HEINRICH BÖLL STIFTUNG
BRUSSELS

HEINRICH BÖLL STIFTUNG
WASHINGTON, DC

E-PAPER

Shaping the Future of Multilateralism

India as archetype: What emerging data powerhouses need for effective information sharing

BY KIM ARORA

Published by Heinrich-Böll-Stiftung, June 2021

About the Author

Kim Arora is a journalist and researcher from New Delhi, India. As a reporter, she has covered the burgeoning tech policy scene in India. As a German Chancellor Fellow, she analysed approaches to privacy and data protection in India and Germany.

Contents

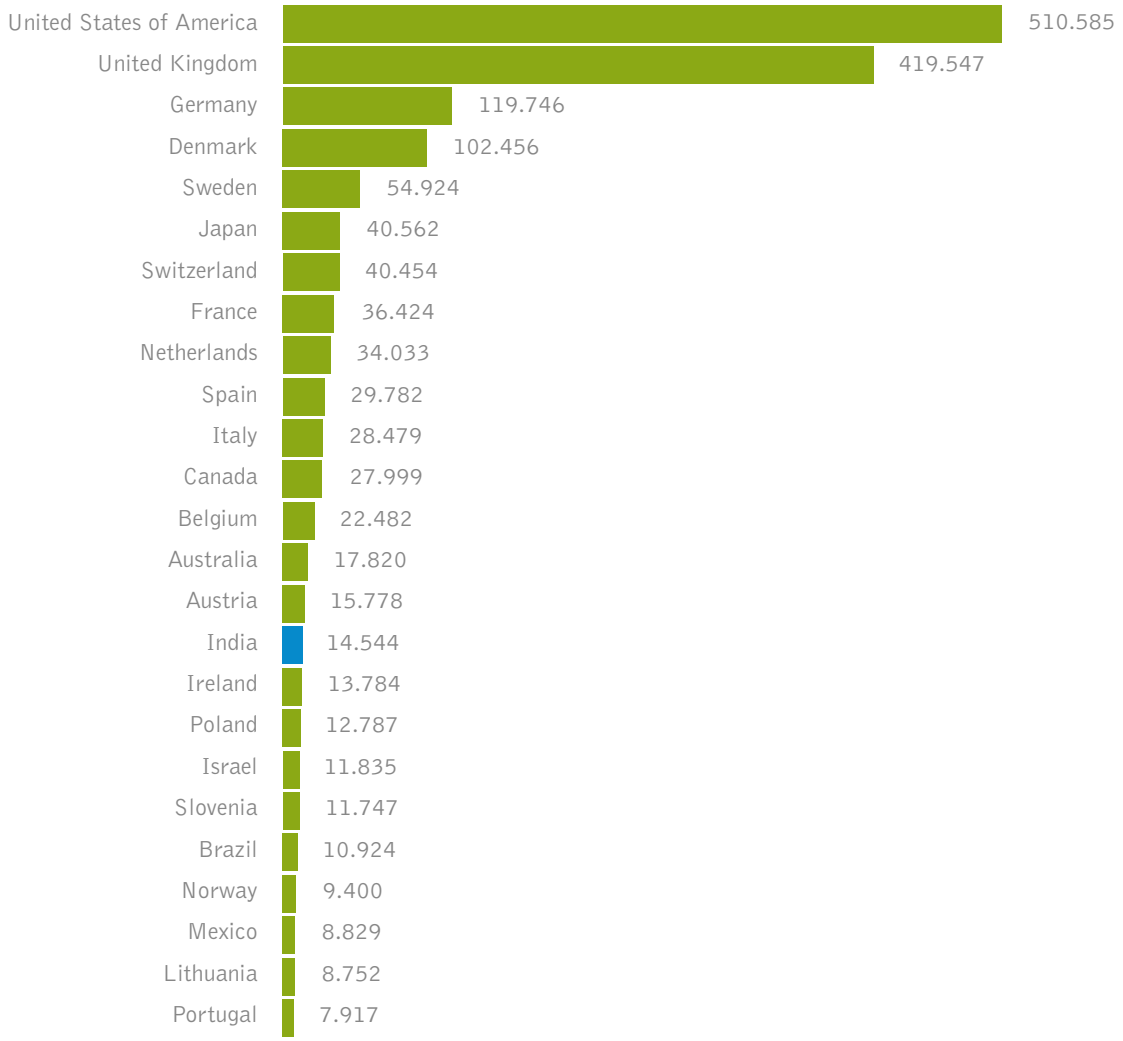
India as archetype: What emerging data powerhouses need for effective information sharing

The need for cross-border data sharing throughout the Covid-19 pandemic has shown that the future of multilateral threat management will hinge on steady yet flexible open-data publishing norms and multilateral data-transfer agreements. In many ways, India typifies the perspectives and needs of emerging economies related to data sharing, data flows, and related commercial regulation.

