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Developing AI Ecosystems in the Global South

Wilson Center

Science and Technology Innovation Program

This whitepaper offers insights from a roundtable governed by Chatham House Rule. Participants are not named contributors but their perspectives and conclusions were foundational for this publication.

The advent of ChatGPT in November 2022 heralded the arrival of the age of artificial intelligence (AI). While various other forms of AI were already very much a part of many industries and products, generative AI had largely not seen much public uptake prior to ChatGPT's release, nor was AI in general the focus of so many conversations in policy circles or among the public. New challenges and opportunities arose with the spread of generative AI, but so did new recognition of old challenges – biased algorithms, lack of clarity on data ownership and privacy, inequitable access to tools and inputs, and US and Global North dominance of decision-making around world-changing technologies.

Tech talent from Global South countries has long been the source of competition among Global North nations, where computer science and engineering programs in universities are often dominated by foreign students. Workers living in these areas have also played a broad role in the launch of many new foundation models, working as data labelers or other less technical but still pivotal jobs in the AI economy. But the Global South also holds an immense amount of value in how populations are using and developing AI tools and models in the present and in the potential they have to contribute to our understanding of the tech and our ability to turn it toward new problems.

This potential is why the governments of Global North powers and the leadership of major tech corporations are turning their attention to the Global South. On the margins of the 2024 United Nations General Assembly meetings, the US Department of State joined the heads of eight major tech and AI companies to announce the Partnership for Global Inclusivity on AI. The State Department's press release highlights the commitment to increasing access to key AI inputs, such as compute, and to taking steps to build AI solutions that are "rooted in an understanding and respect for the diverse cultures, languages, and traditions of the communities they serve." On the other side of the geopolitical divide, China has long been fostering relationships via tech and infrastructure outreach throughout the Global South through its Belt and Road Initiative, which in 2023 included "equal rights" for AI development as a priority. These relationships are a key part of China's long-term strategy to contain American and European tech dominance and economic expansion, much as the country has exercised via Huawei with its telecommunications infrastructure strategy.

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However, Global South countries are more than geopolitical pawns between Global North giants. The development of robust AI ecosystems globally could hold the key to economic stability and wellbeing for many – new jobs, better maternal outcomes, more efficient clean tech and the deployment of climate solutions that reduce migration-related conflict, improved healthcare for those living in remote or poorly served areas. What's more, more nimble governments can also surface novel policy approaches to AI, ideas that could not be developed or tested in the Global North's slower and more risk averse policy environment. These strategies could hold the key to ensuring AI results in positive and equitable outcomes or extending its benefits and opportunities to the communities that would otherwise be left out in the cold.

The best way to identify the path forward for AI ecosystems and the obstacles within it is to ask and to listen. The Wilson Center's Science and Technology Innovation Program convened a private roundtable in New York on the fringes of the United Nations General Assembly meetings in September 2024, inviting a small but select group of technologists, researchers, scholars, and policy personnel to participate in a discussion on the opportunities opened by AI for Global South countries and the obstacles they perceive in their own communities, workplaces, or governments. Participants hailed from 12 Global South countries in four regions, with additional representation from two key Global North government agencies as well as three leading AI companies and labs.

The incredible diversity of countries included in the phrase "Global South" means it should not be treated as a single region or monolith, so the goal was to simply find where different experiences harmonized. We used this convening to find common challenges or obstacles to use as a foothold to develop goals for a programmatic strategy to conduct more research and engagements at the regional, country, or city levels.

Thus, this whitepaper serves to summarize topline takeaways from the September 2024 private discussion, held under Chatham House Rule, and to set a course for continued work in 2025 and beyond. The publication of this paper is accompanied by a blog post series on AI and the Global South, featuring guest authors from around the world and from around the Wilson Center's various expert programs.

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Conference table. (Michael Fousert/Unsplash)

Local Solutions for Local Problems

The strongest theme of the discussion was the need to develop local capacity to build and implement AI. Local problems need local solutions built by local talent. Local talent can more easily identify what a community's needs are and intimately understand how this need manifests in this context or group. This stands in contrast to the product development approach at a larger company or lab, where tools often must be broad enough to serve a wide consumer base and variety of expressions of a problem, losing the ability to address unique nuances of an issue.

Coding together in Lagos, Nigeria. (Desola Lanre-Ologun/Unsplash)

For instance, participants highlighted that the real problems communities face on things like agriculture, education, or health are often ignored, noting that what is developed often serves the needs of other international or larger entities instead of small farms or rural schools. Discussion also touched on how even things such as ecommerce markets can look very different in a Global South nation versus a Global North one, making it difficult for those working in Global North countries to develop tools tuned to Global South needs.

