



Evidence for Diplomacy

Presentation for INGSA North Eastern Africa Workshop Series on the Role of
Science in Assisting Regional Policy Development

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Today's challenges require science, technology,
and innovation (STI) and global solutions



Science + diplomacy: Intersection of science and foreign affairs

evidence-based form of knowledge acquisition with a universal language



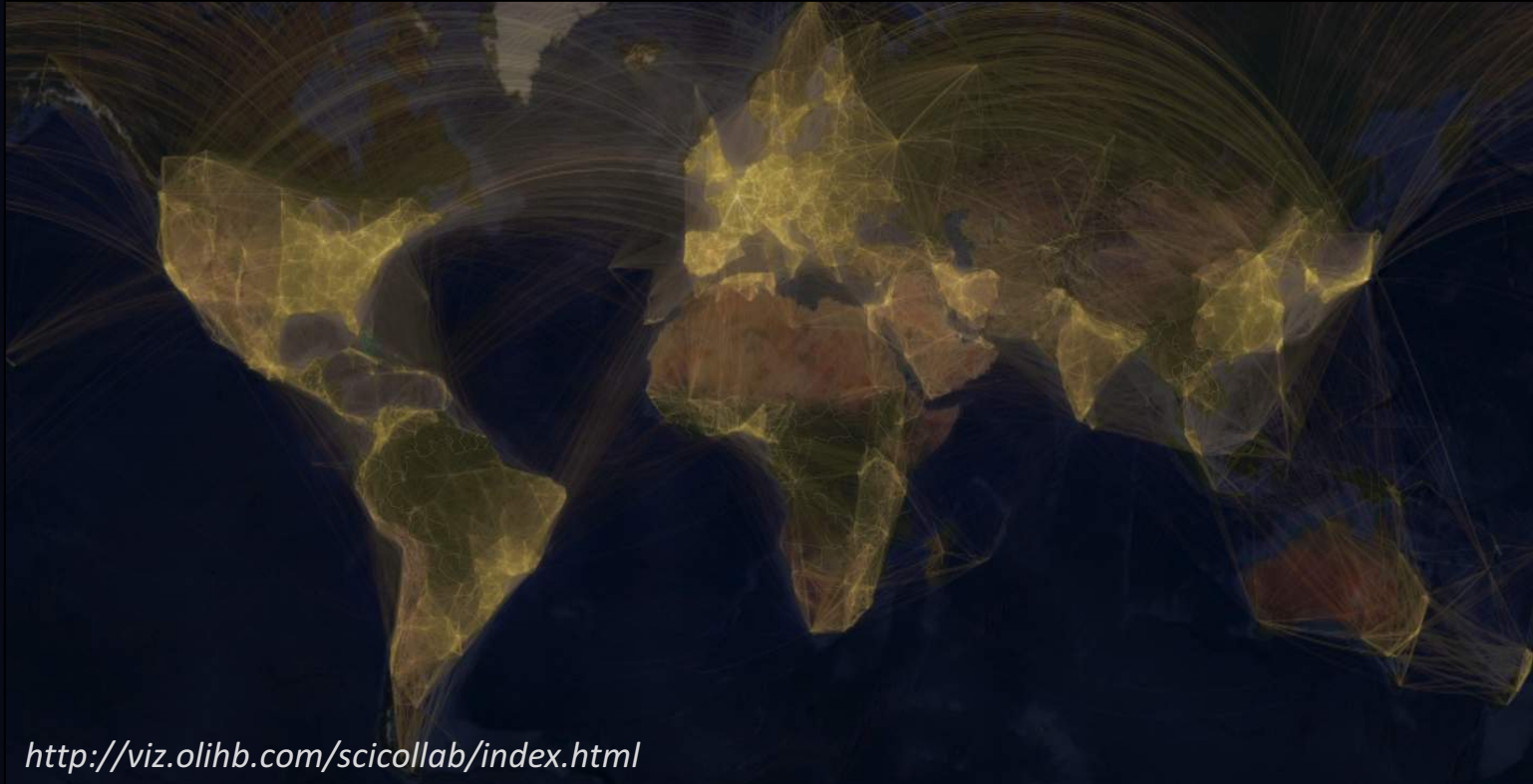
management of international relations characterized by dialogue, negotiation, and compromise



Science + diplomacy

How can the common language, power, people, and goals of science & engineering be leveraged for and in foreign policy, in relationships & alliances, and for progress towards solutions to shared challenges?

