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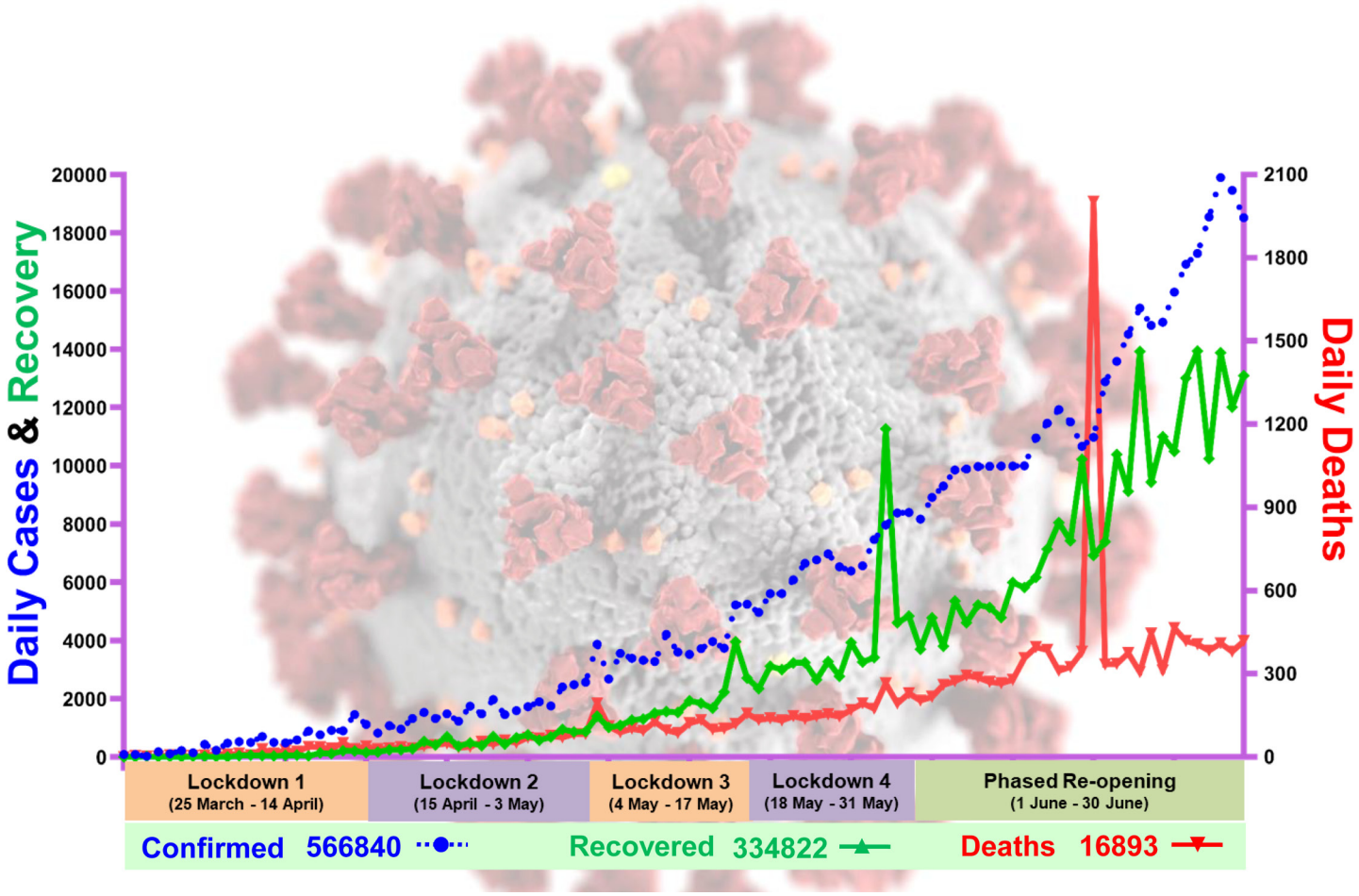
# Science Diplomacy

*India's Global Digest of Multidisciplinary Science*

## COVID-19 in INDIA




Science Diplomacy to Address the COVID-19 Crisis: Perspectives from S4D4C

*And More*

***Inside:***

# Science Diplomacy to Address the COVID-19 Crisis: Perspectives from S4D4C

*By Elke Dall on behalf of the S4D4C project - with contributions from: Ewert Aukes, Ana Elorza Moreno, Stefan Kuhlmann, Izaskun Lacunza Aguirrebengoa, Katja Mayer, Peter McGrath, Lorenzo Melchor, Nadia Meyer, Mitchell Young*

"S4D4C - the full project title "Using Science for/in Diplomacy for Addressing Global Challenges"- is a European project, co-funded by the European Commission under the Horizon 2020 programme"

We are all affected by the COVID-19 pandemic and the effects of the lockdown. In addition, the crisis exposed many weaknesses in the interface between scientific research and international relations[1]. In this article, we would like to review the work done by S4D4C researchers in preparing further ideas on how to address the science diplomacy/science advice interface; drawing lessons from our case studies[2] and in particular, highlight some of the issues that we believe matter in the science diplomacy practice. For details, we refer the reader to our public deliverables and resources available on the S4D4C website.