If the experience with the Covid-19 pandemic over the past year has highlighted anything, it is that promptly sharing or publishing critical data can save lives. Decoding the novel coronavirus genome has been central to the pandemic response. Globally, researchers managed to study the virus and its spread, all the while making their results public quickly enough to formulate both antidotes and administrative responses.

As one of the largest emerging economies, India has as much to gain as its counterparts in sharing its open data (that is, data is freely available for use, reuse, and republishing) and entering data-sharing agreements with international partners, both governments and institutions. Ensuring a rights-respecting framework for the free flow of information among international partners is central to pre-empting and tackling future global crises in health, climate change, displacement of people and more.

Health data is currently the top priority in formulating a global response to the pandemic. By the end of May 2021, India had shared 14,544 genome sequences of the novel coronavirus with the Global Initiative on Sharing All Influenza Data (GIS-AID). This was 0.0053% of the total reported cases of the disease in India. There have been widespread doubts about the reliability of official infection and death statistics since the start of the pandemic. In 2021, those doubts were confirmed. A devastating new wave of a "double mutant" virus left everyone from the marginalized to the powerful to their own devices amidst a collapse of institutions and governance. The growing lines outside crematoria, graveyards, and hospitals have exposed the gap between actual and officially recorded deaths and infections



Open access to genome sequencing data helps track spread of SARS-CoV-2 virus

Data sets shared by top 25 contributors to the Global Initiative on Sharing Avian Influenza Data (GISAID) (January 10, 2020- 29 May, 2021)

Source: www.gisaid.org

Additionally, news reports say that as of March 2021, India had sequenced less than 1 percent of positive samples. Efficacy data for the indigenously developed Covaxin vaccine is also inadequate at the moment. This lack of transparency and timely sharing of crucial data with the public, first responders, as well as international partners has not only compromised the lives of those in India, but has also complicated other countries' plans to manage their respective stages of the pandemic and implement any necessary changes in their vaccines.

An area where the Indian government has shown alacrity in sharing data with international partners is in security. The Information Fusion Centre-Indian Ocean Region (IFC-IOR), for example, is a security-focused maritime data-sharing arrangement set up in 2018. By 2019, the Indian government said the center had "built linkages" with 18

countries and 15 multinational maritime-security centers. The countries include those with coasts in the Indian Ocean region, such as the Maldives, the Seychelles, and Sri Lanka, while the centers include the likes of the Maritime Security Centre–Horn of Africa. Apart from information exchange between partner countries and institutions, the participants also are releasing data on activities and incidents to the public, as in this incident map. Furthermore, in October 2020, India and the United States agreed to sign a military agreement for sharing satellite data to aid weapon accuracy.

Climate-focused space programs are yet another area of interest. India and the European Union have had an open satellite data-sharing arrangement in place since 2018, in which their respective space programs share data on oceans and land, and also on emergencies such as storms and cyclones. The Indian space agency ISRO (Indian Space Research Organisation) has two joint missions with France – Megha-Tropiques and SARAL. These track ocean levels, cyclones, and monsoons, among other phenomena. The data collected by the missions are made available to the international scientific community. Advancing the legacy of the Mexico Declaration of 2015, which recognized the need to engage satellites in climate change studies, the New Delhi Declaration of 2016 signed on the space programs of 60 nations to contribute to the global knowledge pool on the subject.

Such international projects of varying degrees co-exist with an increased governmental emphasis on localizing the data generated within India. Payment data, for one, is already mandated to stay within Indian borders. Data sharing for research, development, and/or in the public interest is a concept and activity distinct from commercial or legal data-transfer arrangements. But in the context of India's place in the larger multilateral framework, the two considered together can produce a better understanding of India's attitudes on a range of related issues: distribution, publishing, and regulation of data; the countries and institutions India chooses as partners in these endeavors; its power dynamics in the international arena; and the ways it chooses to either collaborate in projects or assert its jurisdiction over questions of data use.

