



Research for Innovation and Equity

# From North-South to Triangular Cooperation

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Science Diplomacy Workshop

Canadian Science Policy Conference

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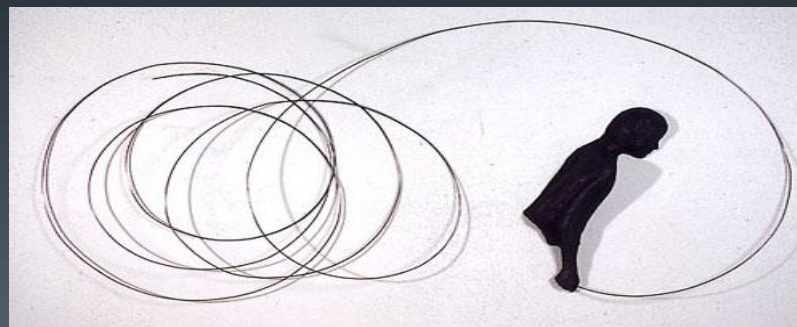
# Overall Goal

To examine different cooperation modalities for Canada's science diplomacy with developing countries/emerging economies



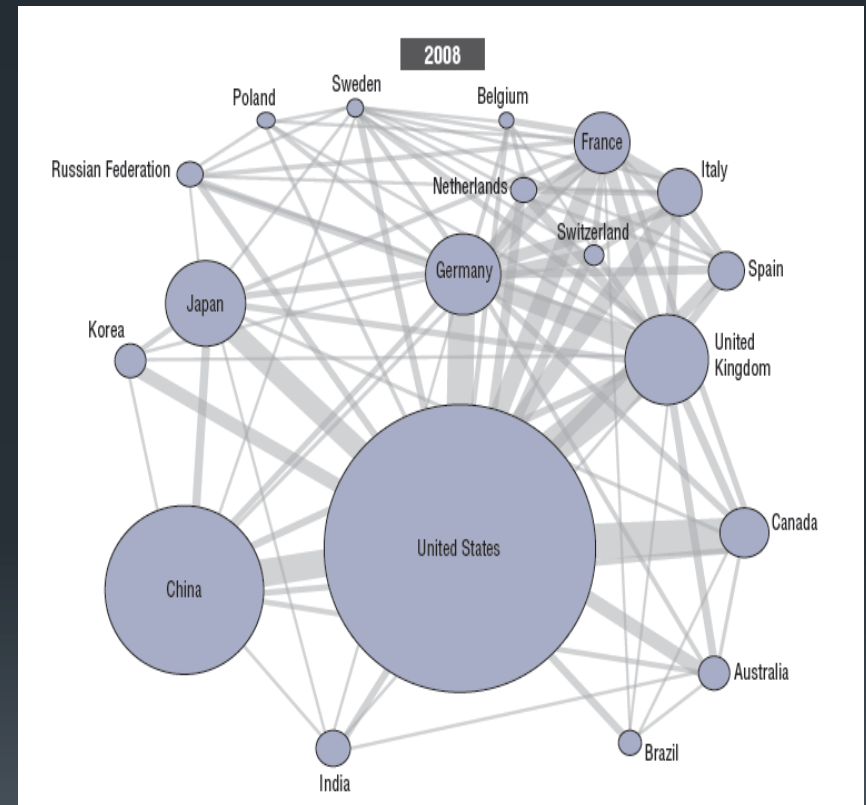
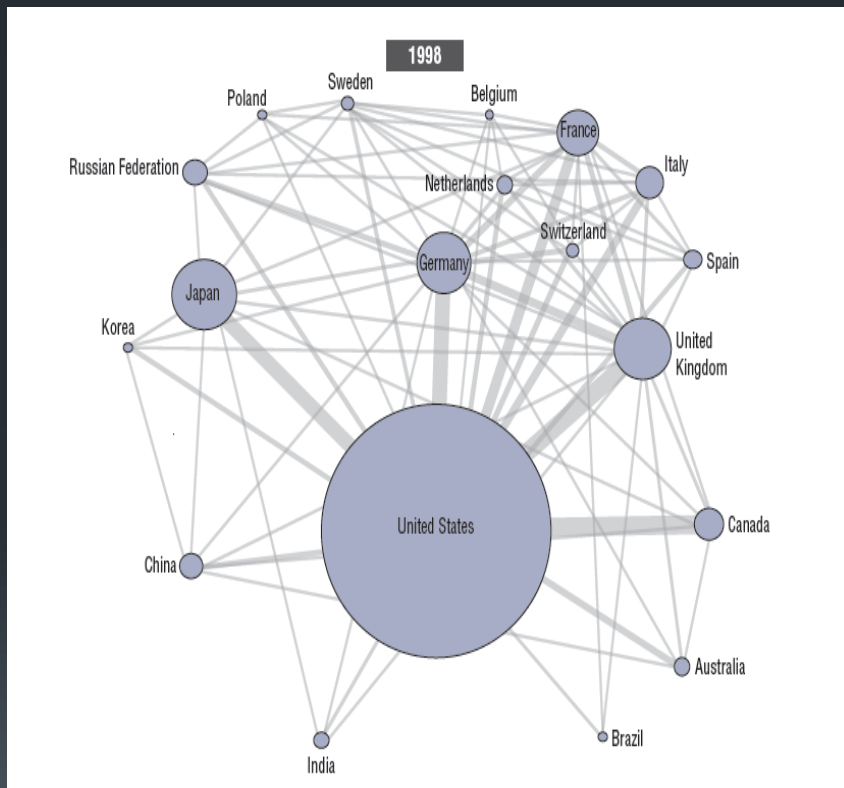
# Outline

