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THE WORLD POLICY FORUM

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Dear friends and partners of the Global Solutions Initiative,



Markus Engels
Secretary General,
Global Solutions
Initiative



Christian Kastrop
Managing Partner,
Global Solutions
Initiative



Dennis J. Snower
President, Global
Solutions Initiative

It is our pleasure to once again open our hearts, minds, and doors to you as we begin the eighth annual Global Solutions Summit. In these tumultuous times we are buoyed by you, our community – by your trust, optimism, pragmatism, and understanding of the challenging terrain ahead.

Where are we now? In our view, we are facing a collective crisis – and a crisis of the collective. Today, we see the results of an excessive focus on the individual at the expense of the commonwealth – particularly with regards to social and environmental costs. In short: Our world is out of balance.

With the Summit, we hope to offer an antidote to this: More than a ritual, the annual event is a testament to the power of the collective to solve the problems we are facing together. With our theme “Moving Beyond the Crisis: Mobilizing Change for Global Prosperity,” this year we want to better understand what is holding us back, and how we can achieve progress.

As laid out in these pages, we see a shift from a “polycrisis” to a “permacrisis.”

While a sense of resignation is growing, we see grounds for hope: The crisis is about more than a lack of solutions – in many cases we paradoxically know what to do – but we are hindered by the design of our institutions.

In our view, we need more than incremental change. We need a transformation of our economic system to benefit people and planet. The contributions in this volume show the way forward: With topics ranging from fighting inequality to strengthening multilateralism and reforming the international financial architecture, they highlight programs, ideas and initiatives that can help us overcome paralysis and work towards global prosperity.

We are thrilled that this year’s Summit is more inclusive than ever, connecting international fora like the G20 and G7, and the Global North with the Global South. The Summit was conceived to launch new policy initiatives and foster fruitful interactions both online and on-site. We hope that – together with our community – we are on the cusp of an era guided by true prosperity – and not just profit.

Finally, we extend our thanks not just to all participants but to the team of the Global Solutions Initiative, who have tirelessly crafted a Summit featuring voices from policy, academia, the private sector, and civil society. These voices are music to our ears, and the heart and soul of the Summit.

With hope and confidence,

Markus Engels
Christian Kastrop
Dennis J. Snower

Global Solutions Journal

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Barry Murphy

Enabling African Smallholder Women

Insights from the Field

Policy brief

Authors:



Stefan Heinke
Director, Partnerships
Think-tanks & Development
Organizations, Bayer AG



Anastasia Mbatia
Deputy Director of
Operations, Farm to Market
Alliance



Lakshmi Lyer
Director, Innovations in
Agriculture, Grameen
Foundation

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Bayer is a global company with core competencies in the life science areas of health and agriculture. With our products and services, we want to benefit people and contribute to improving the quality of life. At the same time, we aim to create value through innovation, growth and high profitability.



Farm to Market Alliance (FtMA) is a consortium of six public and private organizations (AGRA; Bayer; Syngenta; Rabobank; World Food Programme and Yara) with a vision to enable sustainable food systems through strengthened markets to empower farmers to increase their yields, incomes and resilience. FtMA's Farmer Service Centres (FSCs), are a network of last mile service providers that support 615,000 farmers through 2740 FSCs in Kenya, Rwanda, Tanzania and Zambia.



Grameen Foundation is a global nonprofit that invests in the power of women by identifying where economic and social systems are failing her. Grameen partners with local actors, using innovation and digital technologies, to transform these systems from the inside out to give her the access she needs to come out of poverty in a meaningful way.

1. SMALLHOLDER FARMING AND WOMEN

In Sub-Saharan Africa, women represent more than 50 % of the agricultural labor force. Often their working conditions are worse than their male counterparts and detrimental to their wellbeing. They tend to have smaller farms with lower-than-average productivity. The Food and Agriculture Organization of the United Nations (FAO) posits that closing the gender gap in farm productivity and the wage gap in agrifood systems would boost global GDP and reduce the number of food-insecure people by 45 million (2023).

A woman smallholder farmer's access to resources, such as agricultural inputs, digital technology, and services is not at par with male smallholder farmers. Particularly striking is that "men have greater ownership or secure tenure rights over agricultural land than do women in 40 of 46 countries reporting on Sustainable Development Goal Indicator 5.a.1." (FAO,

»Most importantly, interventions need to specifically target women and inter alia facilitate their access to resources and a shift of power by recalibrating social norms.«



Figure 1: Members of Ikinga Village Savings and Loans Association (VSLA) in Kakamega County in Kenya pose for a photo / Farm to Market Alliance

2023). Access to informal or formal financial services is also a major challenge: women often lack collateral, such as land or property, do not have adequate access to tailored financial literacy tools, and as a result, do not have access to financial service providers or business loans. The African Development Bank estimates the gender financing gap in Sub-Saharan Africa at 42 billion USD (African Development Bank Group, 2024).

Women face a triple burden of agricultural on-field work along with household duties and childcare. Time poverty is a constant for women, as is drudgery which is often defined as back-breaking, menial tasks that arise frequently for women farmers during the agricultural season. These social barriers inhibit their mobil-

ity and thus their capacity to participate in agriculture activities and access markets.

Farm to Market Alliance's ("FtMA") own assessment of the challenges of women and young people in Kenya revealed the following:

- The Farmer Service Centers that are women or youth-led faced challenges in fully grasping and implementing effective entrepreneurial skills and financial literacy practices.
- Lack of adequate start-up capital and the burden of high-interest rates on loans relate to land ownership: many young people and women do not possess land and cannot afford to lease land.
- In many cases, banks and MFBs view the youth and women in agriculture

as a high-risk market segment and therefore prefer to lend to segments with more regular cash flows such as traders.

- The insufficient availability of markets for produce and a negative mindset towards agribusiness were identified as significant barriers. Many farmers, mostly women, don't grow for the market therefore investing in ventures that are misaligned with market systems.
- The scarcity of role models who have succeeded in agribusiness for women and youth.

In the following, we will discuss experiences from Farm to Market Alliance and Grameen Foundation ("Grameen") to support women in agriculture.

2. FARMERS SERVICE CENTERS

Farm to Market Alliance (FtMA) is a consortium of six public and private organizations (AGRA, Bayer, Rabobank, Syngenta, World Food Programme, and Yara) working towards empowering African farmers to increase incomes and resilience to climate shocks. It does so by establishing Farmer Service Centres (FSCs), which connect savings groups and farmers to services such as market linkages (input and output markets) and deliver agricultural and business training and digitization. Ideally, farmers receive all services and inputs from these centers which they need to increase their yield and incomes.

Agrodealers, aggregation centers, and service centers are thinly distributed in rural Africa. Farmers often must travel far to get access to much-needed inputs and services as well as to sell their output. This is a special challenge for women

»**Women face a triple burden of agricultural on-field work along with household duties and childcare.**«

farmers due to the cultural restrictions on movement, the amount of time spent on house chores, and the transport costs incurred. As a result of the Farmer Service Center model, the distances to access inputs and services have in some areas been significantly reduced increasing women's chances for participation in activities.

FtMA encourages women to become FSCs themselves. For this, they receive training in business skills, financial inclusion, and good agronomic practices which they use to train other farmers. They become entrepreneurs, leaders, and role models able to inspire and drive change in the community. More experienced FSC leaders can develop into mentors for younger colleagues, training them and giving mental and coaching support. FSCs earn commissions from direct sales, linkages, and the delivery/aggregation of services. That may be the start of a successful business which in some cases expands into other value-adding activities not dependent on land ownership.

Judy Kipchumba in 2018 began providing free extension services to farmers in her community. A year later, she joined FtMA as an agribusiness advisor

and opened her store – Spring Agri Venture Farmer Service Center – where she serves 50 women farmers and has trained over 500 small-scale farmers, a majority of whom are youth and women, on agri-enterprise development and good agricultural practices. With her agribusiness experience, Judy aggregates produce from local farmers and provides linkages to mechanization, financial services, soil testing, and other service providers in her community. She has recently diversified into value addition where she mills maize into flour and poultry feed and sells it to local traders thus greatly increasing her income-earning opportunities.

3. VILLAGE SAVINGS AND LOAN ASSOCIATIONS (“VSLAS”)

FtMA has worked with VSLAs since 2019 and this has proven to be a game-changer for smallholder farmers grappling with the challenges of access to finance. VSLAs usually consist of 15 to 30 members who generate a self-organized savings fund for all members to deposit into with a specified frequency. Individual members take out loans from that group savings fund and pay them back with interest thus further growing the fund upon loan repayment. FtMA's survey of VSLAs in Kenya discovered that a majority of VSLA members are female, making up 59% (247) while males account for 41% (175). 93% of the FtMA VSLA members report access to credit and financial literacy.

A key success factor for a VSLA is the social cohesion of its members. Group members must have a willingness to lend mutual support and exercise adequate control. Formal registration, training in financial literacy, and digital tools such as a

ledger that supports bookkeeping are the backbones of business success. The VSLA sessions also act as knowledge dissemination sessions that assist members in improving their livelihoods.

For farmers like Abby Tumbu (33) VSLAs have been life-changing. After saving with her VSLA group, Abby a maize and sugarcane farmer was able to access a loan of Kshs. 35,000 (\$230) allowing her to rent an additional one-acre piece of land. She also received training in good agricultural practices and decided to spend part of her loan purchasing farm inputs. This led to increased incomes from her farm due to improved land productivity from using quality inputs and agronomic practices.

4. SOCIAL NORMS

Gender equality does not come by itself; it needs to be actively promoted. Discriminating social norms are at the heart of gender inequality and they are difficult to change (FAO, 2023). Grameen's Intra-Household Dialogues aim to support families and communities to redefine social norms and share power. Grameen works with local partners to facilitate dialogues with couples in small groups on topics related to gender norms that impede women's economic participation. On a community level, the dialogues provide a space for women entrepreneurs, their spouses, and male and female community leaders to collectively explore various topics such as unequal household workloads and how men and women can work as allies to overcome these challenges together.

