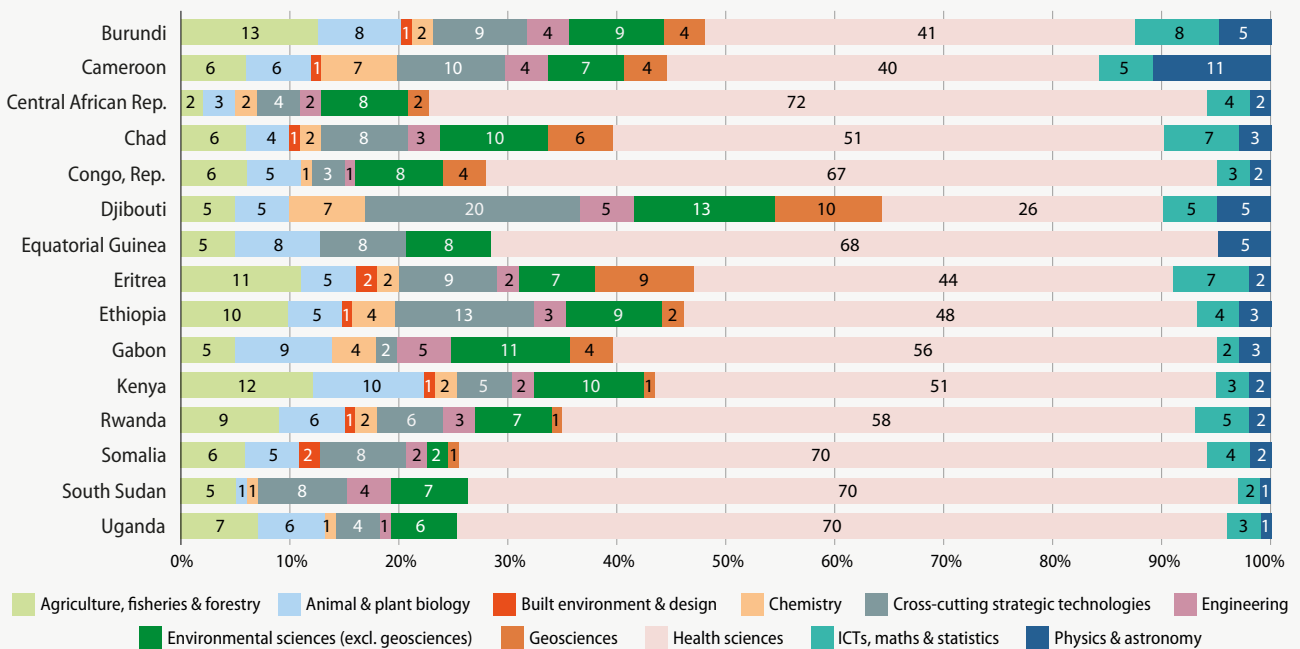


Figure 19.5: Trends in scientific publishing in Central and East Africa

Volume of scientific publications in Central and East Africa, 2011–2019



Scientific publications in Central and East Africa by broad field of science, 2017–2019 (%)





**1.32**

**Average citation rate for Ethiopia, the country with the highest output in Central and East Africa, 2014–2016; the G20 average was 1.02**

**88%**

**Average share of publications with foreign co-authors in Central and East Africa, 2017–2019**

**58%**

**Share of Ethiopian publications with a foreign co-author, 2017–2019, the lowest proportion in the region**

*How has output on SDG-related topics evolved since 2012?*

Countries are publishing more on the following topics than would be expected, relative to global averages: help for smallholder food producers; traditional knowledge; tropical communicable diseases; HIV research; medicines and vaccines for tuberculosis; and climate-ready crops. Output from Rwanda and Uganda on climate-ready crops has even quadrupled since 2011.

Kenya published at least three times the global average intensity on sustainable management of fisheries and aquaculture between 2011 and 2019. It hosted the first global Sustainable Blue Economy Conference in 2018 and co-hosted the second United Nations Ocean Conference in 2019.