At S4D4C, our focus lies on existing governance frameworks, tools and instruments, etc. that are available in the European Union. Nevertheless, one of our starting points, the Madrid Declaration on Science Diplomacy[3] (an output of the S4D4C global conference in 2018) is supported by signatories from all over the world. It postulates that "Science diplomacy is often not fully exploited at all levels of governance and especially at supranational levels" and we believe that this particularly holds true for the current crisis.

Europe highlights the global response[4] and launched a series of initiatives based on instruments such as joint programming and EU research programmes (launching calls as early as January 2020) based on an Action Plan[5] coordinating short-term actions. This has inspired a lot of stakeholders and research groups to get involved in international research cooperation for medicine and vaccine development but also in the social sciences and humanities.

The multilateral approach gains more traction in Europe and we have to acknowledge the challenges, but also the opportunities of the situation. As a project, we emphasise the importance of international scientific cooperation, science diplomacy, science advice and multilateralism at both the global and European level, especially to address global challenges. In May 2020, S4D4C provided an extensive policy report[6] that underlined current stoppers, warnings, and drivers for global collaboration and called for a systemic change to implement a strategy of EU science diplomacy for addressing global challenges.

Particularly, in case of COVID-19, we want to highlight how aspects such as (i) narratives, (ii) interests, (iii) values and (iv) interdisciplinarity matter in this crisis and we have narrowed down five specific policy recommendations: "(1) Create interactive spaces, (2) Promote bi-directional science and diplomacy fluency, (3) Engage the full spectrum of science, (4) Ensure open and interpretable science for diplomacy, and (5) Exert bold values-based leadership. In combination, these will create a strong foundation for addressing not only the ongoing issues in this crisis, but also other global challenges, both known and unexpected."[1]

A notable point we make in our policy brief[1] is that while science has played a central role in establishing and shaping the policy narratives around COVID-19, it is not yet well understood and thus, needs further research to investigate among other things: How science advice worked in the crisis, how it formed narratives in non-traditional policy spaces reliant on social media and the internet, how many efforts did not get the time or attention they might have deserved and which kind of dedicated fora should be in place for future crisis. The measures taken now in addressing the COVID-19 crisis will inform not only future answers to infectious diseases, but also to other global societal challenges, e.g. climate change, food security, green energy, etc.

We also highlight the importance for scientists to share, in a well-organised way, accurate and trustworthy data. One of our case studies[7] looked at open science policies as a matter of science diplomacy and the crisis has demonstrated the importance of an open and broad exchange of information efficiently in order to understand the situation, and to develop and test a vaccine or necessary medication as quickly as possible: "Open Science is central to this, and with it the sharing of results, data and methods. We are experiencing a shift towards Open Science at a speed that was previously unthinkable."[8] We believe that Europe played and plays an important role to pave the way for Open Science, including through science diplomacy activities. It is now necessary to build and foster the bridges built by providing robust legal and governance frameworks for sharing and reuse of data and methods and to secure the infrastructures for the exchange. In this context, we also call for more solidarity and leadership at the different interfaces between science, policy/diplomacy and also industry.

These sectors share different values that require resolution in policy-making and "while there is a political and public imperative to provide information quickly, great care must be taken to maintain the critical and deliberate processes of science that serve to ensure quality and accuracy"[1], and this needs to include in particular the social sciences and humanities.

We argue, in another S4D4C Policy Brief[9], that effective science diplomacy practices need literacy in both science and diplomacy. In support of this objective, the S4D4C project has released a free and open science diplomacy online course[10]. Although it focuses on the European perspective, we have already received feedback that it is useful also for trainees from other parts of the world. We would like to invite readers of *Science Diplomacy - India's Global Digest of Multidisciplinary Science* to take the course and to engage with our reports, provide your feedback and stay in touch via our mailing list (subscribe on our website www.s4d4c.eu) and our social media account on twitter @s4d4c.

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# COVID-19 Global Reverberations: Scientists Sharing Their Stories

**Dr Elizabeth W Njenga**
(Kenya)

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(Nigeria)

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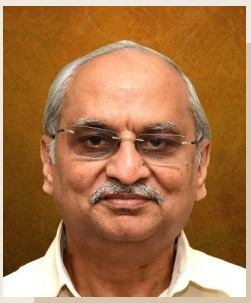
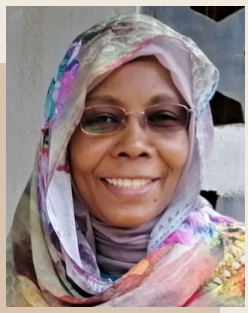