Other discussion emphasized the need to leverage indigenous research, particularly on understanding environmental change and degradation. Local knowledge and data on climate-related issues are essential to building technology that will address the roots of the environmental change a region or area is experiencing. Other indigenous knowledge that is currently inaccessible to larger or international labs includes agricultural data and knowledge collected by farmers, who may have this information only on paper, in a phone, or even in their heads and written nowhere. Some multinational companies have realized this: Cargill, a US-based agricultural conglomerate that operates in 70 countries, partners with farmers in countries like Argentina, Bolivia, Colombia, Malaysia, and Paraguay to help them digitize the info they use in their work in response to "the increasing demand for farmer data".

The Challenge of Developing Local Capacity

The opportunities inherent in empowering the development of local solutions were clear – the pathway to developing this capacity is less so. Several gaps and problems emerged across all participants' accounts, although these problems may look different from country to country.

Brain drain was the number one concern cited by all participants. One participant noted that young people work for good grades with the specific intent of getting a scholarship and going abroad for university or graduate school. Redefining what success looks like for these young people will require both a cultural shift as well as a major investment in the opportunities available for high-achieving students who stay home. Here, it can be highly effective to leverage the diaspora that has already left, who have one foot in each world. These people can highlight the reasons for leaving, the reasons for choosing the country they landed in, and the limitations that continue to keep them from bringing their business or research back to their home country. Some participants felt despairing though, noting that if even Canada and the European Union struggle to keep their AI talent from moving to the US, countries in the Global South face an uphill climb.

Addressing brain drain requires addressing other key gaps that hold back ecosystem development in general. Infrastructure gaps hold back both the development of AI ecosystems as well as any effort to stem brain drain. Electricity and high-speed internet can be unstable, limited, or even unavailable. Furthermore, for communities facing low quality of life and instability in housing or access to food, or who are threatened by conflict or climate disaster, connectivity is a luxury – governments are unlikely to prioritize these investments as long as more basic or urgent needs are on the table.

A **lack of access to AI inputs,** such as compute, data, and powerful models, holds schools and universities back, as well as developers and technologists themselves. Access to compute is limited in many countries in the Global South, and amid an international race to build sovereign compute capacity, it's unlikely that governments will be able to set aside the amount of money required to compete for high-powered chips, excepting a few governments like the United Arab Emirates that are able to direct oil or raw material rents into billion-dollar funds to purchase compute. Access to cloud computing is similarly in low supply

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due to limited budgets in universities or governments. Datasets in languages and dialects native to countries in these regions, or that include substantial cultural, economic, industrial, or environmental data from the region, are limited. Efforts to collect this data can be hindered by trust issues or funding limitations. Finally, Global South researchers and builders need access to powerful models. Foundation models can be expensive, and Global North countries are deliberating on decisions that could limit the growth and power of open-source models. The creation and curation of powerful open-source models is central to Global South countries' access to models that can drive impactful or high-value use cases and solutions.

Finally, a **lack of connective tissue between academia, industry, and government** plagues all attempts to build local capacity or deliver on solutions to these problems and more. Poor connections between academia

and industry mean that students are not training for the jobs available and may struggle to find placement out of school. Conversely, industry is unaware of the opportunities presented by the programs offered in academia and is not in conversation with schools about future workforce needs. Poor connections between academia and government mean that government is ill-informed about how to properly invest to change outcomes for students or to build local capacity. The impact may go even deeper, with government struggling to find the expertise it needs to make savvy policy decisions on technical topics, a shortage that will persist as long as experts from the academy do not transition to government or work hand in hand with government agencies. Poor connections between industry and government mean that government may be less aware of the economic and social benefits of investing in inputs perceived as luxuries but central to the ability to leverage tech for a boost to agriculture, education, and more. Industry is also unable to communicate with government about where investment would lead them to offer more jobs, and keep more value within a country's borders.

National flags at FAO headquarters in Rome. (Matthew TenBruggencate/Unsplash)

Recommendations

Addressing these concerns requires action from government and the private sector alike, both in home countries as well as foreign.

