How will libraries deliver a sustainable future?

Moderator: Professor Carlos Henrique de Brito Cruz

Speakers: Gerald R. Beasley, Adriana Cybele Ferrari, Gwen Evans

ACRL Choice Webinar
Jan 20th 2022

Academic Libraries and the U.N.'s Sustainable Development Goals: how will libraries deliver a sustainable future

Carlos Henrique de Brito Cruz
Senior Vice-President, Research Networks
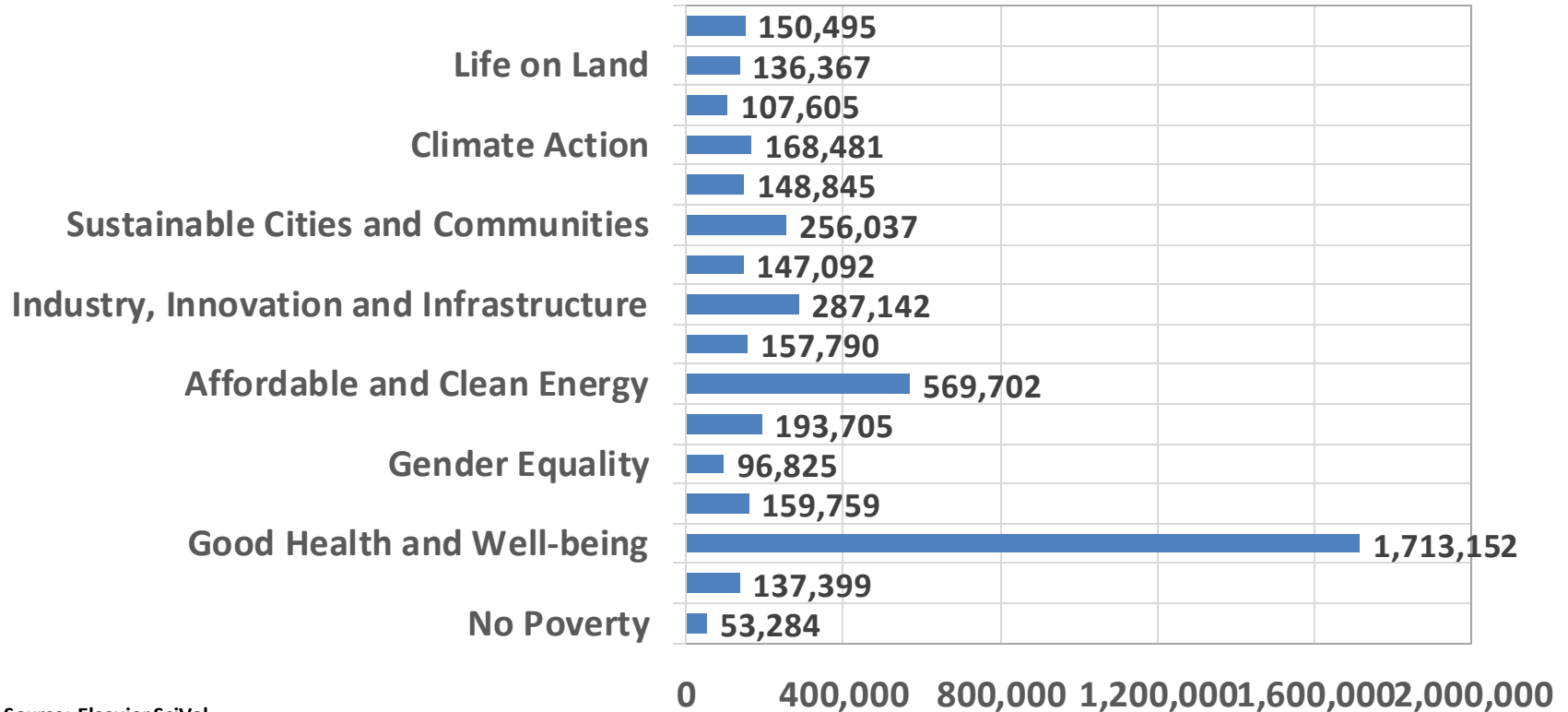Elsevier

ACRL-Choice, 20220120

- A plan of action for people, planet and prosperity
  - "Strengthen universal peace in larger freedom".
- Eradicating poverty in all its forms and dimensions, including extreme poverty, is the greatest global challenge and an indispensable requirement for sustainable development.
  - "Free the human race from the tyranny of poverty and want and to heal and secure our planet".
- Take the bold and transformative steps which are urgently needed to shift the world onto a sustainable and resilient path.
  - "As we embark on this collective journey, we pledge that no one will be left behind".
- The 17 Sustainable Development Goals balance the three dimensions of sustainable development: the economic, social and environmental:
  - Composed of 169 targets, demonstrate the scale and ambition of this new universal Agenda.
  - They build on the Millennium Development Goals and complete what these did not achieve.
  - They seek to realize the human rights of all and to achieve gender equality and the empowerment of all women and girls.

U.N. SDGs: 5 interlinked dimensions – the 5 Ps

- People
  - "**End poverty and hunger**, in all their forms and dimensions, and ensure that all human beings can fulfil their potential in dignity and equality and in a healthy environment".
- Planet
  - "**Protect the planet from degradation**, including through sustainable consumption and production, sustainably managing its natural resources and taking urgent action on climate change, so that it can support the needs of the present and future generations".
- Prosperity
  - "**Ensure that all human beings can enjoy prosperous and fulfilling lives** and that economic, social and technological progress occurs in harmony with nature".
- Peace
  - "**Foster peaceful, just and inclusive societies** which are free from fear and violence. There can be no sustainable development without peace and no peace without sustainable development".
- Partnership
  - "Mobilize the means required to implement this Agenda through **a revitalized Global Partnership for Sustainable Development**, based on a spirit of strengthened global solidarity, focused in particular on the needs of the poorest and most vulnerable and with the participation of all countries, all stakeholders and all people".