Science diplomacy > international research cooperation



Build and strengthen **relationships and dialogue** in spite of diplomatic/political dynamics

Advance a national, regional or international **policy** (foreign and/or science) agenda or issue

Provide **input into or solutions** to global challenges and advance the global public good

(One) governmental perspective of science diplomacy

Use STI to advance broader international or diplomatic priorities

and/or

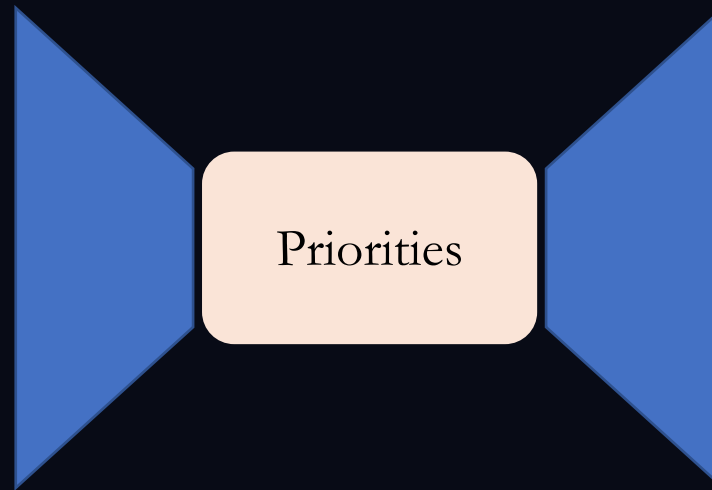
Use diplomacy to advance broader STI priorities

(One) governmental perspective of science diplomacy

Use STI to advance broader international or diplomatic priorities
and/or

Use diplomacy to advance broader STI priorities

- Government interests (national, regional, S&T, etc)
- Foreign government/partner interests
- STI community interest & advice
- Shared global public good



- Funding
- Strategies
- Bilateral and multilateral efforts
- Government scientists
- Leveraging high-level officials
- Action-forcing functions
- New initiatives and partnerships

Example: Arctic Science Ministerial

- **Need:** Near-term science initiatives and increased international scientific collaboration on the Arctic over the longer term



- Germany is working with multiple countries to carry out the Multidisciplinary Drifting Observatory for the Study of Arctic Climate (MOSAIC) between October 2019 and October 2020. The centerpiece of MOSAIC is the icebreaker "Polarstern", operated by the Alfred Wegener Institute in Germany, which will support year-round observations of the physics of the atmosphere, sea ice, and ocean and the biogeochemistry of the ice and ocean as the ship drifts with the moving sea ice.

Climate change

Climate scientists prepare for largest ever Arctic expedition

Hundreds of researchers will spend year on ship improving understanding of sea ice



▲ The German Arctic research vessel Polarstern will set off from Tromsø, Norway. Photograph: Frank Jordans/AP

- “In the €140m (£123m) MOSAiC expedition, 600 scientists from 19 countries including Germany, the US, Britain, France, Russia and China will work together”

Example: Science & technology in US-China relationship



FACT SHEET: U.S.-China Clean Energy Cooperation Announcements

January 19, 2011

In conjunction with Chinese President Hu Jintao's state visit on January 19, 2011, progress and partnerships were announced that underpin the expanding clean energy cooperation as the United States and China work together to solve common energy challenges. Notable examples include:

Forbes

Artificial Intelligence, China And The U.S. - How The U.S. Is Losing The Technology War

Actors in STI and diplomacy ecosystem

- **Federal Government**
 - Head of State
 - Ministry of Foreign Affairs
 - Ministry of Science & others that work on science issues (e.g., energy)
 - Parliament
- **International Organizations**
 - United Nations
 - African Union
 - G20, G77, BRICS, etc.
 - World Economic Forum
- **State and Provincial Government**
- **Non-governmental organizations**
 - Academies of Science
 - Think tanks
 - Funding organizations
 - Scientific societies
- **Academic Institutions**
 - Research & collaborations
 - Policy institutes and centers
 - Degrees and student training
- **Private sector, including public-private partnerships**
- **Individuals**

CERN: The greatest evidence for diplomacy?

European Organization for Nuclear
Research (CERN)

1952



Source: © CERN (<http://cdsweb.cern.ch/record/39071>)

2012



Science for mutual understanding

- **Example: Synchrotron-Light for Experimental Science and Applications in the Middle East (SESAME)**



“If it weren’t for Turkey, Jordan and Israel, this lab couldn’t have been opened easily. This shows that despite on and off political tensions between them, countries can indeed work together.”

- Zehra Sayers, Turkish scientist, founding member of SESAME



Science as a “soft power” tool

- Soft power: “the ability to affect others to obtain the outcomes you want” and a type of power that “co-opts people rather than coerces them” (Joseph Nye)



U.S. Mission to the African Union via Africa Regional Media Hub

July 22, 2015 · 🌐

U.S. Science Envoy Dr. Jane Lubchenco will travel to South Africa, Mauritius, and Seychelles July 17 - 31 in support of President Obama’s initiative to strengthen the United States’ science and education relationships overseas: <http://go.usa.gov/3GEsJ>

NEWS / ETHIOPIA

Ethiopia plants more than 350 million trees in a day

Planting spree, which officials say is a world record, is part of a campaign to fight deforestation and climate change.