Ensuring equal access and opportunity with research data

For emerging economies like India, data-sharing and data-flow agreements allowing access to datasets from high-resource countries could bring benefits in terms of avoiding duplication of effort and informing policy decisions with international experience. However, when it comes to sharing data abroad that was collected and/or generated within India, the power differential between the sharer and the ultimate user can be a source of discontent and distrust.

A 2015 paper on global data-sharing challenges from the *Journal of Empirical Research on Human Research Ethics* highlights the concern of losing credit or the possibility of being "scooped" among researchers from low- and middle-income countries. A study published in the 2018 issue of the journal Global Bioethics revealed the same concerns in a survey of life scientists in 13 countries of sub-Saharan Africa. The authors also noted that policymaking on data sharing as well as institutional and financial backing for research are concentrated in developed western economies, so those on the other side of the development divide are left out of discussions on setting norms and incentives for data sharing in research.

An article published in the 2010 issue of the *Bulletin of the WHO* (World Health Organization) flagged the same issue, noting that while researchers in developed countries conduct analysis on raw data, the original legwork for data from developing countries is done by researchers who often don't receive the same level of credit. And the downstream benefits, too, tend to accrue unequally. The article's authors cited the example of a data-sharing exercise involving avian-flu virus specimens. The project resulted in the formulation of a vaccine that was cheap by the standards of a developed economy but unaffordable for low-income countries. "Such unilateral benefit inhibits data sharing," the authors wrote.

When a group of public-health researchers and research participants in the western Indian metropolis of Mumbai were interviewed about data sharing, they outlined the same concerns. Additionally, they expressed dissatisfaction that foreign researchers may gain monetary benefit on the backs of their labor. Interestingly, those who carried out these interviews with the Mumbai researchers found the practitioners to be unclear about what data sharing in the context of health research exactly entailed. They found that the interviewees often confused it with "publication, distributing reports, sharing findings with the media, and dissemination among participants." This illustrates an urgent need to familiarize those conducting surveys and primary research in emerging economies like India on exactly what an above-board and non-exploitative data-sharing arrangement entails.

To mitigate the concern over data sharing in a situation of unequal power, it would be fruitful to invite suggestions from primary researchers in emerging economies. But as the Mumbai study shows, it would also be worthwhile to invest in raising the understanding of data sharing and the roles of researchers throughout the process. Effective data sharing depends on interoperability of formats and common standards of data collection. An investment by developed economies in capacity building would go a long way toward establishing more robust global knowledge systems. It also might help build better understanding and trust among those involved in various stages of research.

The issue of giving credit where credit is due could be taken up by funding agencies as well as relevant multilateral institutions – such as the WHO or the World Trade

Organization – that use or commission research. They could incentivize their researchers to give adequate and appropriate credit to those who do the legwork to collect the data by making such acknowledgement a requirement for funding. This is possible even outside formal multilateral institutions, with privately backed international funding agencies. As an article in *The Lancet* pointed out, international funders such as the Wellcome Trust and the Bill & Melinda Gates Foundation have incentivized data sharing for Covid-19 by mandating that "funding recipients share data from research related to Covid-19 as soon as the study is completed, regardless of publication status." If funders such as these can use their power to accelerate the speed at which researchers share results, they also can push for appropriate credit sharing.

The Indian state's stance on data regulation and data sharing

A government's motivations driving open data policies determine the quality of data available and the strength of research they feed. India's current norms on open data stem from the National Data Sharing and Accessibility Policy (NDSAP). Approved in 2012, it was accompanied by the launch of the Open Government Data (OGD) Platform, which shares online the data generated by government departments using public funds. Under this policy, federal and state government departments routinely and proactively publish and update non-sensitive and non-strategic data that they own and generate, such as that on crops, roads, sanitation, etc.

In addition, the Indian government is in the process of developing a policy to regulate sharing of non-personal data. It has already processed one round of consultations for this, and has accepted comments for a second. The latest report of the committee deliberating the regulatory framework for non-personal data (NPD) in India envisages the creation of High Value Datasets (HVDs) that would be "beneficial to the community at large, and shared as a public good." Unlike the data available on the OGD, these datasets are different, as they wouldn't necessarily be owned and collected by state and central government departments. Private businesses may also be called upon to share anonymized data, though the policy in its current draft is broad and vague when it comes to entities that may request such data.