World: scientific publications on each SDG, 2016-2019

SDG	Publications
	150,495
Life on Land	136,367
	107,605
Climate Action	168,481
	148,845
Sustainable Cities and Communities	256,037
	147,092
Industry, Innovation and Infrastructure	287,142
	157,790
Affordable and Clean Energy	569,702
	193,705
Gender Equality	96,825
	159,759
Good Health and Well-being	1,713,152
	137,399
No Poverty	53,284

Axis: 0   400,000   800,000   1,200,000   1,600,000   2,000,000

Source: Elsevier SciVal

- Goal 1. End poverty in all its forms everywhere
- Goal 2. End hunger, achieve food security and improved nutrition and promote sustainable agriculture
- Goal 3. Ensure healthy lives and promote well-being for all at all ages
- Goal 4. Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all
- Goal 5. Achieve gender equality and empower all women and girls
- Goal 6. Ensure availability and sustainable management of water and sanitation for all
- Goal 7 Ensure access to affordable, reliable, sustainable and modern energy for all
- Goal 8. Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all
- Goal 9. Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation
- Goal 10. Reduce inequality within and among countries

- Goal 11. Make cities and human settlements inclusive, safe, resilient and sustainable
- Goal 12. Ensure sustainable consumption and production patterns
- Goal 13. Take urgent action to combat climate change and its impacts*
- Goal 14. Conserve and sustainably use the oceans, seas and marine resources for sustainable development
- Goal 15. Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss
- Goal 16. Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels

- Goal 17. Strengthen the means of implementation and revitalize the Global Partnership for Sustainable Development

The Power of Data to Advance the SDGs

Gwen Evans
Vice President, Global Library Relations
Elsevier

ACRL Webinar
January 20th, 2022

What you measure, you can change . . .

- Increased awareness of SDGs informs issues of
  - National competitiveness
  - Environmental protection
  - Social justice
  - Equity and Inclusion

- What data related to SDGs can we measure?
  - **Research output and impact**
  - Funder data
  - Patent data
  - Topic data
  - **Collaboration data**

Pathways to Net Zero:
The Impact of Clean
Energy Research

Analytical Services

https://www.elsevier.com/connect/sustainability-science-hub

Data Sources

This analysis is built on data from Scopus, mostly analyzed in SciVal.

Scopus is Elsevier's interdisciplinary abstract and citation database. Covering 240 disciplines, it contains over:

82m documents

1.7b cited references

17m author profiles

234k books

7k publishers

80k institutional profiles

The timeframe for this analysis is 2016 – 2020.