30 Jul 2019



Science as a means to build relationships

- **Example: Mount Paektu volcanology research**
 - Eruption in ~900 AD was one of the most intense in history
 - In 2002-2005, showed signs of weak earthquake activity
 - Government outreach lead to collaboration with scientists from UK, North Korea and China considerations in potential diplomatic opening on peninsula



Evidence for partial melt in the crust beneath Mt. Paektu (Changbaishan), Democratic People's Republic of Korea and China

Ri Kyong-Song¹, James D. S. Hammond^{2,*}, Ko Chol-Nam¹, Kim Hyok¹, Yun Yong-Gun¹, Pak Gil-Jong¹, Ri Chong-...

Science Advances 15 Apr 2016;
Vol. 3, no. 4, e1501513
DOI: 10.1126/sciadv.1501513

Science as a means to build relationships

Rifting in the Horn of Africa: The Eritrea Seismic Project (June 2011 - October 2012)

James Hammond, Berhe Goitom, Mike Kendall

2014

North Korea project is
linked to an early project in
Eritrea

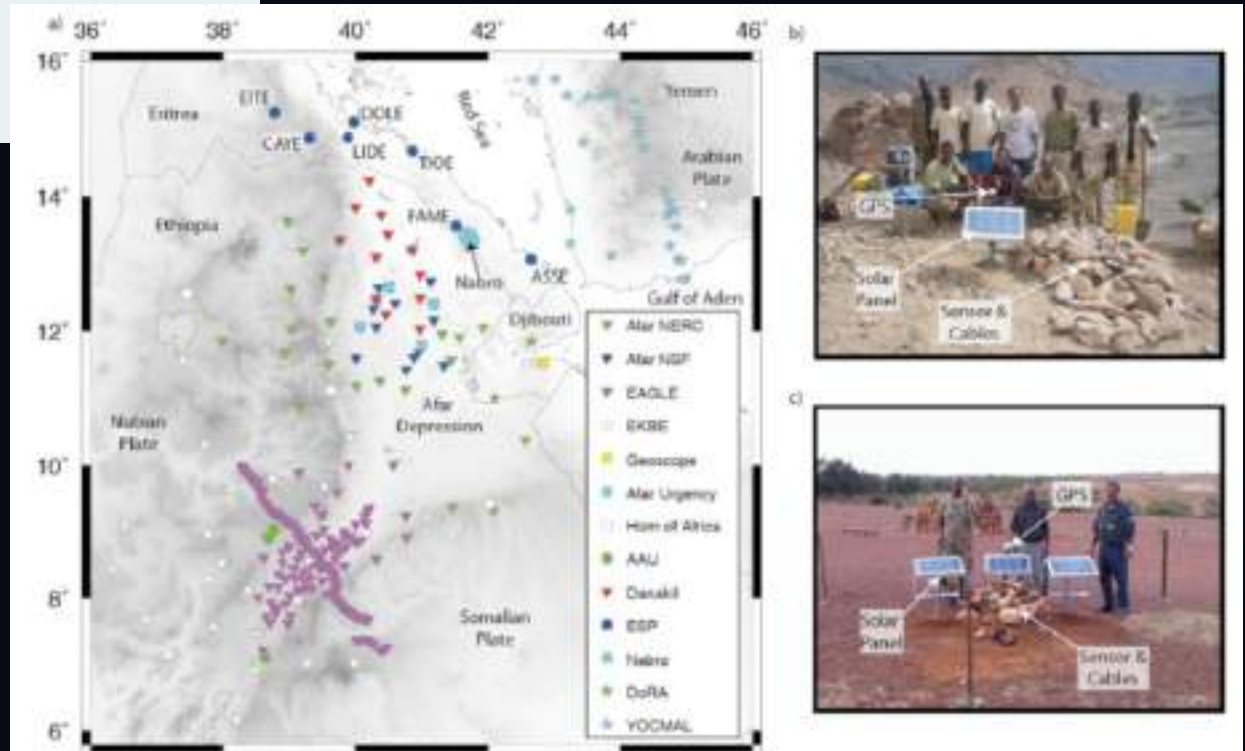


Figure 1. a) Distribution of stations throughout the Horn of Africa. Dark blue circles show stations deployed for the Eritrea Seismic Project. b) Deployment set up for the ESP at FAME. c) Deployment set up for the 3T station at EITE.

Science in regional development & cooperation

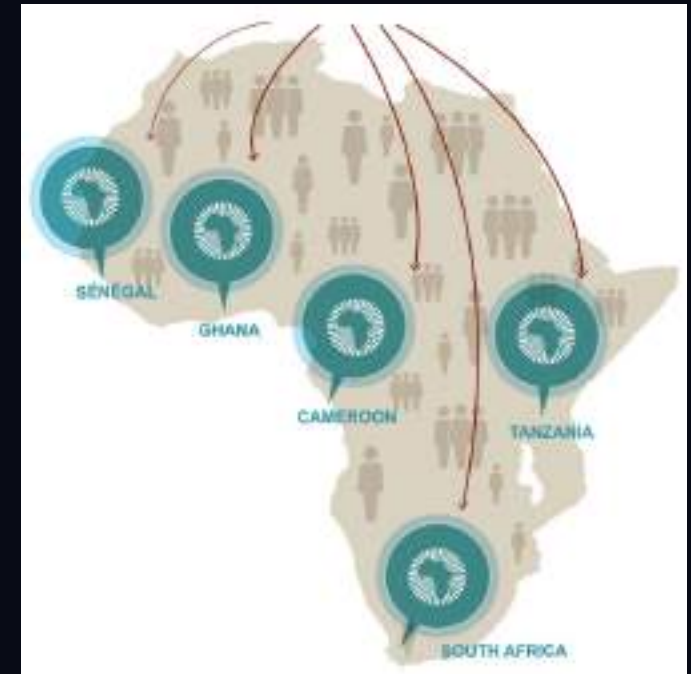
- **Example: Square Kilometer Array**

- Located in South Africa and Australia with partners in Botswana, Ghana, Kenya, Madagascar, Mauritius, Mozambique, Namibia and Zambia