The committee's recommendations are broad guidelines, with proposed implementation and rulemaking eventually in the hands of the Non-Personal Data Authority, leaving a lot subject to change over time. Digital rights groups such as the Internet Freedom Foundation have correctly criticized the report for its over-reliance on economic rationales for data collection and storage, and a vague definition of what constitutes non-personal data. They also cite the failure to acknowledge the landmark 2017 Supreme Court judgment, which established the right to privacy as a Fundamental Right. This is

a glaring omission. The over-reliance on economic rationales is a key feature illustrating the government's objectives and attitudes concerning data and its storage, sharing, and commercial transfers. The NPD report makes a "case for regulating data," which it says creates "economic value and wealth, apart from social and public value." One of the guiding principles it sets out for deliberations on the framework is that "India has rights over data of India, its people and organisations." Another principle is that "benefits of data must accrue to India and its people." In the wording of the first principle, it isn't immediately clear whether the rights of "India" refers to the government or the people, but in the second principle, "India" as distinct from "its people" suggests that "India" refers to the state, and that both should benefit.

These ideas of ownership and value retention within Indian borders sound generic in these formal policy pronouncements. But when seen in the context of statements from Indian politicians, office holders, and corporate executives, often spilling into the realm of personal data, the ideas become more concrete. Influential Indian technocrat Nandan Nilekani, who is the architect of India's biometric ID program Aadhaar, required for obtaining several basic government services and benefits, has publicly said that Indians can employ their data "to get credit, or better healthcare, better skills." More specifically, he recently spoke favorably about the government's move to introduce facial recognition technology to authenticate those getting vaccinated for Covid-19. Human rights activists and civil society have objected to the move, highlighting how it would be exclusionary to the point of being life-threatening. India's federal minister for electronics and information technology, Ravi Shankar Prasad, has referred to data as "a nation's asset" which "has to be properly used, processed and value added for healthcare, agriculture and education."

With the formulation of data as a value asset, policymakers and technocrats betray a tendency to treat it like an indigenous natural resource. This is manifested particularly clearly when it comes to commercial cross-border flow of data, which often involves personal data. The government has justified its data localization measures as a way to ensure security and sovereignty, and as a way of resisting predatory business practices from monopolistic internet and technology companies.

A March 2019 paper from the Bengaluru-based Centre for Internet and Society debunks these ideas. Countries like China, say the authors, have been able to thrive economically despite such protectionist moves, given the sheer number of consumers in the country and the lack of competition from foreign players under its closed economic model. The same policies, it says, wouldn't yield similar results in an economy like India, though, because the country already is the largest source of active users – and their data – for several foreign tech services. Since so much data already is crossing the border, policy priorities should focus on protecting the rights of end users rather than generating monetary value from data domestically.

One must, then, examine these commercial cross-border data flows in the light of political power equations within the current multilateral milieu.

The diplomacy of data flows

The use and exchange of data is a significant subject of discussion in high-level bilateral and multilateral trade and diplomacy meetings. It also has an impact on modern-day international commercial agreements and diplomatic efforts.

Unlike data sharing in the realm of research and collaborative projects, the subject of commercial data flows has already become a bargaining chip in international relations. In June 2019, the U.S. government told India it was considering limiting H1B visas – sought after by highly skilled Indian professionals looking to move to the United States and a key source of remittances to India's economy – for countries that require foreign firms to store data locally. By December of that year, the updated version of India's Personal Data Protection Bill had been watered down in its localization requirements. Where it earlier required all "data fiduciaries" (also referred to as data controllers in some jurisdictions) to store a copy of data generated in India on servers within Indian borders, the later version contained this requirement only for sensitive data and proposed that it would have to be stored in India but could be processed overseas. To be sure, lobby groups and digital rights activists, too, had previously argued in favor of softening the data-localization position. But pressure from an economically and politically powerful international partner unfortunately made the issue an instrument of forceful coaxing. This sets a bad precedent for diplomatic ties and multilateral processes alike, directly implicating citizens in a turf war for their data between governments.

The free flow of data across borders also was a prominent topic at the 2019 G20 Summit in Osaka, Japan, with the introduction of the "Osaka Track," a commitment to cross-border data flows among G20 members, with standardized rules. While nearly all G20 members signed on to the Osaka Track, India and three other emerging economies – Egypt, South Africa, and Indonesia – opted to stay out, not finding the framework in line with local realities and needs. Explaining the move, India's federal minister for commerce and industry, Piyush Goyal, said, "In view of the huge digital divide among countries, there is a need for policy space for developing countries who still have to finalize laws around digital trade and data." A dignitary from South America described the Osaka Track framework as one with an "overt anti-multilateral approach," since it moves trade negotiations away from the WTO.