SDG Research Output: US, CA, LatAm, BR, Quebec
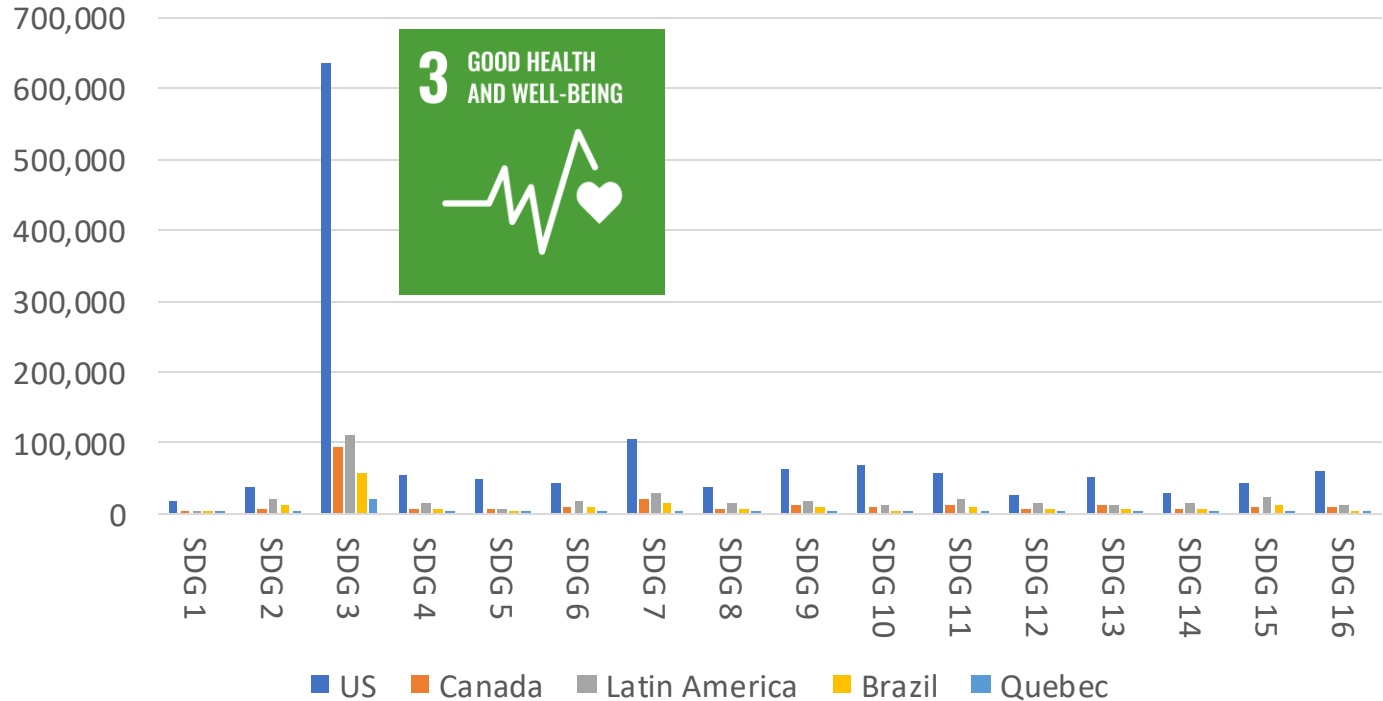
SDG Research Output: US, CA, LatAm, BR, Quebec
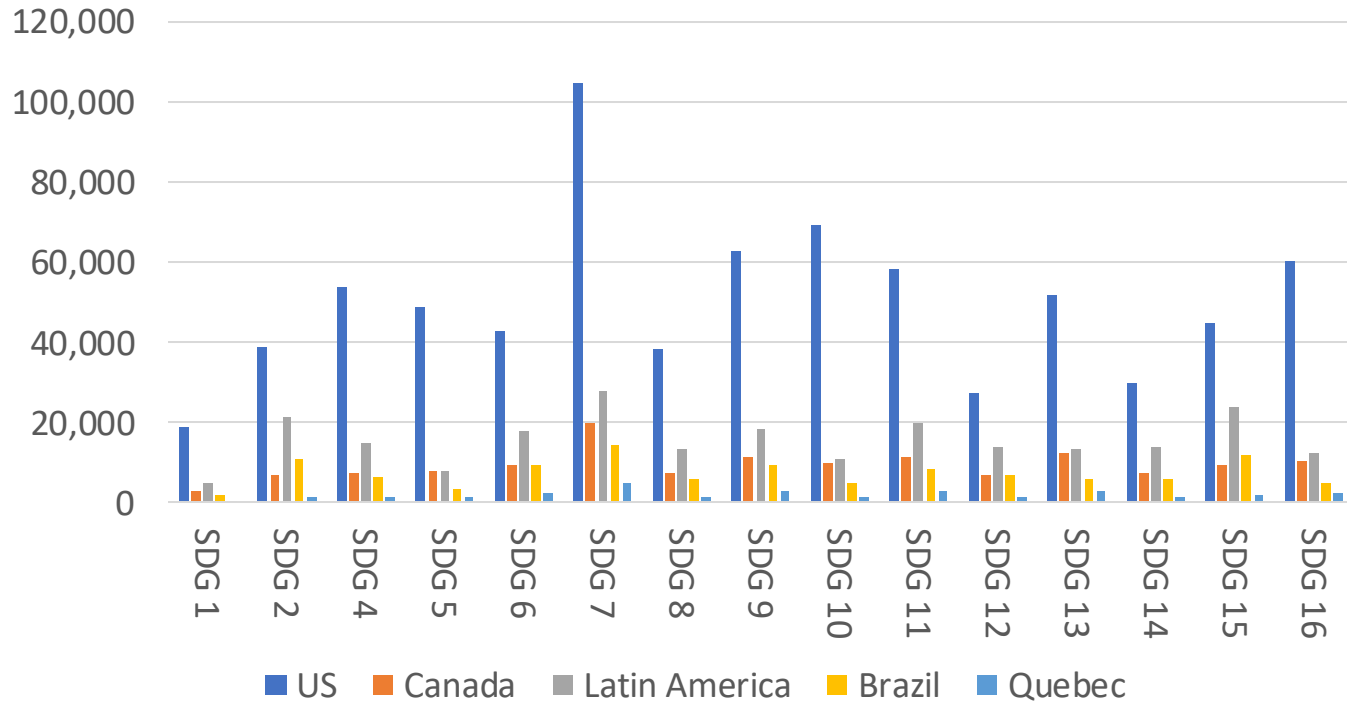
Note: SDG 3 omitted for size

SDG Research Output:
Canada, Latin America, Brazil, Quebec
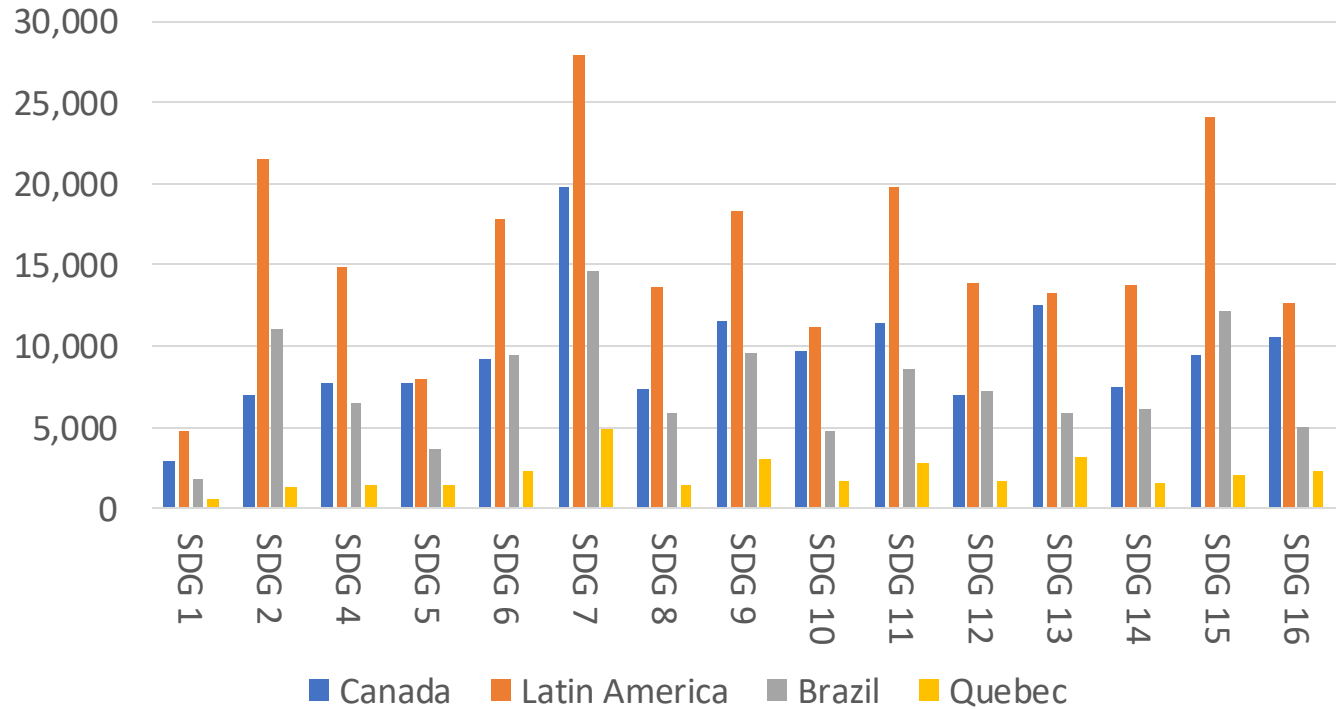
Note: SDG 3 omitted for size