- **Example: African Institute for Mathematical Sciences (AIMS)**

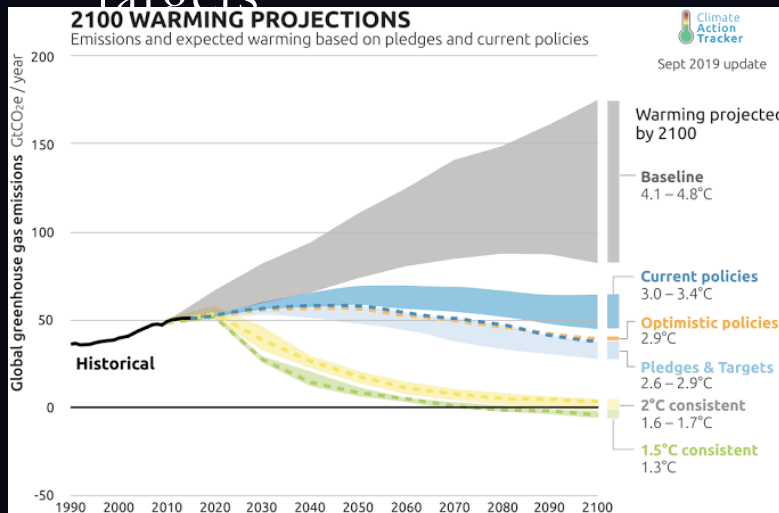
- Goal to have 15 AIMS centers of excellence in operation across Africa by 2023



Science in international agreements

- **Example: Paris Climate Agreement**

- Data and evidence to form consensus
- Climate diplomacy
- Outreach from science to general public (e.g. efforts in French Embassy in U.S.*)
- Determining NDC and working as a global community to meet targets



WHRC, Tufts sign on to support Ethiopia's emissions reductions goals

POSTED ON OCTOBER 16, 2018

*<http://www.sciencediplomacy.org/perspective/2018/chronicles-science-diplomacy-initiative-climate-change>

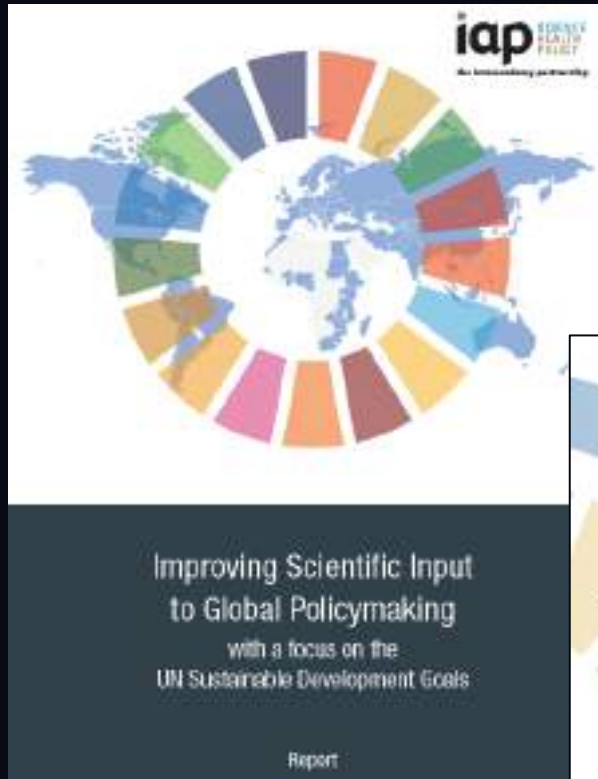
STI for Sustainable Development Goals



- STI plays various roles in progress*:
 - STI *for* or *as* individual Goals/Targets.
 - STI for SDGs as a system
 - Emerging risks of STI
 - International cooperation

* https://sustainabledevelopment.un.org/content/documents/22724Guidebook_STI_for_SDG_Roadmaps_Draft_for_STI_Forum.p

Mechanisms to utilize STI for SDGs



One perspective on future needs for science + diplomacy in Africa

Integrating Africa: Prospects and Promise for Science
Diplomacy

Moctar Toure

- Management of **transboundary water resources**
- Management of **oceans and coastal environments**
- Management of **communicable diseases** and **non-communicable diseases**
- Maintenance of **peace and security**

“Transnational cooperation constitutes the most rational way to develop adequate solutions to the increasingly acute and complex challenges facing the continent.