Osaka was a typical example of developed economies that are eager to reach a deal racing ahead, without pausing to consider and address the concerns of emerging economies, which in turn run the risk of signing off on something that may put them in a bind later. Though the skepticism about India's data localization stance is legitimate, more powerful multilateral partners should be more cognizant of the unique needs of emerging economies that may find the requests for unlimited cross-border data flows in these agreements potentially exploitative. Anticipating and addressing legal and commercial issues arising out of a power differential can help formulate more inclusive agreements.

The EU, for example, has tried to include countries from outside the bloc in its data-sharing structures. Thanks to standardized regulations and legal provisions, cross-border data exchanges happen with relative ease and with fewer restrictions among EU member states. For third countries to enjoy the same privileges, the EU requires them to comply with adequacy norms under the General Data Protection Regulation (GDPR), assuring a comparable standard of privacy and data protection. However, as of this writing, the EU recognizes only 12 countries as providing adequate protections in this regard – a list dominated by island nations and countries on the higher end of the development scale. India doesn't yet qualify, owing to its lack of a data protection regime. However, if India were to shift its focus from treating data as an asset to protecting the rights of those to whom the personal data pertains, it could expect a stronger commercial partnership with the EU. And the EU, in turn, could examine the ways it could make room for more emerging economies without compromising the GDPR's principles of a citizen's right to self-determination and protection of personal data.

Recommendations for moving forward

Starting with the most pressing need for international cooperation in public health, India's international partners could help push for more transparent and accurate open-data sharing processes. Simultaneously, countries that have been able to effectively plug their own data gaps could help with the lessons and expertise they have accumulated since the start of the pandemic in 2020.

The needs and expectations when it comes to commercial data transfers are a little more complex. In an article written soon after the Osaka Track meeting, Indian policy analyst Rohan Seth pointed out that the world's ever-increasing data flows are being regulated through economic blocs. He noted that developed economies with advanced data regulations are signing one data-sharing agreement after another with ease, while emerging economies are holding back until they can catch up and assert relevant needs. That gap may produce new economic blocs for cross-border data exchanges that are distinct from the ones engaging in physical trade of goods.

The Indian government has made clear its protectionist stance on data, and has found support in sympathetic business magnates. But the merits of taking that tack with data need further consideration. For one, protecting end users from profiling and commercial surveillance needs to be a core objective. Identifying international partners with adequate and equal data-protection mechanisms to facilitate data sharing and commercial data transfers could be more efficient and productive in the longer run than blanket data-localization requirements.

The role of multilateral institutions like the WTO here is significant. It has the potential to be the forum where emerging economies can challenge predatory policies of their richer counterparts. Unfortunately, in recent times, the WTO has acted quite to the contrary.

The United States under former President Donald Trump was able to scuttle the functioning of the body's dispute-settlement mechanism.

As far as non-commercial data sharing for scientific research, security, and health is concerned, a review and evaluation of existing arrangements and their tangible results would be an appropriate next step for India and its international partners. The successes of such arrangements as well as their shortcomings could offer lessons to help India refine and formulate overarching norms for its future multilateral and/or bilateral data-sharing arrangements. Developed economies, on the other hand, could review existing projects to identify possible ways to provide support through capacity building and infrastructure investment. Given the nature and objectives of these data-sharing arrangements, the countries involved must look beyond immediate geo-political or economic gains, to build a secure and enduring legacy in an increasingly interconnected and fragile world.

Reference list

Adequacy decisions. How the EU determines if a non-EU country has an adequate level of data protection. (n.d.). *European Commission.* https://ec.europa.eu/info/law/law-topic/data-protection/international-dimension-data-protection/adequacy-decisions_en (accessed May 31, 2021)

Alter, G. C., Vardigan, M. (2015). Addressing Global Data Sharing Challenges. *Journal of Empirical Research on Human Research Ethics*. 10 (3): 317–323. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4547313/ (accessed May 31, 2021)

Basu, A., Hickok, E., Chawla, A. S. (2019, March 19). The Localisation Gambit. Unpacking Policy