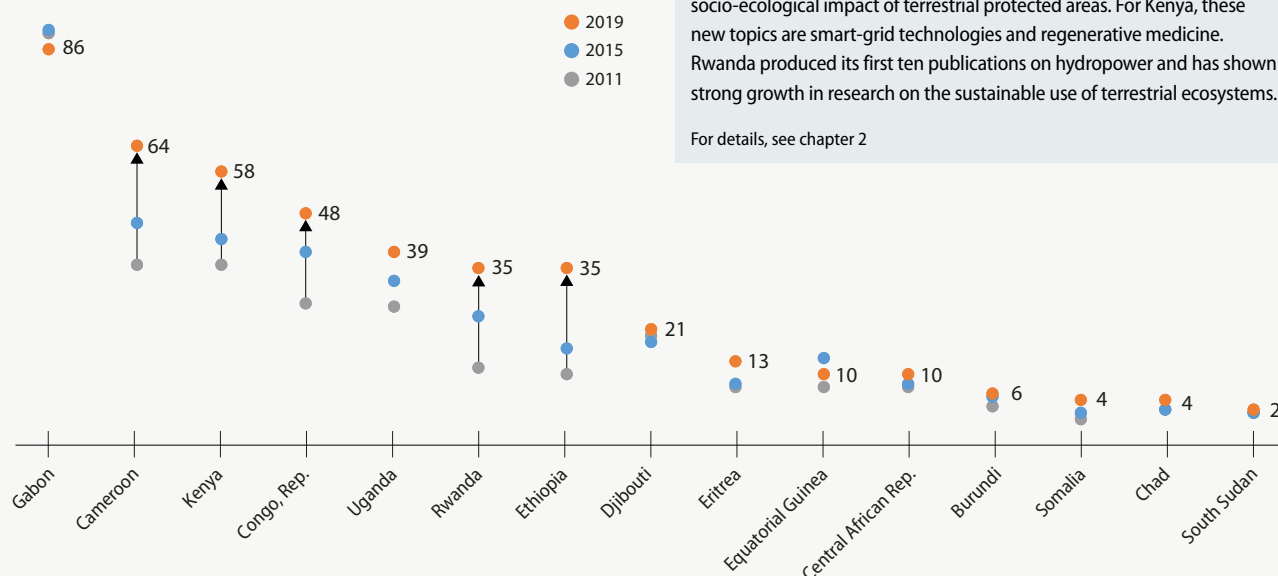
The reservoirs of the new Great Ethiopian Renaissance Dam began to fill in July 2020. Despite the negotiations over water rights with other users of the Blue Nile River, Ethiopia produced only three publications on transboundary water management from 2011 to 2019.

Growth is observed in the following new research topics for Ethiopia: sustainable transportation, eco-industrial waste management, wind-turbine technology, hydrogen energy, better battery efficiency and the socio-ecological impact of terrestrial protected areas. For Kenya, these new topics are smart-grid technologies and regenerative medicine. Rwanda produced its first ten publications on hydropower and has shown strong growth in research on the sustainable use of terrestrial ecosystems.

For details, see chapter 2

**Scientific publications per million inhabitants in Central and East Africa, 2011, 2015 and 2019**

Data labels are for 2019



*Fourteen countries count at least one other African country among their top five collaborators.*

**Top five partners for Central and East Africa for scientific co-authorship, 2017–2019 (number of papers)**

|                      | 1st collaborator(s) | 2nd collaborator(s) | 3rd collaborator(s)  | 4th collaborator(s)    | 5th collaborator(s)    |
|----------------------|---------------------|---------------------|----------------------|------------------------|------------------------|
| Burundi              | Belgium (45)        | USA (37)            | China (34)           | Uganda (29)            | UK (28)                |
| Cameroon             | France (879)        | USA (728)           | UK (513)             | South Africa (506)     | Germany (436)          |
| Central African Rep. | France (67)         | UK (30)             | Cameroon (28)        | USA (23)               | Belgium/Gabon (18)     |
| Chad                 | France (61)         | USA (42)            | Switzerland (38)     | UK (34)                | Cameroon (33)          |
| Congo, Rep.          | USA (236)           | UK (137)            | France (134)         | Congo, Dem. Rep. (123) | Switzerland (105)      |
| Djibouti             | France (37)         | Italy/USA (9)       |                      | Germany (7)            | China (6)              |
| Equatorial Guinea    | Spain/USA (16)      |                     | UK (10)              | China/Tanzania (5)     |                        |
| Eritrea              | China (24)          | India (18)          | USA (17)             | South Africa (11)      | Switzerland (10)       |
| Ethiopia             | USA (1 419)         | India (897)         | UK (854)             | Germany (525)          | South Africa (522)     |
| Gabon                | France (228)        | Germany (135)       | USA (129)            | UK (87)                | Cameroon (73)          |
| Kenya                | USA (2 900)         | UK (1 871)          | South Africa (1 024) | Germany (750)          | Uganda (591)           |
| Rwanda               | USA (481)           | UK (171)            | South Africa (161)   | Kenya (153)            | Uganda (123)           |
| Somalia              | USA (40)            | Italy (28)          | Sweden (15)          | UK (13)                | Kenya/Malaysia (12)    |
| South Sudan          | USA (32)            | Uganda (24)         | Kenya (15)           | UK (13)                | Sudan/Switzerland (11) |
| Uganda               | USA (2 039)         | UK (1 184)          | South Africa (625)   | Kenya (591)            | Canada (381)           |

Source: Scopus (excluding Arts, Humanities and Social Sciences); data treatment by Science-Metrix