- *Dr. Moctar Toure,*
Vice President,
The World Academy of
- *Science*



Trend: Shifting geopolitics

Why rightwing populism has radicalised

Populist governments, from the US and UK to Brazil and Hungary, are growing more extreme in power

SIMON KUPER

+ Add to myFT

Brexit

Hopes of clean break with EU are nonsense, says ex-Brexit official

A no-deal exit would trigger complex negotiations, argues former top DexEU civil servant

China's Belt and Road: The new geopolitics of global infrastructure development

Amar Bhattacharya, David Dollar, Rush Doshi, Ryan Hass, Bruce Jones, Homi Kharas, Jennifer Mason, Mireya Solis, and Jonathan Stremmeith
April 2016

Annexing the West Bank Will Destabilize Jordan

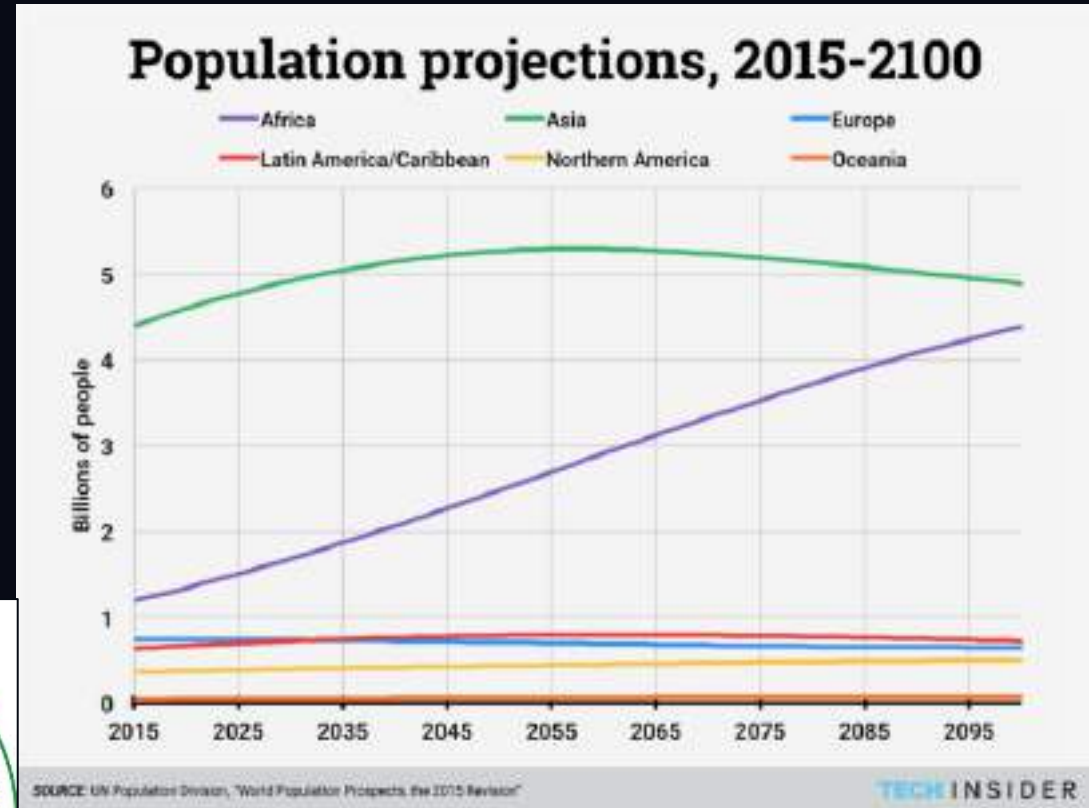
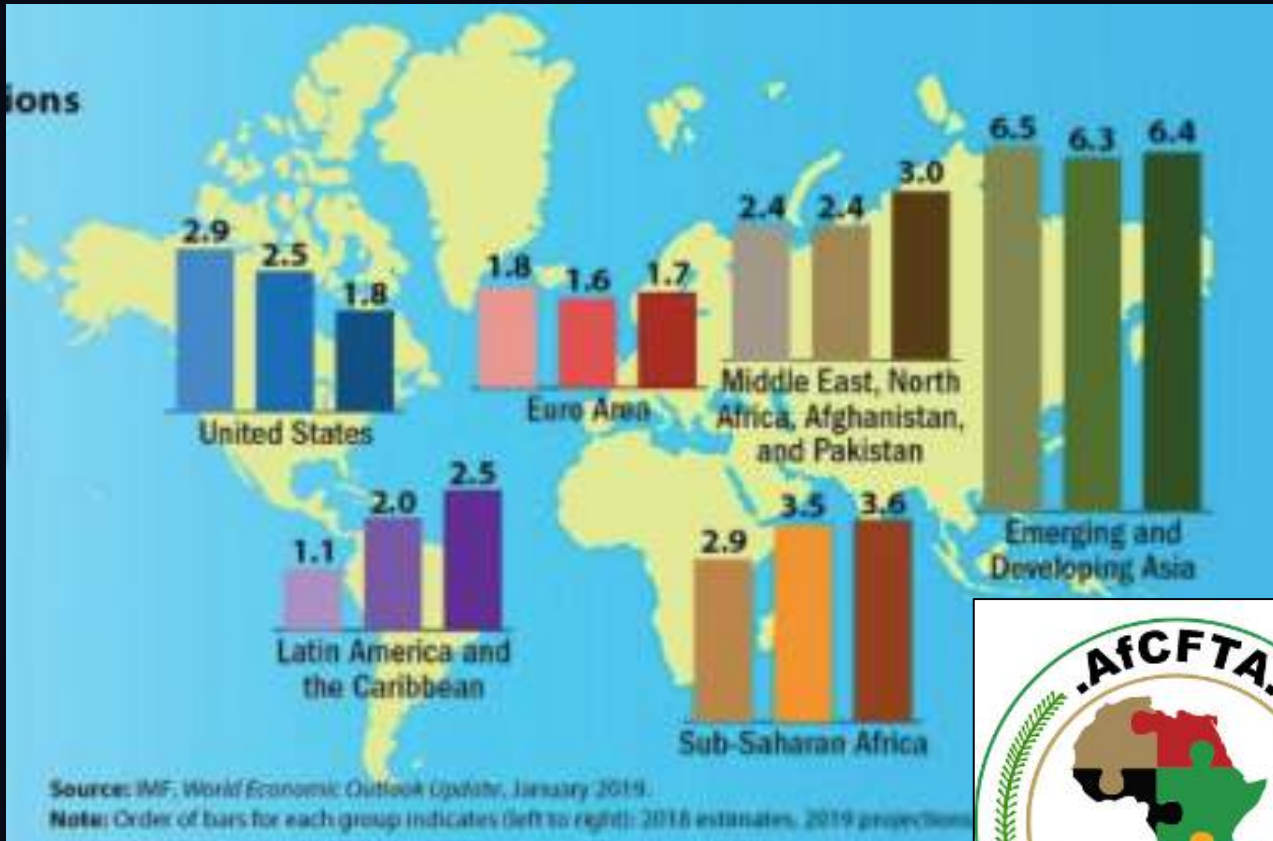
Netanyahu's election promise won't just hurt Israel, it will create chaos for its eastern neighbor and a diplomatic backlash too.