In a recent Ghana-based project more than 400 participants have been engaged

in Grameen's community and intra-household gender dialogues. Before the intervention, less than 20% of women consulted with their spouses when making decisions on how to use their income. Thereafter over 50% of the couples discussed household income allocation and spending and jointly decided where to access credit. Engaging the males is critical to shifting the perspective within households. Research has shown that there is an increased potential of gender-based violence on women entrepreneurs and women who increase incomes, especially when male members perceive this as a threat to their status and power (ICRW 2019).

Patience and Vincent (wife and husband) feel communication within their home has improved after participating in an intra-household dialogue. Vincent notes that he helps Patience with domestic chores, bathes the children, and takes them to school and the doctor when needed, since “we receive faster care when I take them.” Patience also shares that before engaging in the dialogues, her husband did not give full attention to women's issues. “But for the household dialogues, and after my husband participated in meetings, he has become a softer person. Getting another source of income for the household is a great change.” Patience controls her income, but “What I do is to inform him about anything I want to embark on and he consents once he sees my money can meet such a venture. In cases my money is not enough, he adds to it.”

5. CONCLUSIONS

Enabling female farmers in rural Sub-Saharan Africa is a multi-faceted task. It requires an ecosystem supporting suc-

cessful farming under difficult conditions. Most importantly interventions need to specifically target women and inter alia facilitate their access to resources and a shift of power by recalibrating social norms. Enforcement of gender-responsive policies cutting across the entire agricultural value chain including land

»The scarcity of role models who have succeeded in agribusiness for women and youth.«

rights and tenure is vital for closing the gender gap in access to financial services for women. Women must be supported to be much more represented in leadership roles and decision-making positions. Also, more research on actual gender differences and more gender-disaggregated data are needed.

Similar principles should apply to the policy level. “Strengthening **rights**, eliminating discriminatory laws and norms, equal access to **resources**, equal **representation** and increased opportunities to exert influence” are to be ensured (Federal Ministry for Development and Economic Cooperation, 2023). Unfortunately, these objectives will not be reached soon: FAO reports that the majority of policies in 68 countries relating to agriculture and rural development recognize women's roles but only a mere 19 % contain pertinent policy goals (FAO, 2023).



Figure 2: Roseline Siama, a FSC, demonstrating the use of an app./ Farm to Market Alliance (FtMA)

FtMA and Grameen have recently experienced that donors are increasing their emphasis on gender equality and the enablement of women. This is much appreciated however according to the latest OECD data the share of Official Development Assistance having gender equality objectives has dropped from 45 % to 43 % after a decade of rise (Organization for Economic Cooperation and Development, 2024). This is worrisome and needs to be reversed.

We believe that gender equality deserves much more political support, attention from both the global and local communities and thus funding in agricultural and development policies to ensure women are not left behind.

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Climate Resilience Needs Solidarity

Responding to Losses and Damages from Climate Risks is a Truly Global Challenge

Opinion piece

Author:



Svenja Schulze
Federal Minister,
The Federal Ministry for
Economic Cooperation
and Development (BMZ)

Institution:



Federal Ministry
for Economic Cooperation
and Development

The Federal Ministry for Economic Cooperation and Development (BMZ) is responsible for German development policy. The BMZ works bilaterally with partner countries worldwide and engages multilaterally to further a sustainable and just transition as well as peace and human rights. The Sustainable Development Goals and the Paris Climate Agreement form the framework for its actions.

Keywords:

climate change, loss and damage, climate risk management, global risk against climate risks

In 2021, Mali experienced the most severe lack of rain in five years. Deep cracks in the soil, dried-out wells, and withered grazing areas were only the most visible signs of this drought that put 1.9 million people at risk of hunger and severe food insecurity. A drought that left thousands of women and children in Mali obliged to walk even more miles to fetch water.

But in some communities, the most adverse impacts of the disaster could be cushioned. In response to the drought, 161,000 rural Malians received cash transfers to purchase food and alleviate the pressure on their livelihoods. In addition, the affected communities received support to increase their long-term resilience against droughts – for example through the building of wells and water towers or the diversification of income opportunities for vulnerable families. This response was possible due to climate risk insurance that the United Nations World Food Programme (WFP) purchased from the African Risk Capacity (ARC Replica) with financial support from German development cooperation. It is a vivid example of how early responses to loss and damage from disaster can protect vulnerable people from the most devastating impacts.

Evaluations show that the effects of pre-arranged finance are significant. Households receiving a cash transfer through a system set up to pay out before the disaster hits are less likely to go even a day without food and experience less asset loss compared to households that do not receive any transfers. Even three months after a disaster, beneficiary households report higher food security and earning potential.¹

Mali is particularly vulnerable to the effects of climate change. But so are many

»Loss and damage due to climate change means an even higher risk of poverty and food insecurity.«

other countries. People in Central America and the Caribbean are increasingly suffering from hurricanes, and communities in South Asia are faced with floods that fuel hunger and poverty. Many of the countries that are most affected by climate change are in the so-called Global South. Most of them have only contributed marginally to the greenhouse gas emissions that have caused climate change. Yet they are often particularly hard hit.

Against this backdrop, it came as no surprise that the topic of climate-change-related loss and damage took center stage at the latest UN Climate Change Conferences, culminating with COP28 in Dubai. On the very first day, delegates agreed to formally establish a new Fund for responding to loss and damage. Three decades have passed since the island state of Vanuatu first raised the issue of climate-related loss and damage in the negotiations leading up to the UN Framework Convention on Climate Change in Rio in 1992.²

In my opinion, this new Fund represents a historic landmark for at least three reasons. Firstly, because the issue at stake is so important. The livelihoods of billions of people depend on it. Secondly, because the Fund is part of a global support architecture. This is important

»Linking it seamlessly to existing adaptation funding measures can promote a holistic approach towards climate resilience.«

because it brings all stakeholders to the table and mobilizes a broad support base. And thirdly, because the Fund is more than just another financial mechanism: it is about solidarity with the most vulnerable people and countries.

Let us look at each of these points in more detail.

WHAT IS AT STAKE

An estimated 3.6 billion people worldwide are highly vulnerable to climate disasters³ and many of them are already suffering from the impacts of rising sea levels and temperatures, fiercer storms, and heavier rainfall. That is why German development policy supports partner countries in their efforts to decarbonize their economies and strengthen their resilience. But even with these efforts for mitigation and adaptation, some loss and damage from climate change is inevitable.

Loss and damage are the impacts of climate change that go beyond what people can adapt to – for example, the hunger experienced during the drought in Mali. These impacts might be caused by extreme weather events such as a flood or a heatwave, or they might be the result

of slow-onset changes like desertification or glacial retreat. These impacts may even be permanent; for example, when once-productive farmland becomes barren. And they can destroy previous development progress, for example when farmers whose crop was destroyed take their children out of school because they can no longer afford to send them there.

Estimates indicate that the costs of addressing loss and damage globally will be very high, even if only economic costs are covered. Non-economic loss and damage can be just as devastating to people and communities. Take the loss of Arctic sea ice, which complicates access to hunting areas for Inuit communities and affects their cultural identity.

Both economic and non-economic loss and damage are disproportionately borne by countries with fewer means to address them. These include low-income countries (LDCs) as well as small island developing states (SIDS). Within these countries, women, children, and marginalized groups such as indigenous peoples and people with disabilities are the most vulnerable.

For them, loss and damage due to climate change means an even higher risk of poverty and food insecurity. Loss and damage further emphasize gender disparities and global inequalities, to name just two of the Sustainable Development Goals (SDGs) that are at risk. The stakes are huge and establishing a sound architecture that assists these countries and people in responding to loss and damage is imperative.

GLOBAL CHALLENGES REQUIRE A GLOBAL SUPPORT ARCHITECTURE

This is why I am convinced that the formal establishment of the new Fund at COP28 in

Dubai came at just the right moment. The new Fund aims to complement the existing landscape of climate financing instruments, including for example the Green Climate Fund or the Global Environment Facility. These existing funds are geared towards financing low-emission pathways to limit global warming to 1.5 degrees and support in particular the most vulnerable countries in their efforts to increase resilience against the negative effects of climate change.

But despite these efforts, disasters will continue to cause loss and damage. And there is a massive financing gap when it comes to responding to these impacts. That is why the establishment of the new Fund to respond to loss and damage is so important. Linking it seamlessly to existing adaptation funding measures can promote a holistic approach towards climate resilience. And for me, as the German development minister, pushing for the contentious negotiations in the run-up to COP28 to be a success was a top priority.

The Fund will be governed by a board consisting of 26 member states, which will include countries from both the Global South and the Global North, among them Germany. This global governance structure will give the Fund a broad support base and enable it to meet the needs of the countries and communities that it is meant to serve: those particularly vulnerable to climate risks.

There are three key principles for the Fund's implementation that I regard as central: First, the Fund needs to strengthen vulnerable countries' national efforts – not substitute them. Second, the focus needs to be on policies and programmatic funding approaches, not just on individual

projects. Third, the Fund needs to invest in solutions that anchor responses to loss and damage as part of comprehensive climate risk management. This means that the response needs to begin *before* a disaster strikes – through the development of contingency plans and financial arrangements to facilitate support as quickly as possible. To put these key principles into practice, the Fund needs to leverage a wide array of instruments, ranging from mitigation and adaptation to disaster response and social protection.

To meet these demands, the Fund will need to build on coordinated interplay with other instruments in the broader support landscape. A case in point is the Global

»It is about solidarity with the most vulnerable countries and the recognition that countries worldwide share a global responsibility for responding to loss and damage.«

Shield against Climate Risks. The Global Shield was launched at COP27 in 2022 as a joint initiative by the Vulnerable Twenty (V20),⁴ an association of states that are particularly badly affected by climate change,

» I call on more partners to join in the effort and provide support to the Fund – especially the “big emitters.”«

and the Group of Seven (G7) under the presidencies of Ghana and Germany respectively. It aims to support vulnerable people and countries in coping with and recovering from disasters by enhancing pre-arranged finance and social protection schemes that have proven effective, as in the case of Mali. The focus is on rapid support through pre-arranged financing mechanisms. The support can be paid out quickly and in a targeted manner to affected people and communities when a disaster occurs, for example via an adaptive social safety net or humanitarian actors.