**Prof. M. Sai Baba**
(India)

*Prof. Sai Baba is Shri TV Raman Pai Chair Professor in School of Natural Science and Engineering, National Institute of Advanced Studies, Bengaluru, India.*



**Dr. Hazir Farouk Abdelraheem Elhaj**
(Sudan)

*Dr Elhaj is an Associate Professor in the Department of Mechanical Engineering, Sudan University of Science & Technology, Khartoum, Sudan.*

Coronavirus disease 2019 (COVID-19) - the most dreaded and discussed word of the year 2020. The COVID-19 disease is caused by a coronavirus named Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2). The World Health Organization (WHO), on 11 March 2020, declared the novel coronavirus (COVID-19) outbreak a global pandemic. The United Nations announced the COVID-19 pandemic to be the toughest test the world has faced since World War II. Though a few countries succeeded in controlling the disease spread by swiftly implementing mass testing, contact tracing, and firm guidelines, several other countries are still struggling to control and contain the spread of the disease. As COVID-19 has swept across the world, we invited a few scientists to shed light on the work being carried out in their respective countries to combat the spread of the disease. Their responses have been edited for brevity and clarity.

| Country | Total Cases | Recovered | Deaths |
|---|---|---|---|
| Kenya | 6190 | 2013 | 144 |
| Nigeria | 25133 | 9402 | 573 |
| India | 568315 | 335577 | 16917 |
| Sudan | 9257 | 4014 | 572 |

Source: https://www.worldometers.info/ (data as of 30 June 2020)

### ⟶ Q1. Please introduce yourself including your current position and background experience/jobs.

**Elizabeth:** I am an Associate Professor of Botany in the Department of Biological Sciences, University of Eldoret, Kenya. I am also the Vice-Chair, OWSD-Kenya Chapter, a trained transformative leader and life coach, a science diplomat and a trained internal quality management systems auditor among such other qualifications.

For close to six years, I was the chair of the Department of Biological Sciences at Moi University, Kenya. I had an opportunity to serve as the Director of Board of Postgraduate Studies in the University of Eldoret for four and a half year non-renewable term where I was instrumental in the establishment of the directorate after my institution was granted a charter to become a University. I developed policies and working guidelines during the tenure. I initiated training programmes and workshops for students' skills enhancement to ensure academic integrity in their studies. The impact of such activities was phenomenal. This is one area where I had to apply a lot of science diplomacy, especially in collaborative academic and research ventures among such others while handling both local and international students/staff.

**Grace:** I am currently working as Head of unit Ecosystems and Genetic Resources, Department of Environmental Biotechnology and Bioconservation, National Biotechnology Development Agency, Abuja- Nigeria. The agency is a research institute with the goal of biotechnology development and domestication in the country. I am an Environmental Microbiologist with a great interest in water management and a trained science diplomat. I have facilitated science diplomacy training sections in my country.

**Sai Baba:** I am presently holding "TV Raman Pai Chair Professor" at the National Institute of Advanced Studies (NIAS), Bengaluru, India. At NIAS, I am working in the domains of Science and Risk Communication, Human Reliability Program, and Understanding Ancient Indian Knowledge Systems for applying them to the holistic development of youth. Present work includes obtaining effective and informative insights on managing public perceptions and public acceptance of public risks associated with new and emerging technologies, through science and technology communications.

**Hazir:** Presently, I am positioned as an Associate Professor at Sudan University of Science and Technology (SUST), Khartoum, Sudan. I was nominated by the World Bioenergy Association to become their voice in promoting the sustainable use of biomass in Sudan and the region of North Africa in 2014. This role opened up an international level of communication with the field experts and gave me an opportunity to improve my understanding of the current developments, and to select the best developmental approaches that suit my community.

Since then, I am active in Sudan in promoting the development of Bioenergy technologies so that Sudan can reduce reliance on fossil fuels for power production and transport, and also for alternatives for buying wood and charcoal for cooking in the rural households. Consequently, in November 2018, I was awarded the prestigious TWAS Samira Omar Innovation for Sustainability prize in Trieste as an outstanding woman scientist working in the field of sustainability within the world's 47 least developed countries.

### ⟶ Q2. What has been the impact of the coronavirus pandemic in your country?

**Elizabeth:** The first case of COVID-19 in Kenya was reported on 13 March 2020. My country has had its fair share of the challenges associated with COVID-19 but the government has handled the matter gallantly in curbing the spread of the pandemic and also by easing the burden of the citizens by reducing taxes on incomes, monetary/material support to the less privileged in the society and upgrading and equipping health facilities among such other mitigation measures. The lockdown has affected the economy greatly in the main business hubs Nairobi and Mombasa.

Secondly, our National Research Fund (NRF) was quick to advertise calls (worth Kshs 20 million for one year) from both public and private institutions to submit research proposals seeking to provide COVID-19 pandemic innovative solutions through early detection, prevention, management, supporting health systems or increasing scientific evidence to responses. This call is one of the Kenya Government specific responses to appropriate research partners to conduct feasible research and ensure rapid utilization of findings to inform the responses and policies for containment of the pandemic (source: www.researchfund.go.ke).