SDG Relative Research Output: Brazil, LatAm, World
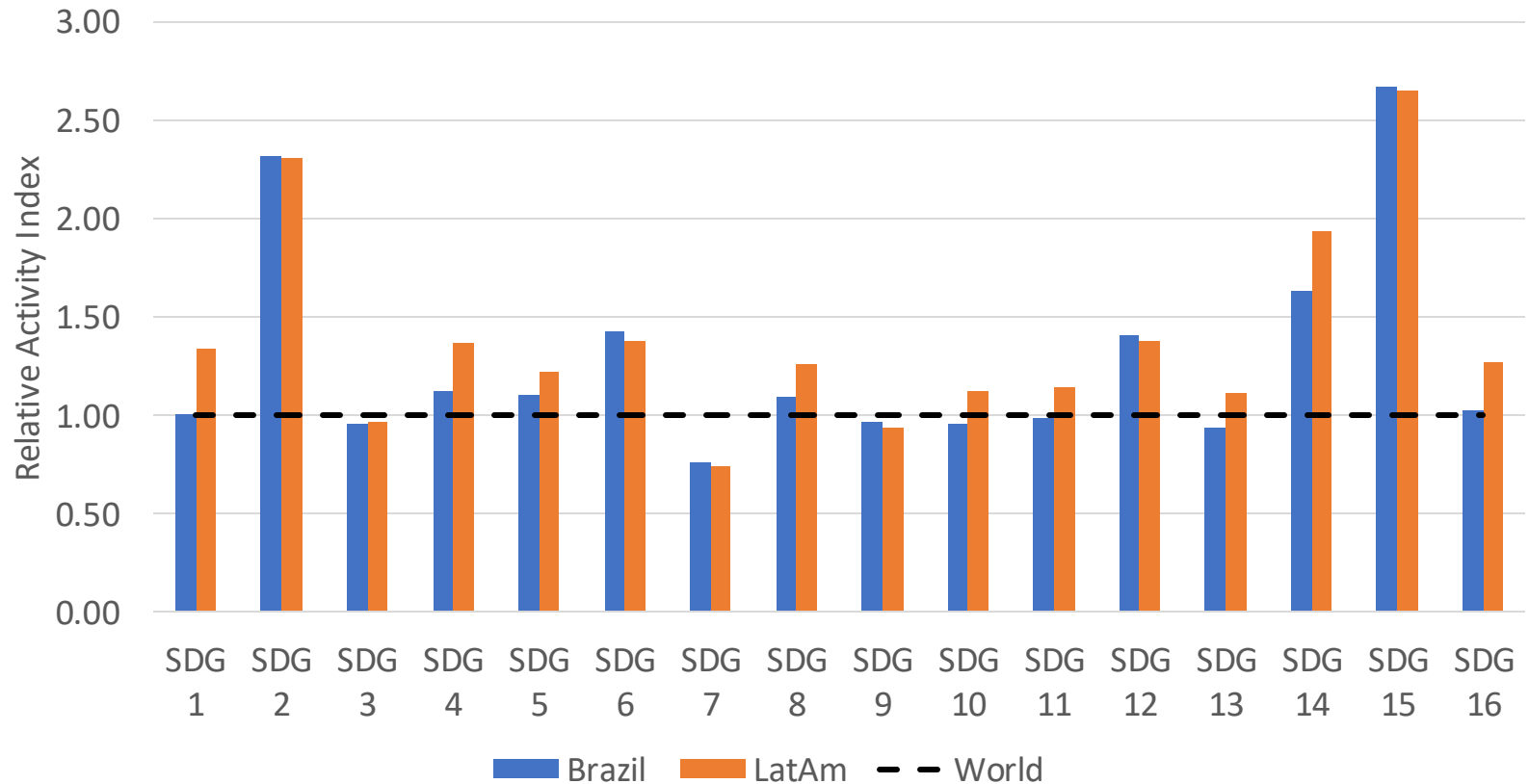
Case Study: US-Brazil Collaboration in SDG 13 (Climate Action)

What is Field-Weighted Citation Impact or FWCI?

Field-Weighted Citation Impact is the ratio of the total citations actually received by the denominator's output, and the total citations that would be expected based on the average of the subject field.

A Field-Weighted Citation Impact of:

•*Exactly 1* means that the output performs just as expected for the global average.

•More *than 1* means that the output is more cited than expected according to the global average. For example, 1.48 means 48% more cited than expected.

•Less than 1 means that the output is cited less than expected according to the global average.