BY ALBERT B. WOLF | SEPTEMBER 17, 2019, 1:54 PM

Will Peace With Ethiopia Usher In a Political Opening in Eritrea?

Tanja Müller | Tuesday, Feb. 19, 2019

Trend: Globalization & population trends



Trend: Growing shared, transboundary challenges with S&T dimensions or solutions

Egypt, Ethiopia 'agree' to resume talks on massive Nile dam

Stalled technical discussions on Grand Ethiopian Renaissance Dam will restart, Cairo says after leaders meet in Sochi.

24 Oct 2019



DRCongo Ebola death toll climbs to 2,150: African Union

New figures come as high-level ministerial meeting on Ebola held in Goma, Democratic Republic of Congo

21.10.2019

Cyclone in Mozambique: Death toll jumps after 2nd huge storm in 6 weeks, and rain still falling

APRIL 29, 2019 / 9:07 AM / CBS/AP

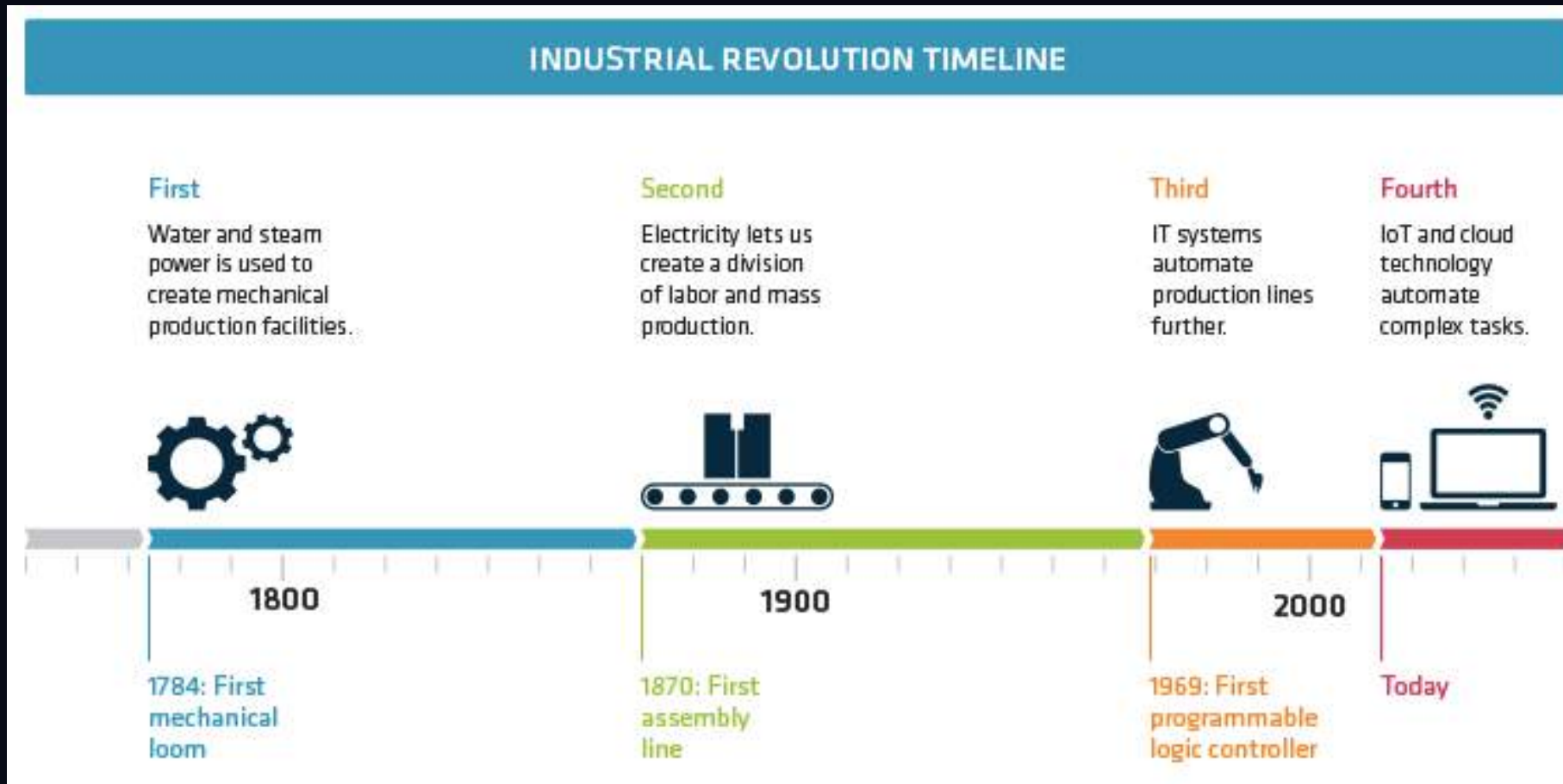
Biodiversity loss: one million species threatened with extinction

3rd October 2019

Ethiopia's Lake Tana is losing the fight to water hyacinth

September 4, 2017 5:41pm SAST

Trend: Advances in S&T are rapidly changing industries and society...



...And amplifying the need for global governance, dialogue, and partnership