- Changing global landscape in science and technology
- Why Canada should cooperate with developing countries/emerging economies in science and technology?
- Potentials of South-South cooperation
- Potentials of Triangular cooperation



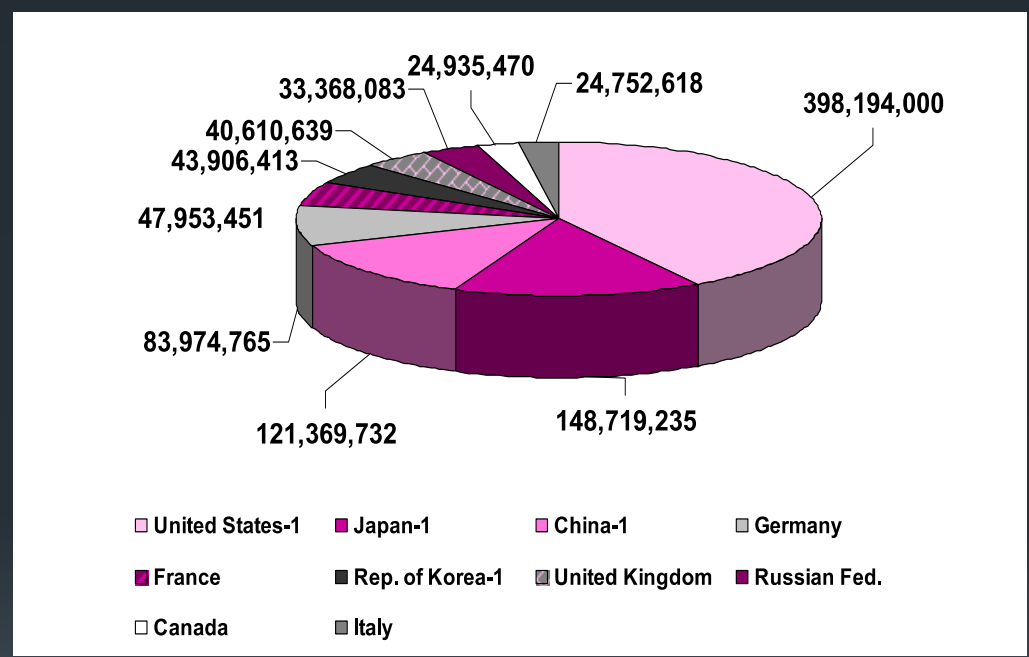
*Steinunn Thórarinsdóttir Territory*

# Changing global knowledge production



Source: OECD 2010

# Top Leaders in R&D Investment



Source UNESCO, 2011

# GERD

## Gross domestic expenditure on research and development, as a percentage of GDP

### Increasing:

Brazil - 1.04 in 2001 to 1.16 in 2010

China - 0.95 in 2001 to 1.77 in 2010

India - 0.73 in 2001 to 0.76 in 2007

### Reducing:

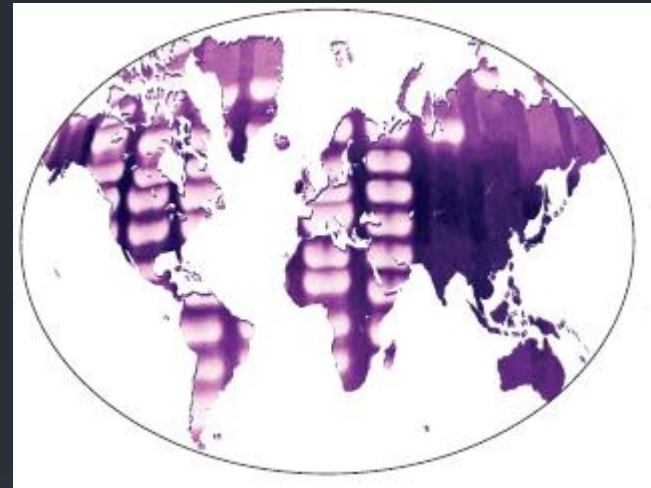
Canada - 2.09 in 2001 to 1.74 in 2011



# Study on Canada's collaboration in health biotechnology with emerging economies

## ① Mapping exercises - *Provide an overview of collaborative linkages.*

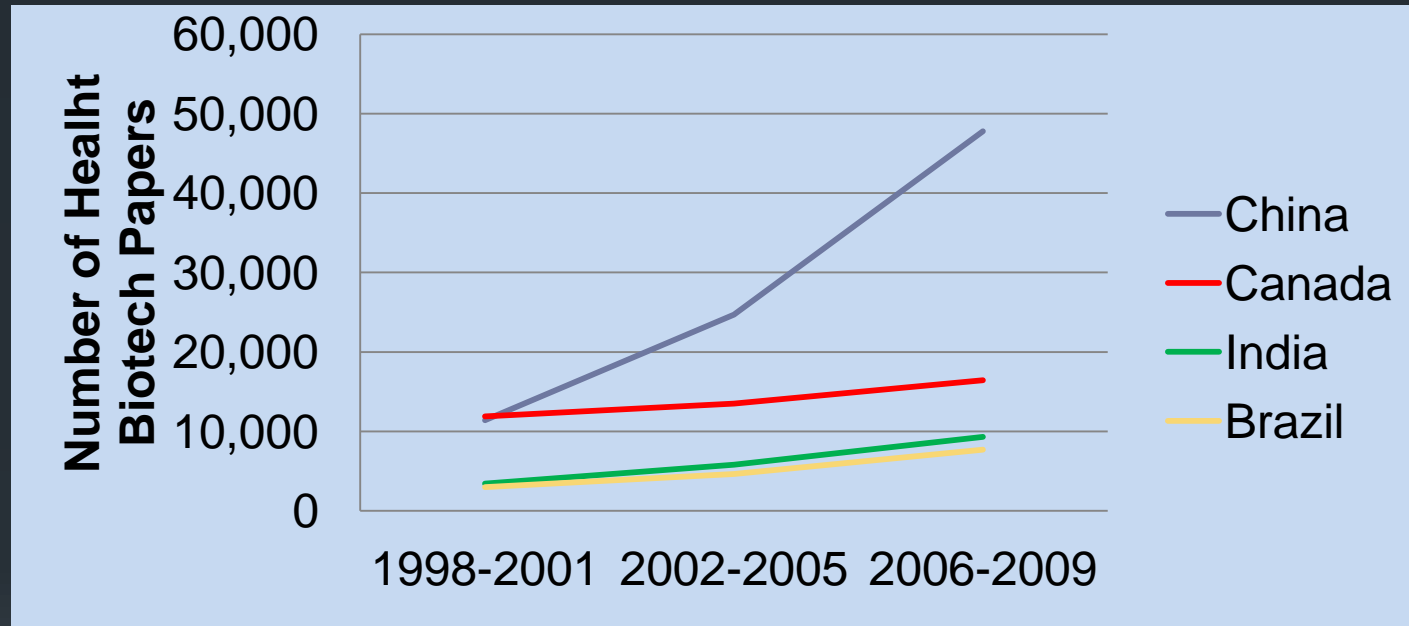