See more at https://service.elsevier.com/app/answers/detail/a_id/14894/supporthub/scopus/~/what-is-field-weighted-citation-impact-%28fwci%29%3F/

SDG 13 US-Brazil Collaboration

US SDG 13 Publications

2%
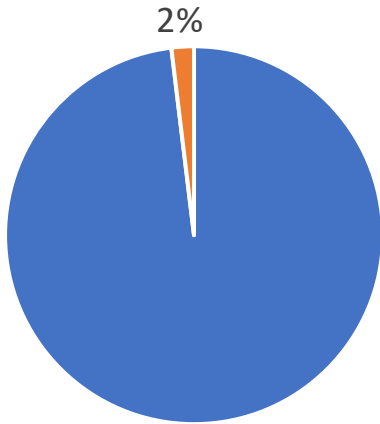
■ US ■ US-Brazil Collaboration

	US	US-Brazil	Brazil
Publications	48340	927	5603
FWCI	1.85	**2.57**	1.35
Collaboration as Share of SDG 13 Output	1.9%		17%

Brazil SDG 13 Publications


17%
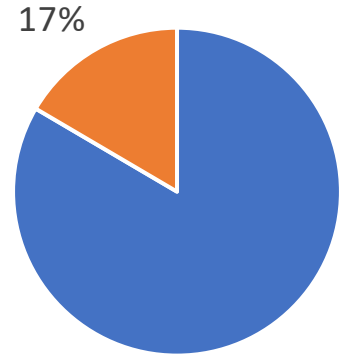
■ Brazil ■ Brazil-US Collaborations

A A A relevance of keyphrase | declining A A A growing (2016-2020)

Case Study: Latin America Research Output in SDG 5 (Gender Equality)

SDG 5: Top Countries & Institutions by Output, LatAm

Top Countries

|	Countries/Regions	Scholarly Output ↓	Field-Weighted Citation Impact ∨
1.	🇧🇷 Brazil	3,574	0.82
2.	🇲🇽 Mexico	1,192	1.34
3.	🇨🇱 Chile	776	1.67
4.	🇨🇴 Colombia	722	1.65
5.	🇦🇷 Argentina	512	1.59
6.	🇵🇪 Peru	359	2.77
7.	🇪🇨 Ecuador	221	2.87
8.	🇺🇾 Uruguay	104	2.46
9.	🇵🇷 Puerto Rico	95	0.99
10.	🇨🇺 Cuba	89	0.44

Top Institutions

	Institution	Scholarly Output ↓	Field-Weighted Citation Impact ∨
1.	🇧🇷 Universidade de São Paulo	602	1.94
2.	🇲🇽 Universidad Nacional Autónoma de México	215	0.97
3.	🇧🇷 Fundação Oswaldo Cruz	352	2.62
4.	🇧🇷 Universidade Federal do Rio Grande do Sul	222	3.14
5.	🇧🇷 Universidade Federal de Minas Gerais	204	3.82
6.	🇧🇷 Universidade Federal do Rio de Janeiro	203	0.80
7.	🇦🇷 Consejo Nacional de Investigaciones Científicas y Técnicas	184	0.47
8.	🇧🇷 Universidade Federal de Santa Catarina	169	4.26
9.	🇧🇷 Universidade Estadual de Campinas	168	0.64
10.	🇨🇱 Universidade de Chile	164	0.94

SDG 5 Brazil-Mexico Collaboration

Brazil SDG 5 Publications

1%
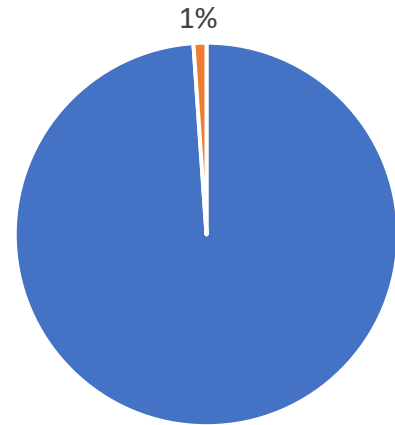
■ Brazil
■ Brazil-Mexico Collaboration

Mexico SDG 5 Publications
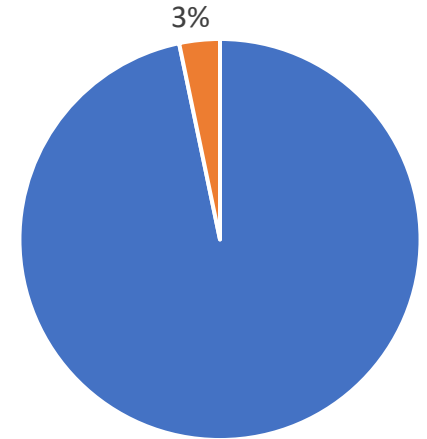
3%

■ Mexico

	Brazil	Mexico-Brazil	Mexico
Publications	3574	39	1192
FWCI	0.82	**1.92**	1.34
Collaboration as Share of SDG 13 Output	1%		3%