Measures for Sovereign Control of Data in India. *The Centre for Internet and Society, India*. https://cis-india.org/internet-governance/resources/the-localisation-gambit.pdf (accessed May 31, 2021)

Bezuidenhout, L., Chakauya, E. (2018, Februar 26). Hidden concerns of sharing research data by low/middle-income country scientists. *Global Bioethics,* 29:1, 39-54. https://www.tandfonline.com/doi/full/10.1080/11287462.2018.1441780 (accessed May 31, 2021)

Bhalla, K. (2019, September 23). Country's Data Sovereignty Cannot Be Compromised: Ravi Shankar Prasad On Data Localisation. *Inc24*. https://inc42.com/buzz/countrys-data-sovereignty-cannot-be-compromised-ravi-shankar-prasad-on-data-localisation/ (accessed May 31, 2021)

Data Protection Bill: Govt to relax data localization norms but social media cos likely to be classified as 'Significant Data Fiduciary'. (2019, December 4). *CNBC TV18*. https://www.cnbctv18.com/technology/data-protection-bill-govt-to-relax-data-localisation-norms-but-social-media-cos-likely-to-be-classified-as-significant-data-fiduciary-4816401.htm (accessed May 31, 2021)

Diptivilasa, D. (2020, July 18). Data nation's asset; must be secured: Ravi Shankar Prasad. *Financial Express*. https://www.financialexpress.com/industry/technology/data-nations-asset-must-be-secured-ravi-shankar-prasad/2028296/ (accessed May 31, 2021)

Fegan, G., Yeong Cheah, P. (2021, January 1). Solutions to COVID-19 data sharing. *The Lancet.* Volume 3, Issue 1. https://www.thelancet.com/journals/landig/article/PIIS2589-7500(20)30273-9/fulltext (accessed May 31, 2021)

Greenleaf, G. (2019, January 29). G20 Makes Declaration of 'Data Free Flow With Trust': Support and Dissent. *160 Privacy Laws & Business International Report*, 18-19, UNSW Law Research. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3514407 (accessed May 31, 2021)

Hate, K., Meherally, S., Shah More, N., Jayaraman, A., Bull, S., Parker, M., Osrin, D. (2015). Sweat, Skepticism, and Uncharted Territory: A Qualitative Study of Opinions on Data Sharing Among Public Health Researchers and Research Participants in Mumbai, India. *Journal of Empirical Research on Human Research Ethics*, 10 (3): 239-250. https://pubmed.ncbi.nlm.nih.gov/26297746/ (accessed May 31, 2021)

India joins Europe's satellite data sharing pool. (2018, March 21). *The Hindu*. https://www.thehindu.com/news/national/india-joins-europes-satellite-data-sharing-pool/article23305594.ece (accessed May 31, 2021)

India says to sign military agreement with U.S. on sharing of satellite data. (2020, October 26). *Reuters*. https://www.reuters.com/article/us-india-usa-defence/india-says-to-sign-military-agreement-with-u-s-on-sharing-of-satellite-data-idUSKBN27B1QY (accessed May 31, 2021)

Indian Information Centre, Indian Ocean Region. (2020, March 31). *IndianNavy*. https://www.indiannavy.nic.in/ifc-ior/map.html (accessed May 31, 2021)

Indians can monetise their data to get better healthcare and easier loans, says Nandan Nilekani. (2018, March 23). *Scroll*. https://scroll.in/latest/873023/indians-can-sell-their-data-to-get-better-health-care-and-easier-loans-says-nandan-nilekani (accessed May 31, 2021)

International Cooperation. (n.d.). D*epartment of Space, Indian Space Research Organisation*. https://www.isro.gov.in/international-cooperation (accessed May 31, 2021)

Mehrotra, K. (2018, July 31). Simply Put: The language of data protection. *The Indian Express*. https://indianexpress.com/article/explained/simply-put-the-language-of-data-protection-5282149/ (accessed May 31, 2021)

Meteorological & Oceanographic Satellite Data Archival Centre (MOSDAC). (2021, May 31). *MOSDAC*. https://www.mosdac.gov.in/satellite-catalog (accessed May 31, 2021)

New Delhi Declaration comes into effect – World's space agencies working to tackle climate change. (n.d.). *France science*. https://france-science.com/en/new-delhi-declaration-comes-into-effect-worldaes-space-agencies-working-to-tackle-climate-change/?print=print (accessed May 31, 2021)