Since its inception, the Global Shield has received pledges from several donors amounting to about 300 million euros. The new Fund needs to build on and strengthen the activities of the Global Shield, which has already taken important steps: The Global Shield is piloting its approach of pre-arranged finance in several pathfinder countries that were selected by the V20 in 2022.⁵ Pathfinder countries undertake a thorough risk and gap analysis to identify the most urgent protection gaps, and they receive support for implementing tailor-made protection packages. Building on these processes can not only enable the Fund to embed loss and damage within a framework of comprehensive risk management;

it would also place country-led processes at the center.

In my view, the global structure of both the Global Shield and the Fund for responding to loss and damage has a salient role in facilitating an inclusive dialogue between the main contributors and beneficiary countries. And this brings me to my third point, namely that the Fund is more than just another financial instrument. It is about solidarity with the most vulnerable countries and the recognition that countries worldwide share a global responsibility for responding to loss and damage.

IT IS ABOUT SOLIDARITY

The establishment of a fund responding to loss and damage during COP27 in Sharm El Sheikh marked a pivotal moment in climate diplomacy, as it represented a collective re-acknowledgment of the responsibility to support nations bearing the brunt of climate impacts.

More often than not, these countries lie in the Global South. Due to their geography, many of them are more vulnerable to climate-related risks. They have fewer capacities and financial means to adapt and cope with these risks. For example, they lack social protection systems that prevent people in emergency situations from falling into extreme poverty. The V20, representing 68 climate-vulnerable countries, is home to 1.7 billion people – that is almost a fifth of the global population. Of these, only 2% have access to some form of social protection.

By contrast, high-income countries like those of the G7 are less vulnerable because they are better equipped to adapt. They have high-quality data to predict disasters and enable them to mount an effective disaster response. They have well-funded public in-

stitutions to help communities prevent and recover from disasters. They also have wide coverage through social protection schemes and insurance to support people if disaster strikes. And they have historically contributed the most to the greenhouse gas emissions that fuel climate change.

For these reasons, the new Fund is a monumental achievement. It mobilizes financial resources to support the most vulnerable nations and people in responding to climate-related loss and damage. It links financial assistance with technical assistance through a broader global support architecture and thereby encourages global learning. And it recognizes that responding to loss and damage from climate change is not a responsibility that ends at national borders. It is a global responsibility that builds on solidarity with the most vulnerable countries and people. This solidarity goes beyond the traditional divide between “industrialized” and “developing” countries as set out in the UN Framework Convention on Climate Change. By announcing joint financing of USD 100 million each for the new Fund, Germany and the United Arab Emirates emphasized that non-traditional donors are also called upon to support the Fund.

» Women, children and marginalized groups are the most vulnerable.«

Of course, the new Fund cannot be the only answer to climate-related loss and damage and this is not the time to pat ourselves on the back for a job well done. However, it is an important part of the global toolkit to support the world’s most vulnerable countries in coping with climate crises. Crises like the devastating drought in Mali left countless people reeling from the unfolding loss and damage. This is why responding to loss and damage is a priority for me as the German development minister. Therefore, I call on more partners to join in the effort and provide support to the Fund – especially the “big emitters” and those members of the G20 who are currently contributing most to global emissions. It is time to own up to our global responsibility and support the most vulnerable!

portrait credit: BPA/Steffen Kugler

¹ Popley, Ashley; Hill, Ruth; Dercon, Stefan (2021): Anticipatory cash transfers in climate disaster response, Center for Disaster Protection (5 July 2021).

² In 1991, Vanuatu proposed an insurance mechanism that would cover climate-related loss and damage for inclusion in the forthcoming UN Framework Convention on Climate Change (UNFCCC). This proposal was, however, unsuccessful.

³ IPCC. In *Climate Change 2022: Impacts, Adaptation, and Vulnerability. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change* (eds Pörtner, H.-O. et al.) 3–33 [Cambridge Univ. Press, 2022].

⁴ The Vulnerable 20 Group of Finance Ministers (V20), formed in 2015, is a dedicated cooperative group of economies that are especially vulnerable to climate change. V20 Group members are also member states of the Climate Vulnerable Forum (CVF). V20 Group membership stands at 68

⁵ The pathfinder countries include: Bangladesh, Costa Rica, Ghana, Jamaica, Malawi, Pakistan, the Pacific Island States, the Philippines and Senegal. Ghana was the first country to go through the country process and submitted an initial funding request at the end of 2023.

Urbanization, Health and Sustainable Development

Quality of Life as an Enabling Framework

Research paper

Authors:



Yonette Thomas

Founder and CEO, Urban Health 360
Senior Scholar, University of Memphis School of Public Health



Wendy M. Purcell

Professor and Vice Chair Education, Rutgers School of Public Health, Department of Environmental & Occupational Health & Justice

Institutions:



Urban Health 360, Inc. is a US-based nonprofit and NGO that envisions a world where urban health advocates at all levels will have the knowledge, information, and tools needed to facilitate their work on the ground and to influence policy decisions at the local community, municipal, national, and global levels. This is why UrbanHealth360 is the first global organization to catalyze Applied Urban Health.

Keywords:

quality of life, urbanization, health, wellbeing



Rutgers University, The State University of New Jersey, is among America's highest-ranked, most diverse public research universities. Rutgers Health harnesses its academic, health, research, and community assets to drive a healthier, more innovative future for people locally and globally. The Rutgers School of Public Health educates leaders, puts research into practice, and develops public health solutions rooted in health equity, social justice, and advocacy.

ABSTRACT

Quality of life metrics are proposed as an enabling framework to accelerate meaningful progress towards sustainable development driven by the lived experience of individuals and communities. This is especially relevant in urban settings with health and wellbeing interventions targeted to sustain social protection throughout the life course. A world that leaves no one and no place behind is a world where everyone's quality of life provides for their needs and enables them to realize their potential and aspirations. Can quality of life be a global ambition, realized locally for all?

INTRODUCTION

The United Nations (UN) Secretary General's Report on Progress Towards the Sustainable Development Goals (SDGs) outlined a Rescue Plan for People and Planet (United Nations, 2023) and recognized the need to accelerate a people-

»The focus on the health dynamics involved in urbanization and health, namely 'urban health', is a microcosm of global health and central to the achievement of the SDGs.«

»A response to the challenges of urbanization and health in the face of changing environments and climate change requires multidisciplinary collaboration.«

centered approach in pursuit of the SDGs, particularly in strengthening national and sub-national capacities. The inclusion of individuals' and communities' expressed needs for intergenerational and life course well-being and prosperity is fundamental to community integration and social cohesion and the efficacy of social protection mechanisms targeting them. Adopting a quality of life (QALY) framework with appropriate integration of measures to assess impact from the beneficiary and community perspective is proposed here. This people-centered approach can "serve to identify local priority actions and enabling conditions with higher acceptance and sustainability" (UN Habitat, n.d.) and thereby accelerate progress towards a world that leaves no one behind (United Nations, n.d.).

Assessing the outcomes and impacts of social protection programs using QALY metrics will allow improved targeting of interventions in rapidly urbanizing communities in secondary and tertiary cities in low- and middle-income countries. Along

with objective QALY indicators, there needs to be an integration of subjective measures that capture the lived experience of people individually and in community. An essential element of policies and the implementation of social protection programs should include the life course given life course factors can influence program efficacy and sustainability. The adoption of a more people-centered territorial approach to the intersection of SDG policies and social protection mechanisms at the subnational and community level can inform and shape outcomes. Accordingly, QALY is an important framework with metrics able to reveal the true impact of policies and programs and enable communities to contribute directly to design and delivery such that collective engagement becomes an essential element. For example, it is not just how much food is distributed or how many children are fed, it is the QALY impact of these individuals and their families and the resulting intergenerational implications.

URBANIZATION, QUALITY OF LIFE, AND HUMAN FLOURISHING

In urban settings promoting access to infrastructure, fostering human connections, and enhancing social belonging contribute significantly to elevating community QALY. In response to the cumulative effects of multiple and interlinked global crises, the effects of planetary crisis (e.g., biodiversity loss, pollution, climate change), and the exacerbation of social and economic inequalities, integration of QALY with social protection can help reduce inequalities and increase and social belonging. What happens to our cities over the next 30 years will de-

termine the health and well-being of the world's projected 11 billion people. As the urbanist Jacobs (1993) noted, "Cities have the capability of providing something for everybody, only because, and only when, they are created by everybody... A neighborhood is not only an association of buildings but also a network of social relationships, an environment where feelings and sympathy can flourish." As such, cities need to offer a QALY with urban settings operating as a system of systems, with the connections among services like transport, health, and education central to QALY metrics.

With over half the world's population living in cities, set to rise to around 70% by 2050 with the 100-million-person city a near reality, urbanization is straining planetary systems and reducing the QALY for many. Individual areas within the city should be able to fulfill key social functions, namely living, working, supplying, caring, learning, and enjoying (Purcell, 2023). To get from where we are now to realizing this vision calls for radical collaboration and trustful co-creation in supporting a just transition with city planners, civic leaders, businesses, and other anchor institutions (such as universities and healthcare organizations), working with residents, communities, and visitors. However, a hyper-local focus can't just be about creating a few amenity-rich islands of privilege separated from areas of deprivation or projects that serve to reinforce spatial injustices related to racial identity or immigration status – this is a matter of social justice and equity (Purcell, 2023).