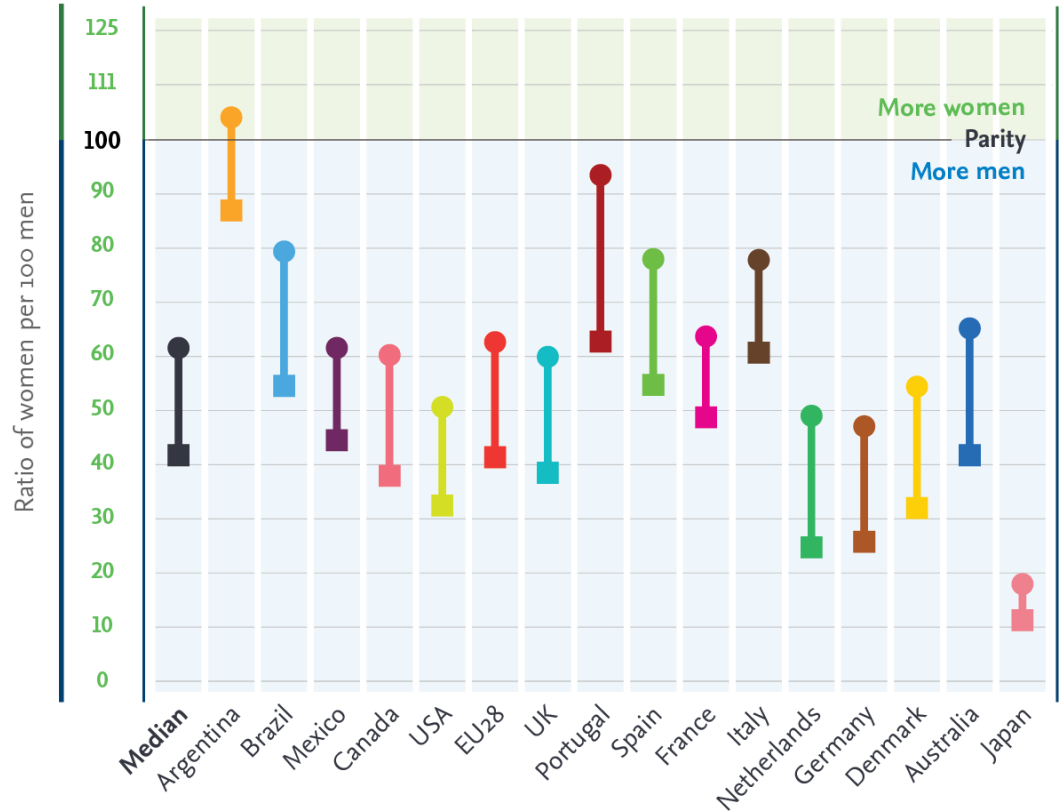A A **A** relevance of keyphrase | declining A A A growing (2016-2020)

Analytics Reports
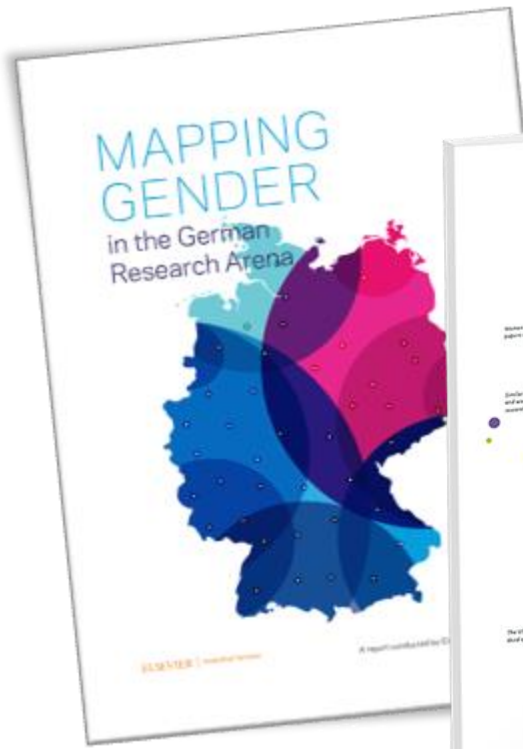
The proportion of women among researchers is increasing

Gender ratio among active authors is higher now than in the past.