A Call to Home Governments

Home governments in the Global South should recognize the immense economic potential inherent in the growth of a local AI ecosystem, as well as the protective nature of robust native talent that can build solutions and advise on security and policy matters as global implementation proceeds. Many of the emergent problems that take priority for government attention and funds – climate crises, natural disasters, health crises and care shortfalls – are problems that AI solutions can mitigate or help countries predict and prepare for. However, deploying these solutions requires personnel who understand both the technology and the local context of the problem and who have high trust built up with communities who will be impacted by the technology. A tech ecosystem that is able to offer employment further up a supply chain can also help a country diversify its economy and grow better-paying jobs, resulting in better quality of life. **Funds for AI talent and development are funds that can ultimately build security for more basic needs and issues. Home governments should invest accordingly.**

However, simply investing in AI tools, datasets, and output is not sufficient to ensure governments can leverage these assets. As seen in governments worldwide since the beginning of the big data movement, the lack of connective tissue discussed earlier means that governments without the internal talent or training to interpret or use data and AI insights are likely to either ignore these tools or misinterpret their results. **Governments should prioritize the recruitment of technological or technical talent into public service or deepen their connections with academia and private sector for their expertise.** The private sector can build tools tailored to the government's needs and technical understanding if they better understand it, and academia can offer a source for staffing or consultation partnerships. Building these relationships requires mutual respect and trust, and the approach to doing so will vary highly from country to country, or even city to city.

Server equipment. (Scott Rodgerson/Unsplash)

A Call to International Governments

International governments, particularly those in the Global North, should recognize the innovative potential inherent in the growth of AI ecosystems around the Global South. **Global North governments should change their approach to working with Global South countries on tech from one of paternalistic aid to one of collaboration and sharing of solutions.** Our academics, industries, and scholars can learn from solutions being developed by Global South engineers and technologists or use datasets collected in country. Approaching technology as an area where Global South countries are contributing, as opposed to simply receiving assistance, also provides fertile ground for healthy diplomatic relationships.

As part of this collaborative approach, Global North governments should adopt positive policies or fund projects that directly increase access to inputs for Global South countries. **Global North countries should encourage the availability of powerful open-source models and resources to help people work positively with them.** Other major AI players, such as China, may also use these open-source models, but these nations have also already produced their own foundation models that outperform even the most powerful open-source models such as LLaMa, Mistral, and Falcon. Cutting off access to open-source models will not harm these actors or other technically sophisticated actors, but it will have a substantial impact on developers and innovators around the world who do not live in a country with the financial means to develop and release models for their use. Without access to open-source models built on democratic values, these actors will find other models to use and other countries or companies to partner with, some of which may not be friendly to democratic values and human rights-oriented uses of technology. Alternatively, Global South actors will be at the mercy of companies' charity or local funding availability to be able to afford to use relatively expensive models. Continuing to allow open-source models to thrive is central to global participation in AI as other ecosystems get off the ground.

Global North governments should also consider access to AI inputs as part of their broader international development strategies. Just as home governments should recognize the potential for AI tools to supercharge the ability to measure, predict, or address emergent situations, international governments should fold AI implementation into projects focused on climate mitigation, migration, public health, biodiversity, and many other themes. These projects can be the means of technical transfer, both in the form of knowledge as native personnel work alongside international personnel and in the form of hardware and tools used to accomplish a specific goal. Projects should plan to leave behind a framework for how tech is used to solve a problem, as well as the means to continue using it to do so. Datasets and other products of this type of work should also be made open source, so that researchers around the world can further their work on these topics and potential future solutions.

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A Call to the Private Sector

Global industry, particularly AI labs and developers, should similarly treat countries in the Global South as potential collaborative partners rather than simply pools of labor. **Companies should consider working with Global South partners as part of an investment in their own innovation and growth.** Engagements in the Global South should leverage local talent, creating jobs that will stay in country, and should seek to capitalize on computer science and engineering talent exiting local universities. Companies should also see the opportunities that lie in developing multi-lingual models or non-English models, or models built on cultural or physical data not centered on the Global North. In collecting data for these types of models, companies should make resulting datasets open source in order to benefit the further development of AI systems with local or cultural contexts and to benefit research being done broadly on local issues.

Moving Forward

These recommendations imply a significant culture shift for all stakeholders involved, and getting to the point where this is feasible will require deeper understanding between stakeholders and deeper understanding of both the problems and the opportunities available. The Wilson Center's Science and Technology Innovation Program plans to continue to work with Global South stakeholders on projects that will drill down on specific countries or regions, specific use cases, and specific AI inputs to better understand how governments and the private sector can empower the growth of Global South AI ecosystems. Through reports such as our upcoming 2025 report on AI and economic opportunity in Latin America, workshops, and roundtables, we aim to continue spotlighting the voices and insights of in-country stakeholders while also working to better define the risks and benefits that each and all stakeholders face as the world changes with this revolutionary technology.

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