Human flourishing is central to QALY and at the core of the SDGs and their aim

to ensure that "all human beings can fulfill their potential in dignity, equality, and in a healthy environment" (United Nations, n.d.). Flourishing is about the opportunity to thrive – anyone can flourish, but not everyone is doing so – hence the pursuit of the global Agenda 2030. As with QALY, there are multiple dimensions to living a "good life" (Seligman, 2011) including positive emotions, engagement, relationships, meaning and accomplishments as well as self-esteem, spiritual health, and dignity (VanderWeele, 2017). The pursuit of flourishing offers genuine individual and societal benefits and evidence-based ways to measure flourishing and what works to promote it (The Human Flourishing Program, n.d.). So too then, QALY metrics can be assembled and used to determine key intervention points and the effectiveness of solutions applied.

URBANIZATION, HEALTH, AND THE SUSTAINABLE DEVELOPMENT GOALS

The focus on the health dynamics involved in urbanization and health, namely "urban health", is a microcosm of global health and central to the achievement of the SDGs (Urban Health 360, n.d.). COVID-19 amplified the urgency of addressing issues of health equity in urban communities and the link between the health and economic viability of the people living in those communities. SDG 3 "Global Health and Wellbeing" is an enabler of the other SDGs (Figure 1) with 48 of the 169 targets of the 17 SDGs relevant to urban health (Figure 2).

While the SDGs serve as an organizing frame for a sustainable urban health agenda, they currently lack an explicit focus on QALY metrics. The broad approach has a



Figure 1

strong focus on equity and “leaving no one behind” (United Nations, n.d.) with Goal 3 – good health and wellbeing, Goal 5 – gender equity, Goal 8 – decent work and economic growth, Goal 10 – reduced inequalities, and Goal 11 – sustainable cities and communities. These serve as action points for addressing the health of the urban poor as an economic value for the robust development of communities, municipalities, and cities. While policy coherence and equitable policies provide mechanisms for measurable urban health outcomes, the “hot spots” of urbanization for targeted interventions such as housing, water and sanitation, urban planning, governance, and community cohesion need to be addressed with a systems approach (Gatzweiler & Zhu, 2017; Schroder et al., 2022). It is here that

a focus on QALY and its underlying metrics can elevate key policy needs and focused interventions to accelerate much needed progress with the delivery of the SDGs.

The UN projections suggest that by 2030, the fastest-growing urban agglomerations will be those cities with fewer than 1 million inhabitants, so-called 'secondary cities', many of them located in Asia and Africa (UN Nations, n.d.). According to the World Bank, a secondary city is largely determined by population, size, function, and economic status (Cities Alliance, n.d.) with a population ranging between 10-50 percent of a country's largest city, although they may be smaller; there are around 2,400 secondary cities with populations of between 150,000 and 5 million described. Commonly, secondary cities are geographically defined



Figure 2

urban jurisdictions and their role and functions may expand to a geographic region or the global realm. These secondary cities are possibly interpreted as “hot spots” of urbanization for targeted interventions for better health outcomes contributing to the SDG agenda (Urban Health, n.d.).

GLOBAL URBAN HEALTH SCENARIO

By 2050, two-thirds of the world's population will reside in urban communities with 90 percent of urban population growth taking place in low- and middle-income countries; mostly in Africa and Asia (Ebikeme, 2019; Vearey et al, 2019; World Population Review, 2024). This rapid urbanization is raising new social, economic, public health, environmental, and health systems challenges, particularly in cities, munic-

ipalities, and communities in the Global South. Specifically, nearly 60 percent of the population of the African continent is expected to be living in urban areas and 35-40 percent of children and adolescents globally are projected to be living in Africa. In Latin America and the Caribbean, over 80 percent of people live in urban areas, with 30 percent living in poverty and 24 percent in informal settlements. This region has 19 of 30 unequal cities in the world (UN Habitat, 2019; WHO, 2020; World Population Review, 2022).

There is an urgent need to improve the governance of healthcare and health systems in the Global South and this requires interdisciplinary collaboration among a variety of stakeholders. The issues range from environmental inequities and flood

vulnerability to demographic transitions such as youth bulges and aging populations. Access to healthcare is incomplete and inequitable with variable quality of healthcare service and provision. Persistent communicable diseases such as Tuberculosis, HIV, and malaria exist alongside chronic illnesses and co-morbidities as well as mental health, external causes of death and injury, and forced and reverse migration. Innovative partnerships based on a radical approach to collaboration at both the national and sub-national levels are needed to create – essentially a systems approach to enable monitoring of the health status of rapidly expanding urban communities in the Global South.

KEY ISSUES ACROSS THE REGIONS

The African Context:

The rapid growth of midsize cities and peri-urban settlements poses a significant test for municipal and public health officials (Vearey et al., 2019; Aberjirinde, et al, 2022). Lack of access to water and sanitation in certain urban and peri-urban environments means that 80 percent of the poorest will defecate in open areas (UN Habitat, n.d.). This is compounded by the lack of physical, economic, and social infrastructure such as potable water, public transportation, and public health mechanisms. Environmental inequities and flood vulnerability persist. For example, in Gambia, 25 percent of people in urban communities live below elevation in flood zones. Rapidly expanding urban areas – the total urban footprint of 1 million sq. km in 2010 will become 3 million by 2030 (UN Habitat, n.d.). Weak urban governance systems and functions with eroded human skills, poor

sanitation, inadequate housing, unemployment, uneven health services, and links to the formal urban economy are often either restricted or compromised. Communicable diseases persist while chronic illness and morbidities are such. In addition, mental health and wellbeing issues alongside external causes of death and injury such as forced and unplanned migration due to conflict and violence are compounded by demographic shifts in the youth and elderly populations – each requiring significant health and social welfare investments. These are all overlaid by climate change – increased ambient temperatures, flooding, intense storms, and wildfires that serve to exacerbate inequities.

The Latin America Context

Nineteen of the 30 most unequal cities in the world are in Latin America. Over 80 percent of people live in urban areas, 30 percent live in poverty, and 24 percent in informal settlements (UN Habitat, 2019). Sanitation, education, employment, health services, and links to the formal urban economy are often restricted and/or compromised. A high degree of malnutrition exists among children because of poor diet, repeated morbidity, and unhygienic living conditions; in Brazil, for example, that number is 19 percent. There is a rapid growth of midsize cities and peri-urban settlements, resulting in a strain on the provision of clean water, sanitation, adequate housing, and accessible health care to existing residents as well as new residents, creating stressors for municipal and public health officials. There is incomplete and inequitable access and variable quality in the provision of health care services. As a result, infectious diseases

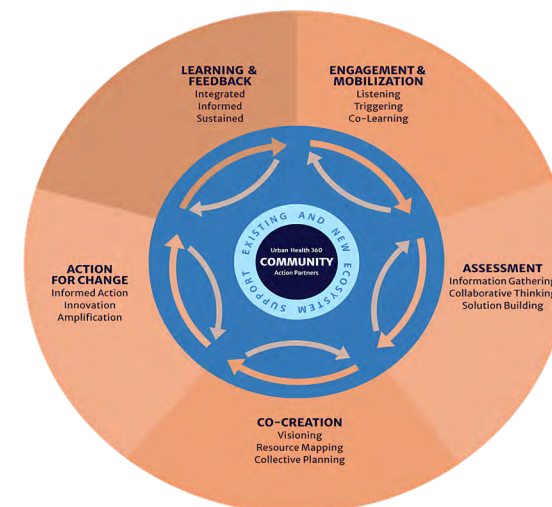
persist alongside an increase in chronic diseases – compounded by obesity, forced migration, and mental health conditions resulting from violence-related trauma.

QUALITY OF LIFE AS A FRAMEWORK TO RESPOND TO THE CHALLENGES

A response to the challenges of urbanization and health in the face of changing environments and climate change requires multidisciplinary collaboration among a variety of stakeholders with metrics focused on the lived experience of individuals and communities. A framework based on QALY offers stakeholders a rich suite of metrics to use to determine actions and their impact on progressing the SDGs. Four categories of stakeholders are relevant here: (1) researchers and practitioners – e.g., epidemiologists, geographers, environmentalists, engineers, town planners, mental health and quality of life responders, and healthcare professionals;

(2) municipal and community leaders; (3) members of communities; and (4) policy-makers at the national and sub-national levels. Communities and municipalities are integral to achieving urban health and development goals by 2030 and thereafter. Leadership in urban health planning and implementation is needed to improve the health of urban populations and to address the broad social determinants of health if the SDGs and the New Urban Agenda (UN Habitat, 2022) are to be met in this decade. Collaboration on advancing the urban health agenda and advocating for the importance of health to social and economic development relies on a shared framework and QALY offers this. Leadership from all sectors must recognize that their decisions affect the health of people living in both urban and peri-urban environments such that co-development of projects is necessary. Public-private partnerships must be supported and are

Figure 3



essential to maximize impact in mobilizing resources for capacity building and sustainable growth and development. To achieve sustainable, inclusive, and equitable development, communities must be at the forefront and QALY a driver of decision-making, governance, and actions.

THE QUALITY-OF-LIFE INITIATIVE

A QALY framework recognizes the interconnectedness and dependencies of planetary and human health in a manner akin to the SDGs (Figure 1). However, it goes further than Agenda 2030 and encompasses human flourishing – especially important in urban settings, with climate change a threat multiplier, particularly for overburdened and under-resourced communities. Here, QALY goes beyond surviving and is about thriving and so it extends from the individual into the community and reflects robust social networks and systems. While QALY is temporal and can change across time it can be advanced at different scales – from the local to the global. Importantly, it can be designed in – and the context of the urban setting matters.

As a suite of metrics, QALY is an outcome of antifragility and resilience in systems, enabling people and communities to withstand, adapt to, and mitigate stressors. A QALY framework offers the potential for well-being and human flourishing to be measured as outcomes of the lived experience of people and communities. This human-level objective and subjective data will enable the identification of and investment in interventions that work to make the urgent progress needed to meet the SDGs efficiently and effectively. By re-conceptualizing QALY metrics in this way, adaptation to the polycrisis environment

of a rapidly transforming world is enabled. As such, QALY is framed as an enabler of individual and collective agency relevant to urban settings where local actions are connected to global goals.