KEY
- ■ 1999–2003
- ● 2014–2018

Gender report 2020: The Researcher Journey Through a Gender Lens

Median is based on 15 countries in report
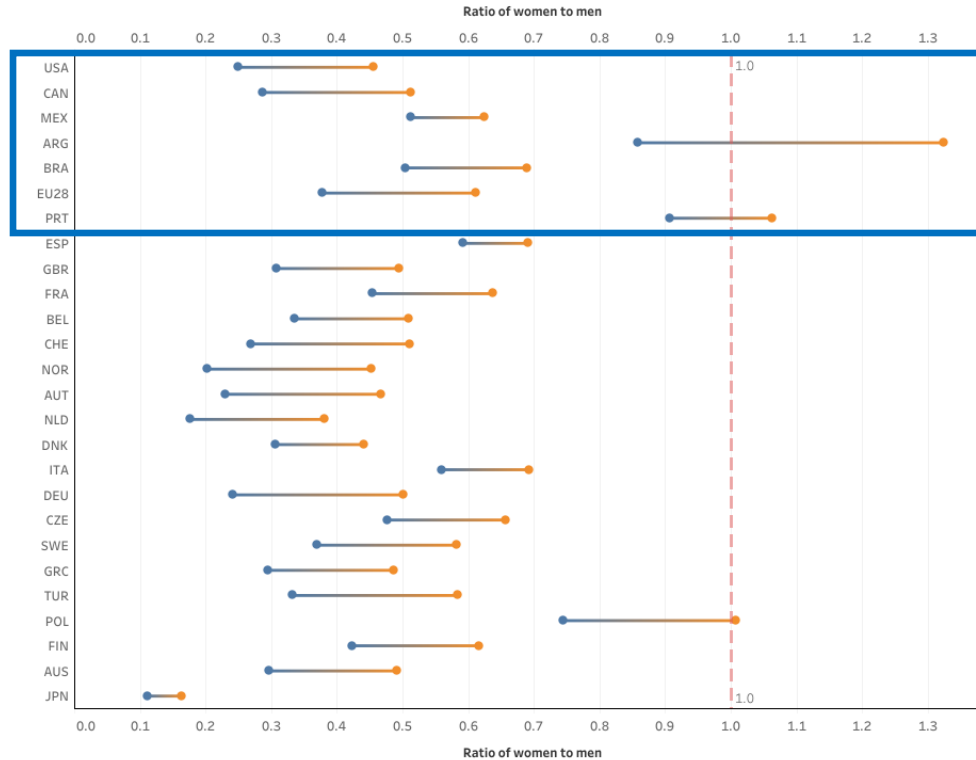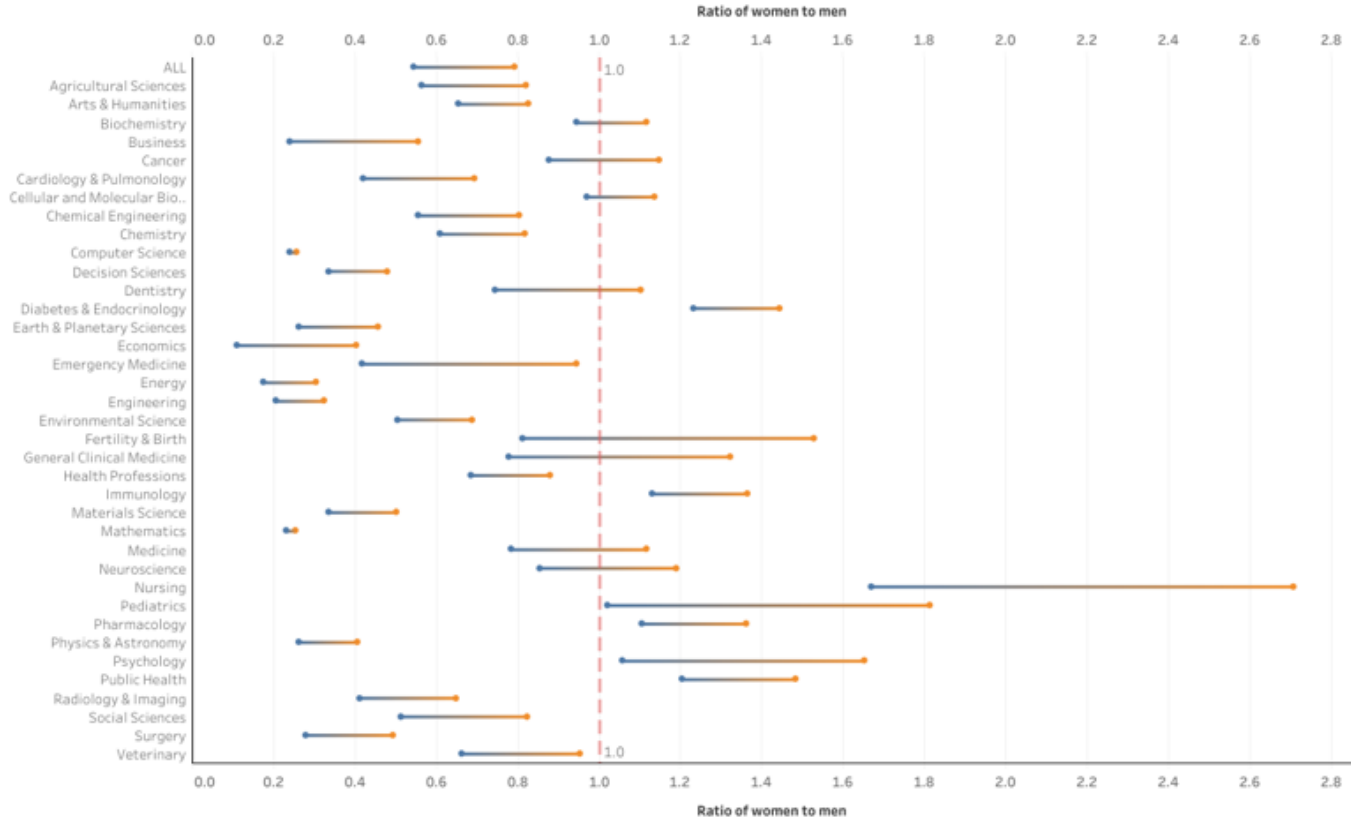
Gender Parity on Research on Environmental Science

Brazilian Gender Parity per Discipline

Statistics on active authors during two periods

Period ■ 1999-2003 ■ 2014-2018

Ratio of women to men

The Power of Data to Advance the SDGs:
Mapping research for the Sustainable Development Goals

Highlights:

Focus on synergies between SDGs: All 17 SDGs are interconnected, resulting in potential synergies between the goals.

Close the gap between science, policy and society: The report reveals that research is rapidly expanding in certain SDGs, such as Clean Energy and Climate Action. There is a need for increased cooperation between science, policy and society to ensure that research results are translated into concrete action.

Highlight the need for leadership: The overall body of research related to SDGs continues to grow. While this is positive, experts interviewed uncover the need for strong, effective leadership to champion the SDG goals.

Scan QR code to open or go to https://www.elsevier.com/connect/sdg-report
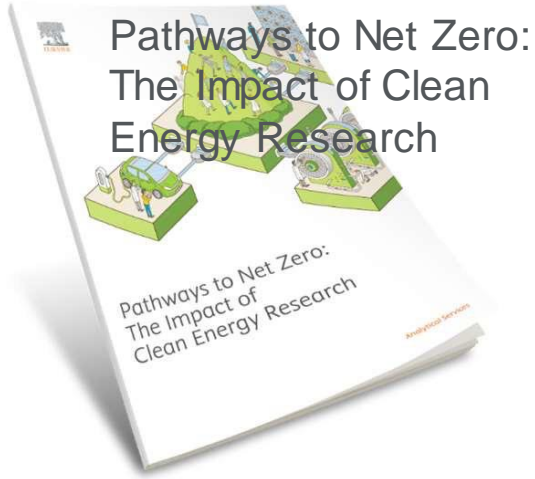
Pathways to Net Zero:
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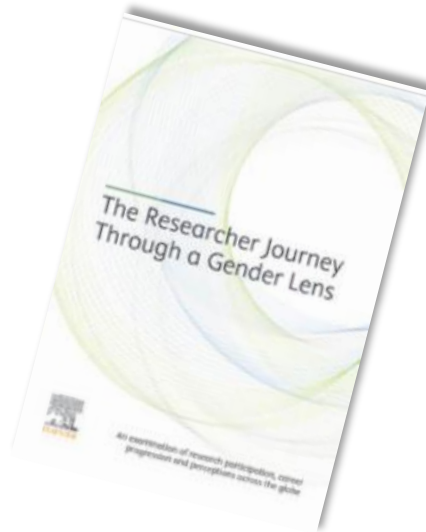
The Researcher
Journey through a
Gender Lens