- a. Research collaboration: Used co-publication data as a proxy for the collaboration (in co-operation with Science-Metrix)
- b. Entrepreneurial collaboration: Used a survey administered to biotech firms. It was sent to a total of 259 Canadian health biotechnology firms. The response rate was 70%



## ② Qualitative case study

Carried out documentary analysis. Interviewed collaborators in Brazil, Canada, China and India, and other relevant experts such as representatives from ministries, regulatory agencies, venture capitalists. Etc Total of 164 interviews.

# Canada's status in health biotechnology is slipping



Canada was in 6<sup>th</sup> place in 1996 with 2998 papers –  
in 2009 it is 8<sup>th</sup> place with 3770 papers

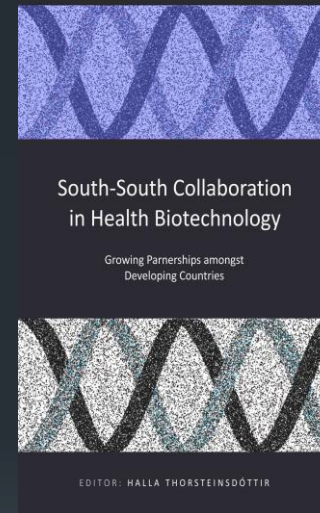
China was in 8<sup>th</sup> place in 1996 with 1638 papers – in  
2009 it is 2<sup>nd</sup> place with 12275 papers