COMMUNITIES AT THE FOREFRONT: A NEW PARTNERSHIPS PARADIGM

It could not be clearer that communities must be at the forefront of tackling critical urbanization and health and development issues. At both the national and subnational levels there needs to be a mobilization and engagement of a cadre of cross-sectoral, multidisciplinary urbanization and health-focused leaders in research, policy, and practice. The evidence base regarding the determinants, programs, and policies critical for achieving healthy and sustainable urban environments must be catalyzed and advanced. Urgent improvement and enhancement of cross-sectoral collaborations to solve urban health challenges locally both at the subnational and national levels with equal effort and focus. Communities must be empowered and supported in advocating for and implementing evidence-based policies, programs, and governance that develop healthy, relevant, and sustainable urban environments that eliminate health and environmental disparities.

There needs to be a new partnership paradigm at the subnational and national levels. Action must begin at the community level to engage municipalities in the response and regeneration process. Municipal and community leaders must be key actions in creating solutions, along with public-private collaborative engagement. The health and well-being of people in urban communities must be envisioned

as an economic value since healthy populations are more economically viable. To achieve cross-sectoral actions, community implementers, municipal and national leaders, and the private sector must work alongside each other on an equal footing, connected through a shared purpose and focused on adaptive transformational change that leads to prioritized, localized operational change.

RECOMMENDATION

It is recommended that QALY is adopted as a framework to prioritize actions in pursuit of the SDGs with QALY metrics reflecting human flourishing suitable for use in urban settings with actions driven by the lived experience of individuals and communities.

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Unlocking Social Progress with Business

Overcoming Barriers to Drive Collaborative Momentum

Opinion piece

Authors:



Elora Wilbur
Senior Global Sustainability Architect, PwC



Andreea Rosan
Global Sustainability Senior Consultant, PwC



Wendy Van Tol
Sustainability Transformation Services Partner, PwC



Barry Murphy
Global Sustainability Partner, PwC

Institution:



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Keywords:
business, barriers, collaboration, framework, case studies

INTRODUCTION

A quick glance at the global headlines paints a picture of inequality that is more acute than ever.¹ The headlines are supported by figures that speak for themselves: One in six people experienced discrimination worldwide in 2023 and the number of recorded refugees globally was unprecedented (United Nations, 2023). In 2022, whilst 236 people newly became billionaires (Durot, 2022), between 690 and 783 million people experienced hunger (FAO et al., 2023). Despite over two hundred years of interdisciplinary study and the elevated importance placed upon addressing inequality, including material contributions by economists, philosophers, academics, and others, inequality remains vastly unresolved.

The challenge of reducing multidimensional inequality is increasingly difficult. Differing perceptions of the issue, conflicting psycho-social motivations and the sheer scale and scope of the collaboration needed, all hinder progress.

Across business, companies are beginning to experience the risks that inequality and other social-related tensions bring. In 2023, large-scale worker strikes increased by 280% across the United States alone (Poydock and Sherer, 2024). One in three full-time employees noted that personal financial concerns have had a negative impact on their work productivity and sense of engagement (PwC, 2023a). These are specific examples of rising social discontent that may affect decisions at the polls and the policy responses that follow electoral outcomes, which in turn impact how business operates. Addressing inequality has become an even more relevant business imperative.

»Like a domino stack, if the most powerful steer towards collective thinking and away from singularly hunting financial gain, others may fall in line.«

As a powerhouse of financial, human, and intellectual resources, business also has a significant platform and potential for engaging and driving positive change.

Business in the Global Landscape

With 85% of the reportedly 3.4 billion global workforce in 2023 (Statista, 2023a) found in the private sector (Statista, 2023b), business arguably reaches into every corner of the world.² In recent decades, perceptions of business in relation to inequality have varied. Business is encouraged to use their power for change, but also face challenges over how it is potentially cultivating inequality. The mitigation of multidimensional inequality is far from straightforward. Policymakers play a crucial role in shaping the parameters for businesses to operate differently. Extensive collaboration is needed to find and act upon a shared narrative. Business programs that encourage the exchange of best practice insights and address inequality by working with stakeholders, such as international organizations,

non-governmental organizations (NGOs), and the public sector, are steps in a positive direction.

Brown states that “Businesses have arrived at a crossroads” (2022). Like a domino stack, if the most powerful steer towards collective thinking and away from singularly hunting financial gain, others may fall in line.

Let us imagine the alternative of inaction. The risks of not collectively addressing inequality, both for society and for businesses, loom large. In fact, emerging risks create a veritable minefield through which businesses maneuver: (BCTI, 2023, pp. 20-21):

- *An increasingly volatile operating environment*
- *Supply chain insecurity*
- *The erosion of productivity and innovation*
- *Regulatory and compliance risks*
- *Reputation risk*
- *Access to capital*

With potential consequences such as value destruction and loss of value creation opportunities, these risks are significant and represent a challenge to how business operates today. These risks also highlight the opportunity for business to create a more equitable future environment for its diverse stakeholders including its global workforce, the communities in which it operates, those in its broader value chain, and consumers.

In the global landscape, a business must continue to open up opportunities, share insight, turn a mirror on itself, and deepen collaboration with the public sector, NGOs, and international organizations to address inequality on a sustained basis.

BARRIERS TO PROGRESS

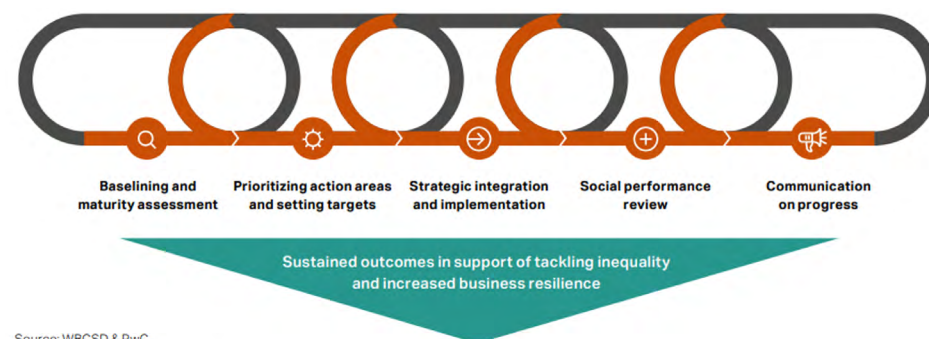
Despite receiving arguably more attention than ever before as an elevated theme in the United Nations Sustainable Development Goals, multidimensional inequality continues to drive a wedge in society. What holds us back from progress?

The Subjective Perception

People both perceive and experience inequality differently. At times, this has hampered progress on inequality, because it has not been possible to arrive at a consensus over the exact nature of the problem and what can be done to address it. Compared to the environment, social sustainability does not have a clear 1.5-degree target point definition for equity, causing a lack of clear action plans, or just simply a lack of action. This has, in turn, entrenched the status quo at a macro level and within business too. It prevents the more collaborative approach that is needed to address the problem effectively. We need to define a shared narrative that enables different stakeholders to act together and drive towards shared outcomes. The consequences of failing to move towards a more collective vision could mean short-sighted transformations, ineffective operations, and stagnant collaborative output.

The Individual Inherency

Another barrier to progress is the collection of social norms that emerge from cumulative individual behaviors over time. For example, concerns over job safety, recognition, status, and legacy may cause individuals to make decisions that preserve the status quo rather than achieve the level of transformation that is required to



Source: WBCSD & PwC

(NB: The list of activities above is non-exhaustive and provides a general view on the activities that a business may go through during their transformation journey.)

Figure 1: PwC & WBCSD Sustainable Business Transformation Framework

Source: BCTI Tackling inequality: An agenda for business action

tackle inequality. For instance, as financial hardship spreads, employees may place more weight on job safety compared to previous years (PwC, 2023b), which should be factored into decision-making and communications. These norms are reinforced by existing corporate governance frameworks, incentives, and remuneration policies that together drive business leaders to focus primarily on short-term, financial results. Understanding these deeply personal drivers is vitally important for gaining buy-in and acceptance of change (PwC, 2024).

The Collaboration Model Shift

Given the multidimensional and dynamic nature of inequality and the way it manifests locally, regionally, and globally, it can be challenging to prioritize those actions that will have the greatest impact. A collective effort is needed among policy-makers, businesses, NGOs, international organizations, communities, and other actors to define the shared narrative, engage social norms, and drive change in

their respective domains. Like a puzzle, if just one piece is missing, the answer will be incomplete.

FRAMEWORK FOR SUSTAINABLE TRANSFORMATION

To overcome the barriers to change and in pursuit of recoupling economic prosperity, societal progress, and planetary well-being, there is practical action that businesses can take now to cultivate more sustainable operations. PwC and The Business Commission to Tackle Inequality (BCTI) have, in collaboration, developed a 5-step sustainable business transformation framework. When applied, it helps organizations to plan a pragmatic approach. The framework was originally designed as a business tool, yet its principles extend to the broader social context and can be applied across the public sector as well.

1. Baselining and Maturity Assessment

As a starting point, it is imperative to assess the current situation to establish

»Understanding these deeply personal drivers is vitally important for gaining buy-in and acceptance of change.«

how the organization addresses inequality across various areas of impact, along with the specific actions being taken. This is relevant for businesses and policymakers alike as key expertise, data insights, and lessons learned from the baseline and maturity assessment can be mutually beneficial.

What this can look like - a sample case study: In 2021, following the launch of a significant National Action Plan by Malaysia, targeting the eradication of forced labor nationwide by 2030, a comprehensive evaluation and baseline assessment became a vital step for an organization to tackle inequality. This organization is a prominent provider of electronics manufacturing services, with a workforce exceeding 10,000 employees spread across Malaysia, China, Indonesia, and Vietnam and a strong commitment to corporate responsibility and sustainable and ethical practices. Given the diversity in their workforce, they perceived that language barriers and cultural disparities might have resulted in a lack of clarity and visibility. To conduct this evaluation and baseline assessment, the organization partnered with a consulting firm and an independent spe-

cialist in labor rights who brought invaluable civil society insights to the table. This collaborative effort managed to pinpoint the pressing issues, propose actionable solutions, and showcase areas where the electronics manufacturing services organization excelled.