Gender in the Portugal
Research Arena
A Case Study in
European Leadership

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Scan QR code to open
https://www.elsevier.com/connect/gender-report

HOW WILL LIBRARIES DELIVER A SUSTAINABLE FUTURE?

ACADEMIC LIBRARY ACTIONS:
TOP TEN (ACTUALLY THIRTEEN)

Panel presentation by Gerald R. Beasley, Carl A. Kroch University Librarian,

Cornell University, Ithaca, USA

SDG Publishers Compact Fellow

ACRL *Choice* webcast, Thursday, January 20, 2022

Land Acknowledgement

Cornell University is located on the traditional homelands of the Gayogo̱hó꞉nǫ' (the Cayuga Nation). The Gayogo̱hó꞉nǫ' are members of the Haudenosaunee Confederacy, an alliance of six sovereign Nations with a historic and contemporary presence on this land. The Confederacy precedes the establishment of Cornell University, New York state, and the United States of America. We acknowledge the painful history of Gayogo̱hó꞉nǫ' dispossession, and honor the ongoing connection of Gayogo̱hó꞉nǫ' people, past and present, to these lands and waters.

These draft recommended actions have been jointly prepared at Cornell University for the SDG Publishers Compact Fellows by Gerald Beasley, Carl A. Kroch University Librarian and Annalisa Raymer, Senior Lecturer, Department of Global Development.

1. Strategize
Incorporate SDGs into an academic library's strategic thinking: https://sdgs.un.org/goals

2. Advocate for SDGs
Identify, review, and re-use work of library associations addressing the SDGs, e.g. products and graphics produced by the American Library Association (ALA)'s SDG Task Force https://www.ala.org/aboutala/ala-task-force-united-nations-2030-sustainable-development-goals; and the International Federation of Library Associations and Institutions (IFLA)'s comments on the UNESCO Recommendation on Open Science https://www.ifla.org/ar/news/unesco-agrees-open-science-recommendation-implications-for-libraries/

3. Support SDG Research
Identify and support campus researchers who are helping make the world a better place—just, healthy, inclusive and sustainable.

4. Share SDG Strengths
Help institutions identify, celebrate and champion relevant research strengths. Share information about areas of SDG strengths with other libraries (local, national, regional, global).

5. Guide Users to SDG Content
LibGuides are already used as a content management system in thousands of academic libraries, bringing together resources on a particular topic. Many examples of up-to-date and excellent SDG LibGuides already exist e.g. University of Michigan Library https://guides.lib.umich.edu/sdg

6. Curate SDG Collections
Recruit and support campus and community members to create bespoke, curated collections related to SDGs. For example,
- Collaborate with a teacher of adult, immigrant English language students to invite and support the adult language learners in creating collections to offer the community introductions to different cultural knowledge and assets.
- Invite resource people knowledgeable in areas of interest to the campus & community to create collections based on their area of expertise.

7. Refine SDG Metadata
Promote Knowledge Democracy (see e.g. https://unescochair-cbrsr.org/pdf/Knowledge-Democracy-v-3.0.pdf), including elevating the voices of historically unrepresented communities in data processes. Facilitate/support diverse contributions toward producing more inclusive data, and informing policy making and programs for addressing pressing social issues in a more equitable manner.

8. Cultivate SDG literacy
Create educational programming to advance literacy in all key SDG areas including information, data, media, and sustainability.

9. Walk the SDG walk
Align with campus sustainability initiatives. These exist on pretty much every campus, often thanks to the great work of students and dedicated staff who help us all see the university as a kind of laboratory where sustainability-friendly practices exist.

10. Opt for Open
Set the default to open: support open access, open source, open data, etc. Consider science as a global public good, view open science services as essential research infrastructures, governed and owned by the community and funded collectively. Incentivize open science practices among researchers. Invest in capacity building and human capital. Review the UNESCO Recommendation on Open Science https://en.unesco.org/science-sustainable-future/open-science/recommendation

11. Convene
Facilitate open discussion of library's SDG policies among stakeholders e.g. collection specialists, students, researchers and other library users regarding strengths and gaps in library holdings pertinent to individual and collective achievement in particular SDGs and sustainability progress broadly.

12. Assess
Conduct user (and potential user) research to learn how library patrons go about seeking information on the SDGs.

13. Communicate
Share with potential users on campus and in the community the resources available to them regarding the SDGs. Encourage their exploration and use.

THANK YOU!

Q&A

Gerald R. Beasley
Carl A. Kroch University Librarian
Cornell University
grb77@cornell.edu

Adriana Cybele Ferrari
Vice President
Brazilian Federation of Librarians,
Information Scientists and Institutions Associations (FEBAB)

Professor Carlos Henrique de Brito Cruz
Senior Vice President, Research Networks
Elsevier

Gwen Evans
Vice President, Global Library Relations
Elsevier
g.evans@Elsevier.com