CRISPR bombshell: Chinese researcher claims to have created gene-edited twins

By Dennis Normile | Nov. 26, 2018, 1:10 PM

WHO expert panel paves way for strong international governance on human genome editing

19 March 2019 | News release

OECD Principles on Artificial Intelligence



On 22 May 2019 the OECD adopted its **Principles on Artificial Intelligence**, the first international standards agreed by governments for the responsible stewardship of trustworthy AI.

Mechanisms for dialogue, accountability & action

- **Example: BRICS STI Minister Forum**
 - Est. 2013 to coordinate mutual interests and identify future directions of institutionalizing cooperation in STI within the framework of BRICS.
 - Formed working groups or forums for biotechnology, geosciences, space, science academies, cooperation in ICT, women in STI
 - Sample outcome:
 - BRICS ministers established the Partnership on New Industrial Revolution (PartNIR) to maximise the opportunities and address the challenges arising from the 4th Industrial Revolution (2019)



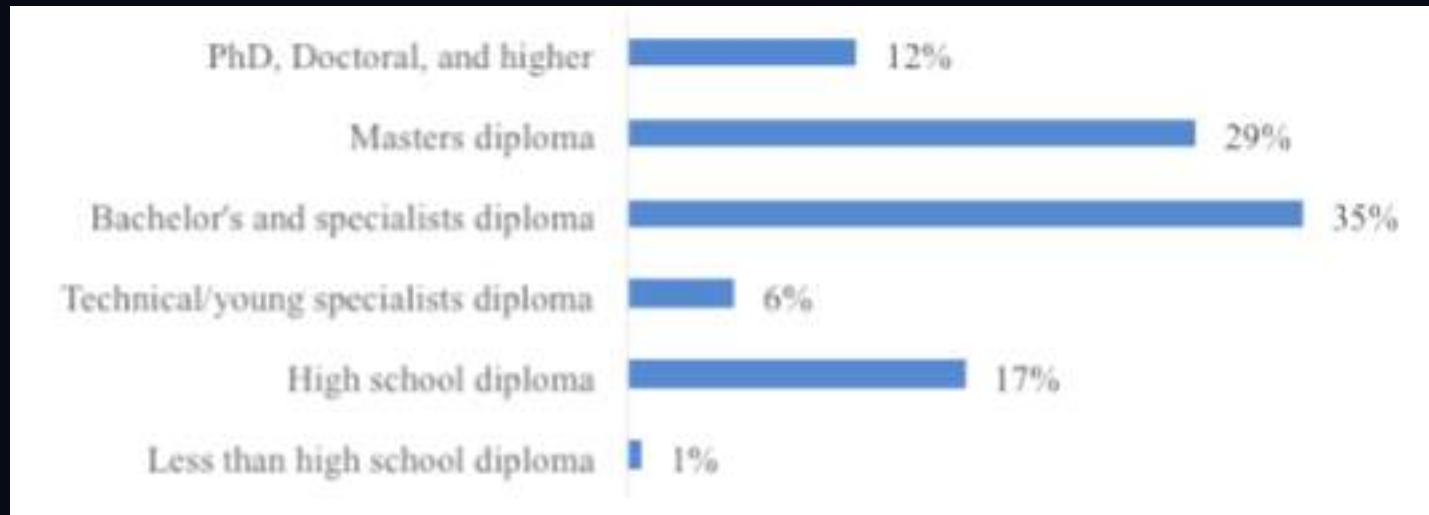
Trend: Greater involvement and potential of diverse actors