2. Prioritizing Action Areas and Setting Targets

The subsequent crucial phase involves identifying the action areas that the organization should prioritize moving forward and determining the types of targets it should establish. The organization can then assess the impact and importance of addressing each area, taking into consideration factors such as the magnitude of the disparity, the level of need among affected populations, and the potential for policy interventions to make a meaningful difference.

What this can look like - a sample case study: In 2023, one of the world's largest consumer goods companies adopted this framework to guide its internal sustainability efforts. As the transformation progressed, initially centered on environmental and health objectives within the action plan, the company recognized its broader role within its value chain and the business advantages of operating within thriving communities. Consequently, the plan expanded to include a commitment to improving livelihoods, both upstream for smallholder farmers and downstream for small-scale retailers. Predominantly localized social initiatives evolved into global partnerships with organizations like UNICEF and Save the Children. With priorities clear, this company set targets to promote enduring, sustainable solutions that

address multiple dimensions of inequality and yield lasting social and economic benefits for communities and society. The journey continues with regular evaluations of outcomes that can influence and adapt future targets to enable them to evolve and remain relevant.

3. Strategic Integration and Implementation

This step is dedicated to formulating a structured action plan, whilst engaging in ongoing consultations with affected groups and broader stakeholders and establishing suitable internal governance mechanisms. At this stage, setting up key performance indicators (KPIs) and metrics is essential to gauge the efficacy of these endeavors.

What this can look like - a sample case study: In the global health sector, gender discrimination is still one of the main barriers to accessing health services to prevent and treat severe diseases. Global health financiers work closely with local authorities, NGOs, the private sector, and other key partners on the ground to transform harmful social norms, practices, and policies, and drive change to benefit vulnerable populations. During a project to implement a health program in Nepal, funded by a global health financier, a consulting organization conducted a gender-related review to identify gender-related issues in the provision of HIV services at beneficiary and service provider levels. The consulting organization provided the global health financier with the findings and recommendations, helping them in their decision-making process and contributing to their mission to reduce human rights-related barriers to HIV services.

4. Social Performance Review

As part of a successful implementation, regular social performance reviews of a variety of measurable outcomes and milestones are essential. This step helps to identify areas needing improvement and to potentially redefine targets in alignment with evolving organizational goals. Social performance reviews can facilitate stakeholder engagement and participation, whilst promoting accountability and transparency. This is a key stage to reinforce the Theory of Change and explore impact through various pathways of control, influence, and interest. (Erasmus University Rotterdam, n.d.)

What this can look like - a sample case study: A large consumer goods company faces the challenge of demonstrating social progress by defining clear, quantifiable metrics that continue to evolve with dynamic legislative transparency requirements. To elaborate, this company devised a method to imbue rigor into outcome measurement by instituting a Basis of Preparation (BoP) to match each of their sustainability commitments. The BoP offers a precise definition of a target and delineates its measurement and reporting framework, complete with key milestones. Impact studies conducted in collaboration with independent organizations showcase

»Like a puzzle, if just one piece is missing, the answer will be incomplete.«

»Social performance reviews can facilitate stakeholder engagement and participation, whilst promoting accountability and transparency.«

how these social impact initiatives generate value for employees, the business, and the broader economy.

5. Communication on Progress

Businesses must determine the frequency and manner of reporting progress, in alignment with regulatory requirements, and reflect on how to frame their external communication on progress against the backdrop of actions taken. Communication allows organizations to promote dialogue with stakeholders, including affected communities, civil society organizations, businesses, and other government agencies. By soliciting feedback, listening to concerns, and involving stakeholders in the decision-making process, policymakers can continue to cross-check the efficacy of social policies around inequality.

What this can look like - a sample case study: In close collaboration, a consulting firm assisted a major pharmaceutical client in crafting a landscape analysis of the company's initiatives in comparison to benchmark analyses. This collabora-

tive effort resulted in the creation of the company's first Global Diversity and Inclusion report, creating transparency about the challenges and obstacles faced in addressing inequalities and showing a clear path for how they are demonstrating a commitment to continuous improvement.

CONCLUSION

Recoupling the economic efforts of business along with societal progress and planetary well-being, is a critical step forward. Businesses need to take action to address multidimensional inequality across their workforce, supply chain, customers, and communities. By prioritizing collective thinking, businesses can mitigate risks while driving social progress. Using co-created approaches like the Sustainable Business Transformation Framework can help to encourage all actors to collaborate effectively to tackle multidimensional inequality. The importance of illuminating a shared narrative compels deeper listening and understanding of the social norms that guide society at all levels. Making progress against systemic multidimensional inequality means weaving enhanced collaboration through the fabric of society and all actors, business included, have a meaningful role to play.

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¹ See global conflicts, the adverse effects of climate change, gender representation, sustainable development, inclusive generative AI and technology for some thematic examples

² According to Global Justice Now, “69 of the top 100 economic entities are corporations rather than governments (2018),” signifying that the financial, intellectual and brand power of business has reached a pronounced global legitimacy and platform.

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Driving Carbon Markets for Inclusive Net Zero Economic Growth in G20

Policy brief

Author:



Venkatachalam Anbumozhi
Director of Research Strategy and Innovation, Economic Research Institute for ASEAN and East Asia (ERIA)

Institution:



The Economic Research Institute for ASEAN and East Asia (ERIA), based in Jakarta is an international research organization established in 2007 by a formal agreement among 16 Heads of Government in 2007. It works closely with the ASEAN Secretariat, policy makers and research institutes from East Asia to provide intellectual and analytically sound evidence-based policy recommendations. ERIA conducts research under three pillars: Deepening Economic Integration, Narrowing Development Gaps and Achieving Sustainable Development Goals. In order to disseminate its research findings and solicit inputs from various stakeholders, ERIA organizes seminars and symposia which nurture a sense of community in the region. The policy recommendations are intended to help in the deliberation of the annual summit leaders and ministerial dialogues.

Keywords:

climate change, carbon pricing, emission trading, green finance, International cooperation

ABSTRACT

The urgency of achieving net zero emissions by mid-century is undeniable. The G20, representing the world's largest economies, has a critical role to play in steering the global course towards a sustainable future. While ambitious climate targets are crucial, translating them into action requires robust economic frameworks. Carbon markets, if designed and implemented effectively, hold immense potential to drive inclusive net zero economic growth within the G20. The G20 has long recognized the importance of inclusive growth – a concept that emphasizes spreading the benefits of economic progress across all segments of society. The G20 can play a pivotal role in fostering robust and inclusive carbon markets. Establishing harmonized standards for carbon credits across G20 nations ensures environmental integrity, avoids double counting of offsets, and promotes market transparency. G20 collaboration in developing clear policies and regulations for carbon markets can attract investments and ensure market stability and inclusivity in the long run.

INTRODUCTION

Climate change poses an existential threat to humanity and the planet. The Intergovernmental Panel on Climate Change (IPCC, 2023) emphasizes the need for rapid and deep cuts in greenhouse gas (GHG) emissions to limit global warming to 1.5°C. This necessitates achieving net zero – a state where human-caused emissions are balanced by removals – by 2050. The G20, comprising both developed and developing economies, is a key player in the global climate action arena. Its mem-

»G20 collaboration in developing clear policies and regulations for carbon markets can attract investments and ensure market stability and inclusivity in the long run.«

bers are responsible for over 80% of global greenhouse gas emissions and world trade. Therefore, their commitment and leadership in embracing a net zero transition are critical for success. Several G20 countries have set ambitious net zero targets, with some aiming for 2050 deadlines. However, translating these targets into concrete action requires robust economic mechanisms that incentivize low-carbon investments and emission reductions.

Carbon markets offer a promising pathway towards achieving net zero while fostering economic growth. They function by setting a carbon price and creating a tradable commodity – carbon credits. These credits represent one ton of CO₂ equivalent that has either been avoided through emission reduction projects or removed from the atmosphere through natural climate solutions like sustainable forestry. Companies that exceed their emission allowances can purchase carbon credits to offset their footprint, promoting accountability and driving emission reductions. As net-zero targets tighten, de-

»Carbon markets offer a promising pathway towards achieving net zero while fostering economic growth.«

mand for carbon credits will rise, creating a market that incentivizes investments in

renewable energy, energy efficiency, and clean technologies.

CARBON MARKETS AS A CATALYST FOR NET ZERO ECONOMY

Carbon market infrastructure has rapidly evolved in G20 countries over the past five years. Carbon markers come in two sub-credit or trading based on their governing mechanism. First, compliance markets are driven by regulatory bodies. For instance, the EU Emissions Trading System (ETS) issues emission allowanc-

es as part of a “cap-and-trade” system. Second, voluntary markets are where independent entities, such as companies, nongovernmental organizations, and individuals, voluntarily participate in the carbon trading process. Table 1 illustrates the carbon market status in G20 countries.

When used correctly, carbon markets can promote the decarbonization that is crucial for our warming world, supporting the emissions reduction goals of business owners, investors, and philanthropists. However, within G20, carbon markets tend to be highly fragmented with several structural and operational challenges hampering progress, including a lack of trust in the environmental integrity, credibility, and additionality of carbon credits. While compliance carbon markets are well established on their own, diverging regulatory requirements across jurisdictions, different levels of climate ambitions, and varying stages of development are preventing greater convergence among markets. Voluntary carbon markets where governments, organizations, and individuals can purchase credits at will, also tend to be fractured, in part because of the sheer number of actors who operate within them.

As a result, buyers, sellers, and intermediaries may find it challenging to monitor and validate underlying credits in a systematic, credible, and consistent way. This has introduced possible reputational risks and contributed to lower demand: some companies, for example, have stopped including carbon credits in their climate pledges and net-zero targets altogether. Such reluctance from potential buyers may also be keeping carbon prices low.