Thirdly, the Kenya Medical Research Institute (KEMRI) has been instrumental in carrying out the countrywide COVID-19 tests and profiling the coronavirus using molecular markers. The scientists from the KEMRI's Centre for Virus Research and Centre for Geographic Medicine Research-Coast in collaboration with the National Public Health Laboratory working closely with County teams have successfully sequenced genomes of SARS-CoV-2 to obtain the genetic composition of viral strains in 122 of the confirmed cases in Kenya. It revealed at least 9 separate importations of SARS-CoV-2 prior to 30th April 2020 (https://www.kemri.org/news-2/).

**Grace:** Africa's biggest economy faced severe economic strain as the global pandemic sparked a collapse in crude oil prices and thus, state revenues plunged. Initially, the general public had a notion that the disease wouldn't affect tropical countries like Nigeria, hence, they were slow to respond to the advisories which led to overwhelming effects on the community. Recently, there was a spark rise in the COVID-19 cases after the government began a six-week phase-out period of the emergency lockdown measures.

**Sai Baba:** Coronavirus pandemic has affected countries like India on several fronts. The most challenging aspect has been to ensure the safety and well-being of the residents of the country. The challenge is manifold due to diverse, large and highly dense population. The timely decision by the government in imposing lockdown has helped to prepare the people and enable the government to get ready to tackle the crisis arising out of the pandemic. The lockdown has its effect in terms of shutting down of construction, manufacturing activities and trade coming to halt, affecting the economy. On the scientific research front, it took time for the stakeholders to readjust and evoke work from home concept. For industries like IT and software, it has only been an extension and for other industries, it has been a new learning. However, several researchers utilised the time to bring some of the pending research work to publishing them. One heartening development, is several R&D institutes taking up research to address the issues relating to COVID-19, be it in developing required personal protective equipment (PPE), ventilators, oxygen suppliers for medical applications, etc. Indian researchers are actively pursuing their research to be in the race for the development of a vaccine.

**Hazir:** All research activities have been stopped as a result of the shutdown of universities and research institutes since 15 March 2020.

### ⟶ Q3. How has your government responded to contain the virus spread?

**Elizabeth:** See the content under question number 2 above. There is a lot of sensitization done through electronic and print media, social networks, etc. on the need to adhere to the health regulations and there is also the element of ensuring that the regulations are followed.

**Grace:** The Kenyan government has presented a range of different measures to contain the virus spread at all levels. Some of the programs put in place by the National Centre for Disease Control include;

1. Awareness jingles for print media, social media, radio, television, etc. in the various local languages.
2. Strict restriction of movement.
3. Social distancing orders.
4. Awareness on the need for regular washing of hands with alcohol-based sanitizer and soap.
5. Mandatory use of face mask in public places.
6. Ban on worship gatherings, market places and interstate travel.

7. Mandatory closure of schools.
8. Community and contact tracing of infected persons.
9. Distribution of food and palliatives to people.

The Ministry of Sports, Culture and Heritage availed KES100 million (US$ 944287) from the Sports Fund to artists, actors and musicians during the Covid-19 pandemic so they may continue to entertain through TV, radio and the internet.

**Sai Baba:** The response of the government to contain the spread of the virus has been extraordinary. Be it implementing the lockdown or ensuring essential supplies to people. No case of lack of essential supplies has been reported from any corner of the country, which is an achievement of greater proportion. In retrospect, preparing the country for the digital era, be it Aadhar, JandhanYojana and linking the mobile to bank accounts and public distribution system has helped a lot in government implementing the welfare measures for the needy and marginalised. At the time of crisis arising out of natural disasters or health pandemics, it is the marginalised sections which are most affected. Governments, both Central and State, could intervene by making use of the mechanisms that were already put in place before the COVID-19 crisis. Delivering financial assistance to the needy by transferring the funds directly into their accounts is one such example. Several NGOs came forward to reach out to the needy, be it in providing food or protective gear like masks, hand sanitisers and is highly commendable.

**Hazir:**

1. The closure of all schools, colleges, universities, educational/training/coaching institutions, etc.
2. Preventing all social, political, cultural, religious functions, festival gatherings.
3. Closing of all shops, markets, restaurants, cafeterias and other commercial activities in the state at four o'clock in the afternoon for a month w.e.f. 15 March 2020.
4. The postponement of the Sudanese certification exams until a later date.
5. Stopping the movement of interstate buses for public transport.
6. The Minister of Information announced the start of the imposition of a full (24 hours) curfew in Khartoum State, starting on 18 April 2020 for a period of 3 weeks, then extended until June 18, 2020.
7. Giving workers in the public sector leave for the period of the full curfew.

### ⟶ Q4. How has the coronavirus pandemic affected the relations of your country with the other countries/ international organisations?