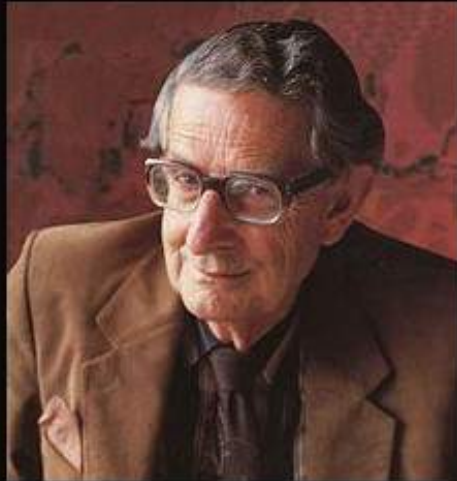
Mars accelerates action to tackle climate change with new #PledgeForPlanet initiative English ▾



Ethiopian Diaspora in United States: Highest Education on Level



Optimism vs. pragmatism

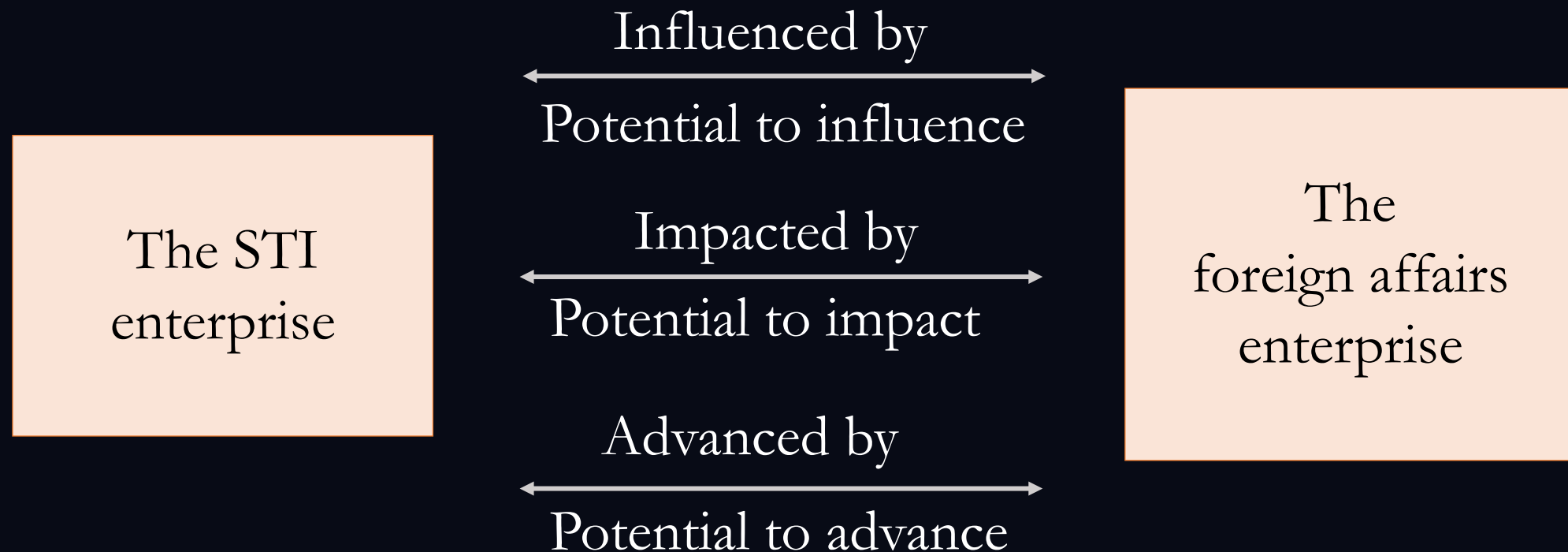


Tact and diplomacy are fine in international relations, in politics, perhaps even in business; in science only one thing matters, and that is the facts.

(Hans Eysenck)

izquotes.com

Global engagement is a critical part of the science-policy nexus



How we often think it is



How it really is



One planet. One home.

by *Wahiduddin Khan*

<http://www.khilafatworld.com/2012/11/picture-perfect-earth-without-borders.html>