ENABLERS OF GLOBAL CARBON MARKETS

One important tool to elevate the effectiveness of carbon markets and enable greater cross-border trading is the Paris Agreement Work Program, particularly the guidance on cooperative approaches under Article 6.23 and the rules, modalities, and procedures for the Article 6.4 mechanism set up a functional architecture for implementing international carbon markets and clarify how governments should account for credits in national emissions targets. Through cooperative approaches to transfer carbon credits between countries, known as internationally transferred mitigation outcomes.

In addition to the United Nations efforts, industry associations and other global organizations are also advancing initiatives to help bolster market transparency, foster innovation, and deliver carbon credit benefits. Private-sector groups, such as the supply-side-focused Integrity Council for the Voluntary Carbon Market and the demand-side-focused Voluntary Carbon Markets Integrity Initiative, are working to build trust in the supply of carbon credits and guide businesses on how to use them in their net-zero pathways. Other groups are piloting novel approaches to refine carbon trading operations and enhance their outcomes.

At the start of 2024, more than two dozen compliance markets operated around the world, and several more are expected to launch in the coming years. These include:

- Cities such as Shenzhen and Tokyo.
- States and provinces, such as California, Quebec, and Guangdong.

Table 1: Carbon markets Status and Voluntary Credits allowed for compliance.

Country	Carbon Market Status	Voluntary offsets allowed for compliance
Australia	Functional carbon market since 2012	No international Voluntary carbon market offset
New Zealand	Functional ETS since 2008	No offsets
South Korea	Functional ETS since 2015	KOC up to 5% allowed
Japan	Functional carbon tax since 2012, ETS to start 2028-29	J -Credits
Malaysia	ETS estimated to start by 2028	International VCM credit trading only
Indonesia	Functional ETS since 2023	No offsets
India	ETS to start 2026	No offsets
China	ETS since 2021 (power sector only)	CCER upto 5% allowed
Thailand	Voluntary ETS since 2013	T-VER credit to be allowed
Singapore	Carbon tax	Offset upto 5% allowed
EU ETS	Functional ETS since 2025	No offsets
Switzerland	Functional ETS since 2008	No offsets
UK	Functional ETS since 2021	No offsets
Sweden	Carbon Tax since 1991	No offsets
Finland	Carbon Taz in 2022	No offsets
Germany	Functional ETS since 2021	No offsets
US-RGGI	Functional ETS since 2009	Offset 3.3% allowed
US_California	Functional ETS since 2013	Offset below 8% allowed
Canada	Mix of ETS and Carbon Tax	Offsets allowed
Mexico	Functional ETS since 2023	Offset up to 10% allowed
Brazil	Voluntary ETS since 2013	Offsets to be allowed
Colombia	Carbon tax, offset scheme, ETS under planning	Offsets allowed
Chile	Carbon Tax, ETS under planning	Offsets to be allowed

- Nations, such as Mexico, South Korea, and New Zealand; and
- Supranational entities, such as the EU Emissions Trading System (ETS).

To facilitate greater market integration, many G20 governments are starting to link their compliance markets. This move can bring several potential benefits, including expanding their scope of coverage and enabling progress in local jurisdictions, such as states or cities, where national-level mandatory climate action may not be feasible.

Linking markets can also lead to price convergence. Establishing a common carbon price across systems can minimize price fluctuations and increase liquidity. Additionally, linkages can cause the overall cost of emissions to fall by allowing companies in regions with higher abatement costs to purchase allowances from regions where abatement is cheaper. This, in turn, can prompt countries to set more ambitious climate targets for their public and private sectors. A 2017 study found that an international linkage of worldwide ETSs could reduce the total expense of achieving NDCs by 32% before 2030, and by 54% before 2050 (ICAP, 2023).

INTERLINKAGES AMONG EMERGING CARBON MARKETS

The linkage between the cap-and-trade systems in the state of California, US, and the province of Quebec systems in Canada is an example of a relationship that delivered value to both entities by significantly reducing emissions while generating billions of US dollars in revenue. The initiative has been so successful that the state of Washington is considering joining, near-

ly a full decade later. These jurisdictions are also considering states and provinces beyond North America and may soon try to recruit additional states within Mexico and Brazil.

States in the Northeast United States are also espousing the benefits of linkages. New York, for example, is already part of the 12-state Regional Greenhouse Gas Initiative (RGGI), which sets regional caps on emissions from power plants. Its forthcoming “cap-and-invest” program seeks to return one-third of revenues to consumers, while the rest would support renewable energy projects. This revenue model is like California’s cap-and-trade system that funds the Greenhouse Gas Reduction Fund, which has generated US\$9 billion for investments in energy efficiency, public transit, and affordable housing. The governor of New York has indicated that its program will be designed to easily link with other jurisdictions.

There are also varying degrees of linkages that jurisdictions can pursue, depending on their capabilities and how closely they wish to be interlinked. Direct or “full” linkages permit jurisdictions to buy and sell allowances across trading systems. The Swiss ETS and the EU ETS have a direct linkage that creates a single carbon price and permits members to use allowances in both systems. The UK ETS, which was created in 2021 after Brexit, may seek a direct link with the EU ETS, or possibly a new multilateral arrangement altogether. Indirect linkages, on the other hand, are less formal but can involve sharing design elements, leading practices, or experiences and information.

When China was setting up its new carbon market, the state of California offered

advice on design, reporting and verification protocols, and enforcement mechanisms. As a result, the California-Quebec carbon market and Chinese ETS have similar emission thresholds and reporting requirements, and firms doing business in China and California may swap or trade credits from one carbon market for credits in the other through structured financial deals. Eventually, the governments may seek a more direct linkage.

National-level cap-and-trade programs can also embed Article 6.2 accounting principles into their linking agreements so the resulting change in emission flows is reflected in their NDC calculations. Although Article 6.2 provisions are not a prerequisite for linkages, they can help reduce the risk of double counting and make it easier for countries to stay on track toward NDCs. When negotiating new forms of voluntary cooperation, leaders can incorporate Article 6.2 through memorandums of understanding, treaties, or informal agreements, as Singapore did with countries such as Bhutan, Cambodia, Colombia, Kenya, Peru, and Sri Lanka. These agreements can add more credibility to carbon market collaborations since Article 6.2 accounting, reporting, and disclosure obligations were designed to boost transparency and environmental integrity.

Linkages may be easier to establish between countries nearby, especially if they share similar environmental goals, economic backgrounds, and histories of mutually beneficial trade agreements. The linkage of the EU’s carbon market with the Swiss market is an example of a relationship that has benefited from existing ties. Carbon markets are also easier to converge when they have compatible design

»There are also varying degrees of linkages that jurisdictions can pursue, depending on their capabilities and how closely they wish to be interlinked.«

and market structures, including similar methodologies for certifying carbon credits, platforms for storing registry data, and penalties for noncompliance (Kachi, 2015).

Moreover, linkages cantered on regional hubs can harmonize governance and design frameworks, as several US and Canadian jurisdictions did when drawing up the Western Climate Initiative (WCI). This program design not only laid the groundwork for California and Quebec’s partnership, but has also been used as the model for carbon markets in British Columbia, Manitoba, Ontario, New Mexico, and Washington state. Some jurisdictions in Latin America are also considering entering the WCI, which could open the door to more Pan-American linkages.

Other parts of the world are also making moves to become carbon-trading hot spots. Singapore, for example, is heavily investing in its capabilities, building upon its experience in commodities trading in the hopes of emerging as the central trading hub within Asia. And during the

»The G20 can play a pivotal role in fostering robust and inclusive carbon markets. Here are some key recommendations for coordinated actions.«

inaugural African Climate Summit, Kenya signaled its intention to become the continent's carbon trading powerhouse. The country's new Climate Change Act will introduce a national carbon registry and help regulators guide participation in global carbon markets, including through Article 6 mechanisms. These efforts could be impeded by countries imposing trade restrictions that keep the social benefits of emission-reduction projects within their borders. Malawi, Zambia, and Zimbabwe are redirecting revenues from projects to local stakeholders, for example, while India and Papua New Guinea have temporarily banned external sales entirely.

Creating new regional carbon markets or facilitating greater integration among them can create a common infrastructure, align pricing mechanisms, and attract new players (White and Krukowska [2023]). These regional markets could eventually serve as the groundwork for a global trading regime, helping ensure that countries are better prepared for greater market convergence.

CHALLENGES IN CARBON MARKETS TO ACHIEVE GREATER INCLUSIVITY AND RECOMMEND G20 ACTIONS.

The G20 economies together will account for 85% of the world's emissions in 2030 and their alignment on a carbon price floor could advance climate equity, given their record of historical emissions. However, there are three challenges with the carbon market development toward a Net Zero economy.

- **Transition Costs:** Shifting towards a net zero economy may require upfront investments, potentially impacting some sectors and communities negatively.
- **Equity Considerations:** Ensuring a just transition requires a fair distribution of the benefits and burdens of carbon pricing. Developing countries may require financial and technological support to participate effectively.
- **Market Design:** Designing carbon markets that are transparent, efficient, and avoid market manipulation or greenwashing is crucial.

The G20 can play a pivotal role in fostering robust and inclusive carbon markets. Here are some key recommendations for coordinated actions.

Harmonization and Standardization: Establishing harmonized standards for carbon credits across G20 nations ensures environmental integrity, avoids double counting of offsets, and promotes market transparency.

Financial Instruments and Capacity Building: Supporting developing countries through financial instruments like dedicated transition funds and capacity-building initiatives can facilitate their participation in the carbon market.

Technology Transfer and Collaboration: Accelerating technology transfer and promoting international collaboration in clean technologies benefits both developed and developing nations while fostering innovation.

Policy Alignment and Regulatory Clarity: G20 collaboration in developing clear policies and regulations for carbon markets can attract investments and ensure market stability.

Aligning net zero goals with inclusive economic growth requires a multi-pronged approach. Well-designed carbon markets are an essential tool in this endeavor. By fostering international cooperation, promoting innovation, and prioritizing inclusivity, the G20 countries can unlock the full potential of carbon markets for a sustainable and prosperous future.