**Elizabeth:** The COVID-19 pandemic has had a tremendous influence on the entire world. This crisis has led various institutions, companies to strongly collaborate and have shown the benefits of open innovation & communication. Kenya has received millions of dollars from around the world to help in the fight against Coronavirus, enhance mitigation measures and revive the economy.

Major contributions were received from the World bank (approved $1 billion financing comprised of $750 million credit from IDA and $250 million loan from IBRD), IMF ($739 million rapid credit) and AECF REACT Kenya Relief Fund by Sweden (US$2 million). India also played a crucial role by training many Kenyan healthcare workers to deal with the COVID-19 crisis under the eITEC courses.

**Grace:** Nigeria has received funds from international organisations and other countries such as Germany and the UK. Germany donated £5.5 million, UK donated 21 billion Nigerian nairas. The European Union donated €50 million to the country to fight the virus. The International Monetary Fund has approved its largest COVID-19 emergency financing package so far - $3.4 billion Rapid Financing Instrument (RFI) for Nigeria. The United Nations has provided the Nigerian government $2 million to procure essential medical supplies to care for individuals with confirmed cases and protect doctors who are in the frontline of fighting COVID-19 pandemic.

**Sai Baba:** The coronavirus pandemic made citizens of the world realise that they cannot exist in isolation. The scientific capabilities of India, especially in the domain of health care, pharmaceuticals have received attention. The base that exists for large scale production of drugs and vaccines, has been the strength of the country. India could supply large quantities of medicines like hydroxychloroquine to several countries, including the USA and Europe, which is a demonstration of the capabilities our country possesses. India also joined the efforts to develop vaccines, some of Indian R&D establishments on their own and some in collaboration with institutes from other countries. India has received supplies of PPEs in the early stage of the pandemic and a small number of ventilators from abroad.

**Hazir:** The main international support provided to face the coronavirus pandemic in Sudan includes:
**EU:** €80 million
**US**: $13 million (through the United States Agency for International Development)
**UAE**: 54 tons of medical supplies
**China**: A team of medical experts and medical supplies.
**Egypt and Turkey:** Medical supplies

### ⟶ Q5. What are the novel indigenous innovations reported in your country to combat COVID-19?

**Elizabeth:** The government of Kenya has enhanced local production of low-cost masks, testing kits, ventilators and PPEs mainly by institutions of higher learning, research centres, national/county governments, small and medium enterprises among such others. We no longer import these items as they are now locally made hence, making them relatively affordable and easily accessible. Our young men and women have also come up with innovative solutions such as, automated hand wash gadgets and sanitizers some of which were awarded presidential recognition during our national self-rule day on 1st June 2020 (Madaraka day).

**Grace:** Some novel indigenous innovations reported in Nigeria include low-cost masks, production of rapid RNA-test kits and local ventilators.

**Sai Baba:** There have been several indigenous innovations reported in India. To start with the usage of homemade novel masks, several self-help groups, small scale entrepreneurs started producing them. With several industries joining in producing PPEs, it is reported that India now produces more than 4.5 lakh pieces daily. Some of the textile manufacturing companies adding PPEs to their production line have come handy in enhancing the production. Some of the governmental R&D establishments are working on producing reusable PPEs by adopting newer material and/or coatings to enhance the effectiveness of the masks. It is heartening to note that research carried out in some of the academic institutions and R&D labs (like CSIR, IITs) have led to the development of testing kits which have been taken up by industry and started the production line. Indian R&D establishments, both governmental and industry have joined the race for production of a vaccine. Another domain where contributions have been made is in the repositioning of the drugs and work in the R&D organisation is being pursued. One important effort has been in bringing awareness to people to adopt Ayurveda by AYUSH, along with Yoga and Meditation.

**Hazir:**

- Manufacture and development of medical equipment;
- Development of medical basics, surface and hand sanitizers, automated sterilization tunnel, and a range of early detection, alert and outreach applications using drones;
- Development of special emergency vehicles for the coronavirus medical services.

→

### Q6. How can science diplomacy offer solutions to tackle the Coronavirus and other pandemics in the future?

**Elizabeth:** Science diplomacy comes in handy in enhancing research collaborations following the dimensions of science diplomacy i.e. '**Diplomacy for Science**' where we have witnessed a lot of collaborations in the development of vaccines, sharing of information on what works in containing the pandemic; '**Science for Diplomacy**' particularly, in the regulation of transborder movements in a humane way to contain the pandemic and lastly, the use of '**Science in Diplomacy**' where several countries have used diplomacy to inform policy decisions (chiefly, on improved healthcare practices and increased funding support for viable local interventions) and collaborations that have greatly helped to reduce the impact of the pandemic globally. This pandemic has taught us to work together to find a viable solution for the current as well as future challenges. Therefore, new windows have opened up for the advancement of science diplomacy.