# Why should Canada cooperate in science and technology with developing countries/emerging economies?

1. Advance knowledge and gain access to and provide expertise in science and technology
1. Reduce cost of inputs into research and development and speed up the process
2. Internationalize science and technology products into emerging markets
3. Fulfill its global citizen role by helping those in need
4. Contribute to the solution of global problems

# Large scale study on South-South collaboration in health biotechnology

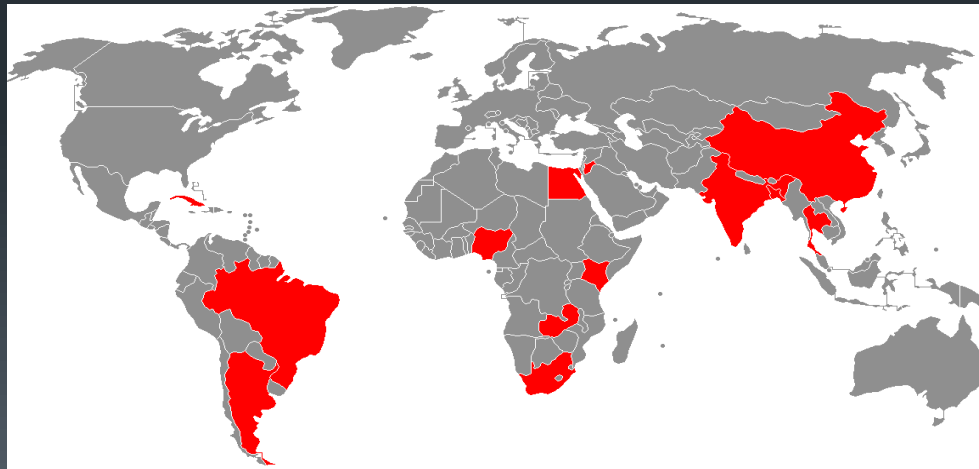


Link open access book: South-South Collaboration in Health Biotechnology:  
<http://www.idrc.ca/EN/Resources/Publications/Pages/IDRCBookDetails.aspx?PublicationID=11>

## Methods

Study involved multiple methods e.g. a survey, interviews, documentary analysis, scientometric analysis

Extensive consultation with 348 in depth interviews in 13 Southern countries



Case study countries

# Results from study on South-South collaboration

**Shared health problems necessitate South-South collaboration and can make available less costly health products.**

- a) Chagas disease diagnostic in Brazil-Argentina collaboration
- b) Cholera vaccine in India-Bangladesh collaboration
- c) Malaria in sub-Saharan Africa collaboration
- d) Meningitis in China-Thailand collaboration
- e) Meningitis vaccine for Africa in Brazil-Cuba collaboration



***“A collaboration between South-South... could be much more successful and realistic to solve the problem of food and hunger and health and environment”***  
***(Thai policy maker)***

## Impacts of South-South collaboration

1. Increased availability of affordable health products in developing countries' markets
2. Increased capacity to meet local health needs
3. Ability to leverage on traditional medicine



# Potentials for Canada

To strengthen its global citizen role and its contribution to solutions of global problems, Canada can consider Triangular North-South-South cooperation



Some benefits include:

- Focus on local problems in developing countries

- Generally affordable solutions

- A demonstrated ability to work with developing countries

- A way to disseminate more widely models that have proven track records in developing countries

## Triangular cooperation is gaining increasing attention

The Rio+20 outcome document, 'The Future We Want', calls for enhanced support for both South-South and Triangular cooperation to address sustainability challenges.

Japan is at the forefront in Triangular cooperation and has, for example, engaged heavily with Brazil in such cooperation and used their diaspora connection

Other countries/institutions that are placing an emphasis on Triangular cooperation are Germany, the EU and several multilateral organizations

## The model of Triangular cooperation is still evolving

Brazil and other countries such as Chile have played the role of the 'pivotal' countries sharing their experiences with low income countries either in Latin America or In Africa. The latter have sometimes been called 'receiving countries'

High income countries have been called 'provider countries'

The emerging economies are increasingly sharing the support of financial and technical resources in their Triangular cooperation with high income countries so this type of categorisation becomes meaningless with time

***A global network to solve global problems***

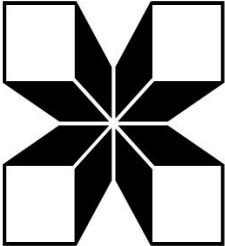


## Key message

Canada should consider both North-South and Triangular cooperation as an integral part of its science diplomacy arsenal and contribute to the creation of a connected and cooperative world to deal with global problems



# Thank you!

**IDRC**  **CRDI**



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