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A unique research and innovation partnership celebrates three decades: South Africa and Canada move forward with a renewed vision

Significance:

This paper builds on a long-standing and well-articulated science, technology, innovation and knowledge (STIK) partnership between Canada and South Africa. It provides an historical overview of the origins and development of the STIK partnership since 1994 with the early efforts of Canada’s International Development Research Centre and the new ANC government in framing a green and white paper for South Africa’s national science and technology policy. It suggests an opportunity within the context of the G7 and G20 Summits being hosted by Canada and South Africa, respectively, in 2025, and argues for enhanced research opportunities in science diplomacy and science policy exchanges.

The Canada–South Africa Memorandum of Understanding on Cooperation in Science, Technology, and Innovation was renewed in Ottawa, Canada in late 2024, with delegations from the Department of Innovation, Science and Economic Development, Canada (ISED) and the South African Department of Science, Technology and Innovation (DSTI) celebrating three decades of engagement.

The forthcoming G7 and G20 Summits being hosted by Canada and South Africa, respectively, offer a unique opportunity to cement key areas of the partnership.

Some 30 years ago, with support from Canada’s International Development Research Centre (IDRC), we were part of a team in Cape Town tasked to map out a science and innovation policy for the to-be new South Africa.

South Africa’s 1994 democratic elections had brought Nelson Mandela to the presidency. His government administration duly created the Department of Arts, Culture, Science and Technology (DACST), which then embarked on a stakeholder-based policy formulation process to frame a green paper on science and technology, and then a white paper on science and technology.

In supporting this process and earlier initiatives, several bilateral missions between the two countries contributed new thinking on the management of R&D and innovation. In particular, this led to the adoption by DACST of the innovation systems approach. This shift was explicitly built upon the emerging concepts of ‘innovation’ and a ‘national system of innovation’. The South African approach scoped the role of government in policy formulation and regulation, funding, research and innovation promotion, technology transfer, correcting market failure, and foresight methods for priority setting.

With various policy statements and other initiatives examining new directions in Canada’s foreign policy, the bilateral efforts to strengthen cooperation between Canada and South Africa began earnestly in the early 2000s. The positive working relationship between Canadian and South African policymakers and scientists gave impetus to initiatives with lasting impacts.

Among them were the African Institute for Mathematical Sciences, and the HSRC Centre for Science, Technology and Innovation Indicators.

In addition, the successful Canadian experience in establishing its own Canada Research Chairs Programme led to a 2006 South African Research Chairs Initiative to attract and retain excellence in research and innovation at public universities.

More recently, the South African National Research Foundation entered into an agreement with Canada’s Mitacs to kick-start the implementation of the National Research Foundation Industry Partnership Strategy and leverage additional resources while promoting graduate upskilling in industry settings. Building on new initiatives, the bilateral partnership can also explore important opportunities between the two countries that were outlined through the 2023 South Africa–Canada Universities Network Summit in Ottawa and Toronto.

Co-authorship between South African and Canadian researchers has risen 17-fold over the last two decades, from 111 in 2001 to 1767 in 2024. The data for selected research areas between South Africa and Canada indicate that medicine is the most prominent, followed by astronomy, earth, and planetary sciences and agriculture. By its very nature, agriculture is location-specific, while the other research areas mostly involve ‘Big Science’ projects. Noteworthy collaborations are the Canada–South Africa TB Vaccine Initiative, the Healthy Life Trajectories Initiative (HeLTI), the Adaptation at Scale in Semi-Arid Regions project, and Human Heredity and Health in Africa (H3Africa).

Other initiatives bringing together the research and talent expertise of the two countries include collaboration in nuclear medicine, radio astronomy (through the large-scale, international Square Kilometre Observatory project), agriculture, polar research, energy, ocean science, Indigenous knowledge, bio-medicine, and HIV vaccine development.

The Canada–South Africa knowledge partnership goes well beyond bilateral efforts. Canada and South Africa have played a strong role in helping shape a pan-African approach to other linkages. Indeed, in 2015, the IDRC – along with other donors – launched the Science Granting Councils Initiative (SGCI) as a response to gaps in the African

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science landscape, including using research to advance gender equality and benefit marginalised communities. IDRC and its partners now work with 17 African science granting councils that have helped improve research governance in these countries.

The Canadian research councils have undertaken a large-scale, multinational project on climate change under their New Frontiers Research Fund programme that includes South Africa as a key partner. This International Joint Initiative for Research in Climate Change Adaptation and Mitigation represents a collaboration among research funders from Brazil, Canada, Germany, South Africa, Switzerland, the United Kingdom, and the United States of America to leverage international expertise in tackling the global challenges caused by climate change.

In South Africa, a new governance system is evolving through the establishment of the Science, Technology and Innovation Presidential Plenary and the Science, Technology and Innovation Inter-Ministerial Committee. The DSTI and National Advisory Council on Innovation support these structures.

In Canada, a recently announced plan for a capstone organisation bringing together the efforts of the research granting councils, as well as an Advisory Council for Science and Innovation, offers an opportunity to bring these organisations together to potentially mount a well-focused study in the growing partnership. A recent discussion

paper commissioned by ISED and the DSTI fleshed out some of the background and offered a forward look to guiding this relationship.

As the Canadian government outlines its African foreign policy and prepares for the G7 Summit in Kananaskis, Alberta, and South Africa's Government of National Unity gears up its hosting of the 2025 G20 Summit, an opportunity is emerging to strengthen the respective science, technology and innovation linkages.

Indeed, as a more strategic approach to shape this evolving collaboration is contemplated under a forthcoming Canadian foreign policy reset with Africa, and the newly signed joint memorandum between the two countries, there is a unique opportunity to build on the critical role of science diplomacy with enhanced research collaboration.

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Declarations

We have no competing interests to declare. We have no AI or LLM use to declare. Both authors read and approved the final manuscript.