**Grace:** Science diplomacy has a major role to play in proffering solutions to pandemics in the future. The rate of infection across all continents of the world has shown that diseases know no boundaries and international cooperation is needed in the health sector, communication, climate change-related issues and another whole lot of issues bordering mankind for a watch against future pandemics and disasters.

**Sai Baba:** Science diplomacy gains strength in knowing the strength the country possesses. In the context of tackling coronavirus, it is the large base of the pharmaceutical industry, R&D labs that the country has given its strength to negotiate. The masterstroke in diplomacy is imposing

the ban in the early days and subsequent lifting the ban on export of hydroxychloroquine to other countries, which was in high demand in many countries. The assessment of the potential of the industry to produce this important drug in excess of the domestic requirement gave the strength to the decision-makers to allow the export. Almost 50% of the world vaccines are produced in India. Assessment of the infrastructure available and the capability of the R&D gave strength and hope to the world. Many of the institutes are collaborating with institutes and industry abroad to find the coronavirus vaccine. These efforts have opened newer avenues for our industry to enhance its presence and ensure not only meeting the needs of the country but also to meet the requirements of the world. Science diplomacy plays an important role in taking these to the next level.

**Hazir:** Pandemics know no borders; this is why international collaborations should be strongly made between scientists and diplomats to bring facts and true information, capacity building, best practices and standards, and solutions that are fit and be part of different communities' life and culture.

### ⟶ Q7. Have you or your institution has been involved in a response to the pandemic in any way?

**Elizabeth:** As a part of our corporate social responsibility, my institute has been supplying food and other essential services to the vulnerable communities within our environs periodically. Moreover, a number of proposals have been sent to the National Research Fund for the additional resources to engage in the COVID-19 battle. We are hopeful to get the grants to come up with local interventions for this pandemic and future epidemics as well.

**Grace:** My institution is very much involved in the response to the pandemic. It has been associated with the production of RNA testing kits allowing the rapid and reliable detection of SARS-CoV-2 RNA. We are also working on the applications of various plant materials, especially a few local herbs that have been reported to act against the virus.

**Sai Baba:** During the COVID-19 crisis, NIAS faculty has been functioning together as a team in an inclusive manner. A few of them have delivered lectures on varied topics and some of them on the national platforms provided by agencies like Vigyan Prasar. Furthermore, some of the faculty have written opinion pieces on issues relating to COVID-19 including migrant worker crisis during the lockdown. One work carried out by a small team of researchers at NIAS is in the domain of computational biology: decoding the coronavirus genome, using Artificial Intelligence, Compression-Complexity measures and genome-based phylogeny. Work relating to Risk and Science Communication would continue in the coming months.

**Hazir:** Since coronavirus caused a shortage of sanitizers, the institute has been involved in producing large quantities of surface and hand sanitizers. The institute has also been cooperating with an initiative under the name 'corona platform for creation and innovation', in Sudan.

# Consultation Process for New Science, Technology And Innovation Policy (STIP) Initiated

The Indian Government has initiated the framing of its fifth Science, Technology and Innovation Policy (STIP 2020). The Office of the Principal Scientific Adviser to the Government of India (Office of PSA) and the Department of Science and Technology (DST) have jointly initiated a decentralized, bottom-up, and inclusive process for the drafting of STIP 2020.

The STIP 2020 formulation process is organised into four highly interlinked tracks:

1. Track I involves an extensive public and expert consultation process through Science Policy Forum - a dedicated platform for soliciting inputs from larger public and expert pool during and after the policy drafting process.
2. Track II comprises experts-driven thematic consultations to feed evidence-informed recommendations into the policy drafting process. Twenty-one (21) focused thematic groups have been constituted for this purpose.
3. Track III involves consultations with Ministries and States for which nodal officers are being nominated in States and in Ministries, Departments and Agencies of Government of India for extensive intra-state and intra-department consultations.
4. Track IV constitutes apex level multi-stakeholder consultation involving institutional leadership, industry bodies, global partners and inter-ministerial and inter-state consultations.

The consultation processes on different tracks have already started and are running in parallel. Consequently, **STIP 2020 Town Hall Meet**, the Track-I public & expert consultation process was launched by the PSA to the Government of India Prof. K VijayRaghavan and Secretary, DST Prof. Ashutosh Sharma on 12 June 2020.

The six-month process involves broad-based consultations with all stakeholders within and beyond the scientific ecosystem of the country including, academia, industry, government, global partners, young scientists and technologists, civic bodies, and general public.

**Previous Four Science, Technology and Innovation Policy:**

- Scientific Policy Resolution **1958**
- Technology Policy Statement **1983**
- Science and Technology Policy **2003**
- Science, Technology and Innovation Policy **2013**

Source: PIB

# New and Emerging Strategic Technologies (NEST): A New Initiative by Ministry of External Affairs, GOI

In January 2020, the Ministry of External Affairs (MEA) announced the setting up of India's first, New and Emerging Strategic Technologies (NEST) division. The new division will be a specialized desk specifically created to deal with emerging challenges and scenarios especially the latest domains of artificial intelligence, robotics, nanotechnology, genetics or next-generation telecommunications. It will deal with the foreign policy and international legal aspects of upcoming cutting-edge science & technologies, and technology systems. It will achieve this objective through exchange of views with foreign governments, and by coordinating with domestic ministries and departments. The division will also negotiate technology governance rules, standards and architecture, suited to India's conditions. The desk will also be involved in negotiations to safeguard Indian interests at multilateral forums like the United Nations or the G20 where the rules governing the use and access to such technologies could be decided.