Peri, D. (2019, October 7). India starts sharing maritime data. *The Hindu*. https://www.thehindu.com/news/national/india-starts-sharing-maritime-data/article29611936.ece (accessed May 31, 2021)

Raksha Mantri Inaugurates Information Fusion Centre – Indian Ocean Region (IFC-IOR). (2018, December 22). *Press Information Bureau (BIP) Government of India, Ministry of Defence*. https://pib.gov.in/Pressreleaseshare.aspx?PRID=1557074 (accessed May 31, 2021)

Ravi Kanth, D. (2019, June 30). India boycotts ‚Osaka Tracks' at G20 summit. *Mint*. https://www.livemint.com/news/world/india-boycotts-osaka-track-at-g20-summit-1561897592466.html (accessed May 31, 2021)

Seth, R. (2019, October 16). What does refusal to sign the Osaka Track mean for India? *The AsianAge*. https://www.asianage.com/opinion/oped/161019/what-does-refusal-to-sign-the-osaka-track-mean-for-india.html (accessed May 31, 2021)

Sequence entries with complete collection date information shared via GISAID. (2021, May 31). *GISAID*. https://www.gisaid.org/index.php?id=208 (accessed May 31, 2021)

Shri Piyush Goyal participates in the G-20 meeting of the Trade and Investment Ministers; Says that India is not in a position to accept the concept of Data Free Flow with Trust. (2020, September 22). *Press Information Bureau, Goverment of India*. https://pib.gov.in/PressReleseDetail.aspx?PRID=1657874 (accessed May 31, 2021)

Shrivastava, B., Gretler, C., Pradhan, B. (2021, April 17). India has a double mutant coronavirus variant. Should we worry? *Mint*. https://www.livemint.com/science/health/india-has-a-double-mutant-coronavirus-variant-should-we-worry-11618664429179.html (accessed May 31, 2021)

Sim, W. (2019, June 28). Osaka Track on digital rules launched at G-20 summit. *The Straits Times*. https://www.straitstimes.com/asia/east-asia/osaka-track-on-digital-rules-launched (accessed May 31, 2021)

Tangcharoensathien, V., Boonperm, J., Jongudomsuk, P. (2010). Sharing health data: developing country perspectives. *World Health Organization* 2010;88: 468-469. https://www.who.int/bulletin/volumes/88/6/10-079129/en/ (accessed May 31, 2021)

US mulling caps on H-1B visas to deter data localisation rules: Report. (2019, June 20). *The Week*. *https://www.theweek.in/news/biz-tech/2019/06/20/us-mulling-caps-h1b-visas-to-deter-data-localisation-rules-report.html* (accessed May 31, 2021)

WTO General Council to Consider Appointment of Okonjo-Iweala to Lead the Organization. (2021, February 10). *SDG Knowledge Hub*. https://sdg.iisd.org/news/wto-general-council-to-consider-appointment-of-okonjo-iweala-to-lead-the-organization/ (accessed May 31, 2021)

Imprint

Heinrich-Böll-Stiftung European Union, Brussels, Rue du Luxembourg 47-51,
1050 Brussels, Belgium

Heinrich-Böll-Stiftung Washington, DC, 1432 K St NW, Washington, DC 20005, USA

Contacts, Heinrich-Böll-Stiftung European Union
Anna Schwarz, Head of Programme, Global Transformation,
Heinrich-Böll-Stiftung European Union, Brussels,
E Anna.Schwarz@eu.boell.org
Lisa Tostado, Head of Programme, Climate, Trade and Agricultural Policy,
Heinrich-Böll-Stiftung European Union, Brussels,
E Lisa.Tostado@eu.boell.org

Contacts, Heinrich-Böll-Stiftung Washington, DC
Sabine Muscat, Programme Director, Technology and Digital Policy,
Heinrich-Böll-Stiftung Washington, DC,
E Sabine.Muscat@us.boell.org
Liane Schalatek, Associate Director, Heinrich-Böll-Stiftung Washington, DC,
E Liane.Schalatek@us.boell.org
Christin Schweisgut, Programme Director, Infrastructure and Development,
Heinrich-Böll-Stiftung Washington, DC,
E Christin.Schweisgut@us.boell.org

Place of publication: https://us.boell.org/ | http://eu.boell.org

Release date: May 2021

Editor: Viola Gienger, Washington, DC

Illustrations: Pia Danner, p*zwe, Hannover

Layout: Micheline Gutman, Brussels