# MoUs Signed

## *India-World Bank: Social Protection Response Programme*

The Government of India and World Bank signed an agreement for immediate release of $750 million of $1 billion on 15 May 2020. The World Bank announced a financial support of $1 billion in April 2020 to accelerate India's COVID-19 Social Protection Response Programme. It aims to support India's efforts at providing social assistance to the poor and vulnerable households, severely impacted by the COVID-19 pandemic. The Social Protection Response Programme is to be implemented by the Ministry of Finance.

This new support will be funded in two phases– an immediate allocation of $750 million for fiscal year 2020 and a $250 million second tranche that will be made available for fiscal year 2021. It will immediately help scale-up cash transfers and food benefits, using a core set of pre-existing national platforms and programmes such as the Public Distribution System (PDS) and Direct Benefit Transfers (DBT); provide robust social protection for essential workers involved in COVID-19 relief efforts; and benefit vulnerable groups, particularly migrants and informal workers, who face high risks of exclusion under the PMGKY. In the second phase, the programme will deepen the social protection package, whereby additional cash and in-kind benefits based on local needs will be extended through state governments and portable social protection delivery systems.

Source: PIB

# *India-Australia sign Special COVID-19 Collaboration for Scientific Research*

*Prime Minister Narendra Modi during his virtual summit with his Australian counterpart Scott Morrison (on the screen)*

Indian Prime Minister Shri Narendra Modi and the Prime Minister of Australia, Mr Scott John Morrison, jointly signed several agreements during an India-Australia Leaders' Virtual Summit on 4 June 2020. They also announced a special COVID-19 collaboration. Accordingly, Department of Science & Technology (DST), Ministry of Science & Technology, GOI and Department of Industry, Science, Energy and Resources (DISER), Australia have invited joint research projects on COVID-19 from interested scientists and researchers under the Australia-India Strategic Research Fund (AISRF). The details are available on onlinedst.gov.in. The last date for submission of online application is 2 July 2020.

India and Australia signed the following agreements namely:

1. Framework Arrangement on Cyber Enabled critical Technology
2. MoU on cooperation in processing of Critical and Strategic minerals
3. Implementing arrangement related to cooperation in Defence
4. MoU on cooperation of training and vocational education
5. MoU on understanding water resource management
6. MoU on the field of Governance Reforms and Public Administration
7. MoU on cooperation in mining and processing of strategic minerals.

## *India-Denmark sign MoUs for Developing Cooperation in the Power Sector*

On June 5, 2020, the Ministry of Power, India and Ministry of Energy, Utilities and Climate, Denmark signed Memorandum of Understanding on Energy Cooperation. The MoU was signed by Mr. Sanjiv Nandan Sahai, Secretary (Power) from the Indian side and Mr. Freddy Svane, Ambassador of Denmark to India from the Danish side. Under the MoU, the countries have agreed to collaborate in areas such as long-term energy planning, offshore wind, consolidation of grid codes, incentivize power plants, increase flexibility in power purchase agreements, variability in renewable energy production, etc. Through this, the Indian electricity markets are to benefit to a greater extent. The Joint Working Group (JWG) will also be established under MoU.

## *India joins Global Partnership on Artificial Intelligence (GPAI)*

India joined the league of leading economies, including USA, UK, EU, Australia, Canada, France, Germany, Italy, Japan, Mexico, New Zealand, Republic of Korea, Singapore to launch the Global Partnership on Artificial Intelligence (GPAI or Gee-Pay) on 15 June 2020. GPAI is an international and multi-stakeholder initiative to guide the responsible development and use of AI, grounded in human rights, inclusion, diversity, innovation, and economic growth. GPAI will be supported by a Secretariat, to be hosted by the Organization for Economic Cooperation and Development (OECD) in Paris, as well as by two Centers of Expertise- one each in Montreal and Paris. This is also a first initiative of its type for evolving better understanding of the challenges and opportunities around AI using the experience and diversity of participating countries. In order to achieve this goal, the initiative will look to bridge the gap between theory and practice on AI by supporting cutting-edge research and applied activities on AI-related priorities.

In collaboration with partners and international organizations, GPAI will bring together leading experts from industry, civil society, governments, and academia to collaborate to promote responsible evolution of AI and will also evolve methodologies to show how AI can be leveraged to better respond to the present global crisis around COVID-19.

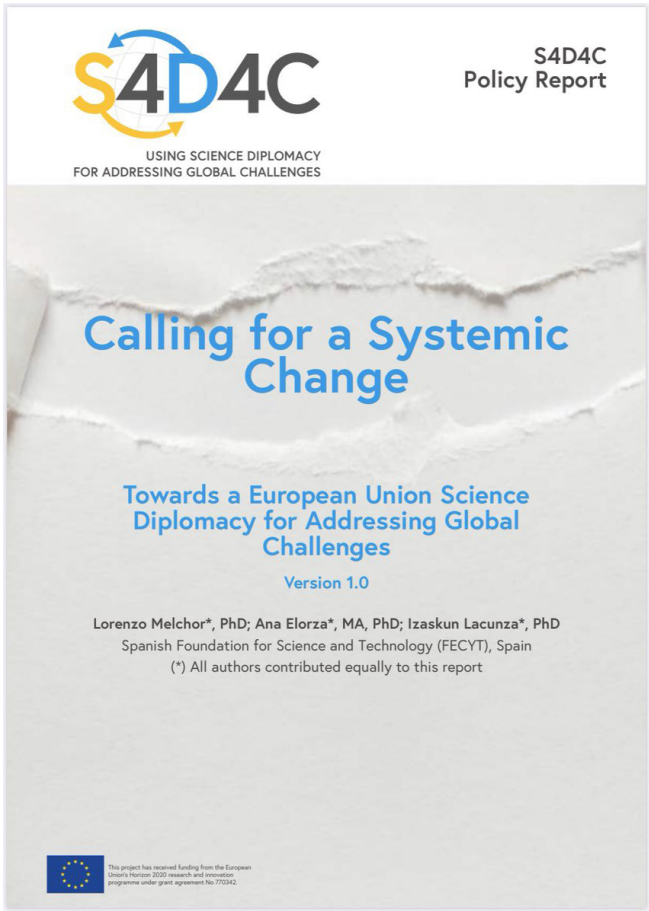
Source: PIB

# Publications

## S4D4C Policy Report: Calling for a Systemic Change

The S4D4C ("Using Science for/in Diplomacy for addressing global Challenges") project launched its latest policy report: "*Calling for a Systemic Change: Towards a EU Science Diplomacy for Addressing Global Challenges*" on 9th May 2020. This report sets a vision, mission & core principles for science diplomacy and provides a roadmap towards a systemic EU Science Diplomacy.

Full report available at: https://www.s4d4c.eu/wp-content/uploads/2020/05/S4D4C-Calling-for-a-Systemic-Change-Policy-Report-v1.0-1.pdf



# Call for Proposals

**India-Australia Special Call for Collaborative Research Projects on COVID-19**
Last date: July 2, 2020
Further information at: https://dst.gov.in/callforproposals/india-australia-special-call-collaborative-research-projects-covid-19

**Revised India-Serbia Joint S&T Call 2020**
Last date: July 31, 2020
Further information at: https://dst.gov.in/callforproposals/revised-india-serbia-joint-st-call-2020-0

**DBT-VINNOVA Joint Call On Artificial Intelligence And Health**
Last date: August 28, 2020
Further information at: http://dbtindia.gov.in/sites/default/files/digital%20healthcare%20Vinnova%20final.pdf

**India-EU Co-Funding of Joint Proposals under Horizon 2020: Work Programme 2019-20**
Last date: September 1, 2020
Further information at: http://dbtindia.gov.in/sites/default/files/Webnotice-CoFunding_EU-IND_2019-20_DBT_FINAL.pdf

**India-EU Joint Call on Integrated Local Energy Systems**
Last date: September 1, 2020
Further information at: https://dst.gov.in/callforproposals/india-eu-joint-call-integrated-local-energy-systems

**Indo-Swiss Joint Research Programme (ISJRP)**
Last date: September 11, 2020
Further information at: http://dbtindia.gov.in/sites/default/files/Indo-Swiss%20%28DBT-SNSF%29%20Joint%20Research%20Programme%20on%20Systems%20Medicine%202020_0.pdf

**Information for CfP2R Applicants - Platform Technologies to Rapidly Respond to Disease X**
Last date: October 14, 2020
Further information at: http://dbtindia.gov.in/sites/default/files/31.12-CEPI%20Platform%20Call_0.pdf

**India-US Call for Joint R&D Proposals in Environmental Health Research Program**
Last date: October 15, 2020
Further information at: https://grants.nih.gov/grants/guide/rfa-files/RFA-ES-20-010.html

**Call for Proposal in Fundamental Research Under the Bilateral Program with Germany (DBT-DFG)**
Last date: February 28, 2021
Further information at: http://dbtindia.gov.in/whats-new/call-for-proposals

This Science Digest is always evolving – tell us what you think! If there is any science diplomacy/ policy related event which requires wider outreach, please share it with us. We know that our readers have great ideas, valid criticism, and constructive feedback. We welcome your articles/feedback/suggestions at monikajaggi@niscair.res.in

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