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Increasing and Improving climate finance in Africa

Europe and the G20 Can and Should Do More to Support Climate Finance in Africa

Opinion piece

Author:



Ameer Chughtai
Researcher, European
Council on Foreign Relations

Institution:



The European Council on Foreign Relations (ECFR) is an award-winning international think-tank that aims to conduct cutting-edge independent research on European foreign and security policy and to provide a safe meeting space for decision-makers, activists and influencers to share ideas. We build coalitions for change at the European level and promote informed debate about Europe's role in the world.

Keywords:
climate finance, World Bank, Africa, Europe

INTRODUCTION

Africa's climate needs are growing in a time of international crisis. 17 of the 20 countries most threatened by climate change are African (UNECA, 2023). The catastrophic effects can be seen now, with the Horn of Africa facing its longest drought in 40 years and desertification fueling conflict in the Sahel (House of Lords, 2023).

African countries cannot avert catastrophe on their own, with significant shortfalls in climate finance playing hampering action. Indeed, the current shortfall in climate funding is enormous. African countries will need 2.8 trillion USD, or 280 billion a year, between 2020 and 2030 to meet their needs for mitigation and adaptation in line with the Paris Agreement (CPI, 2022). It is estimated that African countries will be able to put together 286 billion in this decade, meaning other sources will need to provide 2.5 trillion USD. Any external funding that comes in to support African countries, even if is not explicitly tied to climate, will support them in reaching their climate goals.

Currently, two key problems hold back African countries from reaching their climate finance needs. One is that there is simply not enough money available for African countries to fund, implement, and scale up climate projects vital for their development. European countries and the G20 need to step up the financing available to African countries. To do so, they should focus limited resources where they are needed most and explore innovative financial mechanisms. Secondly, a large amount of climate finance to Africa is currently spent inefficiently. Too many scarce resources flow to projects or countries

where they are not as needed or are used in ways that do not maximize their impact. For African countries to meet their climate goals, these scarce resources need to be used as efficiently as possible.

WHY EUROPE AND THE G20?

The G20 has an obvious role in supporting climate finance in Africa. As the world's premier forum for international economic policymaking and cooperation, the G20 should be at the heart of the action.

But European countries, with their extensive presence in the G20, should drive the pursuit to ramp up external financing to Africa. One clear reason for doing so is equality and fairness. The fact that Africa has emitted less than any other continent yet remains the most vulnerable to climate change gives a moral imperative to Europe's climate finance efforts (Al Jazeera, 2023). But there are also geopolitical considerations. The sharp reduction in Chinese lending to Africa offers an opportunity for European countries to reassert and strengthen their role as Africa's premier economic partner. And as significant

»European countries, with their extensive presence in the G20, should drive the pursuit to ramp up external financing to Africa.«

»However, all the potential external funders for climate projects are unlikely to significantly increase their funding in the short-to-medium term.«

shareholders in the World Bank and IMF, European countries also have the means to make it happen.

To be effective in ramping up climate finance, Europe and the G20 need to pick their battles. Currently, policy discussions on climate finance mention a broad array of proposals without recognizing how limited financial resources are. To both increase and maximize climate finance, European countries and the G20 need to select a series of policies to push and agendas to advocate.

Despite all the challenges, the World Bank and International Monetary Fund remain the best mechanisms for Africa to reach its climate finance goals. With their past and proven ability to leverage their paid-in capital to lend to developing countries, the two bodies have the best chance to channel and maximize the financing to African countries.

BARRIER 1: STRAINED BUDGETS

The most obvious solution to filling the funding gap is increasing the amount of

financing that goes to African countries. Funding can come in many forms, either in concessional loans from multilateral development banks, subsidies for these loans from wealthy countries, or even direct grants.

However, all the potential external funders for climate projects are unlikely to significantly increase their funding in the short-to-medium term. “Higher-for-longer” interest rates have meant that most African countries find it more expensive than ever to borrow to fund climate projects in Africa. The very same factors, along with the Russian invasion of Ukraine, have meant that national budgets in European countries are strained, leading to a sharp reduction in overseas development assistance (ODA). Indeed, the UK, France, and Germany have all radically slashed their spending on aid in recent years (Quinn, 2023; Bollag, 2024; Bollag, 2024a).

The World Bank is also unlikely to be able to significantly increase its lending in the same timeframe, due to geopolitical competition between US and China. China would likely make any significant capital increase depending on a big increase in Beijing’s share. And with ties strained between the two superpowers, the US is unlikely to agree to any change in the shares at the World Bank and IMF.

BARRIER 2: INEFFICIENCY

Given the limited nature of resources available, international policymakers need to maximize the financing available and allocate funds efficiently. This is particularly important for concessional finance. Concessional finance refers to grants or lending below market rates. This is typically done by multilateral development

banks and other financial institutions. The most significant example is the International Development Association (IDA), the World Bank’s concessional lending arm. This concessional lending is particularly important as it is often the only source of financing, climate or otherwise, for the poorest countries in the world.

However, as MDBs need to pay back their own creditors at market rates, they require additional funding to supply below-market-rate loans. As a result, donors from developed countries pay subsidies to make up the difference. However, as subsidies are limited, MDBs cannot lend concessionally unlimitedly. Ideally, all African countries could receive concessional lending and grants to fund their climate projects, but there are not enough resources to make that possible.

However, development banks and financial institutions allocate concessional financing inefficiently in two key ways. One layer of inefficiency is that concessional financing flows largely to relatively wealthy and high-emitting middle-income countries. Indeed, 10 countries attract over half of climate finance in Africa (CPI, 2023). While these countries all have significant climate needs, the overfocus of climate finance in these countries means that other countries invariably lose out. Another layer is thematic. Too much concessional financing goes toward mitigation, rather than adaptation. Indeed, even in low-income countries in Africa with few emissions to mitigate, not enough attention and resources are paid towards adaptation projects (Dimond, 2023).

This is important as adaptation projects are much more difficult to finance from private sources. This is primarily

because most adaptation projects do not produce any revenue, complicating their bankability (Arcanjo, 2023). A typical adaptation project, such as the use of floodwalls, cannot produce any money to repay a private creditor. As a result, adaptation projects typically rely more on public money. This is not to say, however, that adaptation projects do not provide significant value for money. Indeed, modeling suggests that adaptation projects provide strong economic benefits for an economy (Iltis-Vasquez and Saghir, 2023). Indeed, the principal reason for a lack of investment in adaptation is that these benefits are accrued publicly, rather than privately, deterring investors.

»Given the limited nature of resources available, international policy-makers need to maximise the financing available and allocate funds efficiently.«

The need for adaptation projects is also most acute in the lowest-income African countries, meaning that these countries face a double shortfall in climate financing. Data from the Notre Dame Global Adaptation Initiative show that African countries make up 8 of the 10 countries most

vulnerable to climate change and that a significant factor in this vulnerability is that these countries have limited state capacity to respond to climate shocks (ND-GAIN, 2023).

THE DECISIVE YEAR FOR CLIMATE FINANCE.

2024 can be the decisive year for climate finance. With Brazil hosting the G20 summit in November, the African Union in its first full year as a G20 member, the IDA21 replenishment, and COP29 in Baku due to focus on climate finance, the time has come for G20 member states to increase and improve climate finance flows to Africa.

There should be three key policy foci. The first is for European countries and the G20 to commit the required resources to the upcoming IDA replenishment. IDA remains a lifeline to many of the most climate-vulnerable countries in Africa, but it depends on subsidies from developed countries to finance its below-market interest rates. This financing occurs in a “replenishment cycle” every 3 years, which falls in 2024. However, despite World Bank President Banga calling for a “record” replenishment, waning development financing may lead to smaller-than-normal funding for IDA (Lawder, 2023). The G20, which makes up the bulk of the largest donors to IDA, should resist this temptation.

»2024 can still prove to be the decisive year for climate finance.«

IDA provides exceptional value for money, and with its ability to leverage 4 dollars in lending for every dollar committed, there are not many better places for development financing available (Songwe and Aboneaaj, 2023).

Second, European and G20 policymakers can increase climate finance in Africa through the use of innovative financial instruments and mechanisms. The most prominent of these has been Special Drawing Rights (SDRs), a type of reserve currency issued by the IMF. Following the COVID-19 pandemic and the issuing of 650 billion USD in SDRs, the G20 committed to rechanneling 100 billion in SDRs to developing countries, many of which are in Africa. To do so, the IMF set up the Resilience and Sustainability Trust, with a specific climate focus, to complement the pre-existing Poverty Reduction and Growth Trust. However, since the initial drive to use SDRs to support developing countries, less than 1 billion USD of the original 100 billion has reached its intended recipients.

The proximate reasons for SDRs not living up to their original promise are technical, but the underlying reasons are political. The changes required to rechannel SDRs are difficult, complicated, and expensive, but they are not insurmountable to a motivated G20. Proposals such as SDR-linked bonds and hybrid capital show potential pathways that European countries and the G20 should support and implement (Setser and Paduano, 2023; Paduano, 2024). Doing so will ramp up climate financing to Africa in the time that it needs it most.

Third, it is also necessary for the G20 to support the World Bank's development arms to drive resources to where they are

needed most. This means that a greater share of financial resources for climate projects needs to flow to low-income countries, who have few means to fund their projects. Grants need to be more focused on adaptation projects, and inevitably, a smaller proportion of financing should be allocated to middle-income countries.

CONCLUSION

In many ways, the current economic backdrop makes funding climate projects in Africa harder than ever. Increased geopolitical competition, a financial shift toward military budgets, and tight monetary policies globally make finding money for climate in Africa extremely difficult. But in the African Union's first full year as a member of the G20, Africa's climate needs will continue to rise in the international agenda.

Despite the difficulties, Africa can meet its climate needs, but it requires European countries and the G20 to support its efforts. To do so, European countries should focus their resources where they are needed most and where they can have the most impact. This should include the pooling of resources on the IDA replenishment and using innovative financial mechanisms to increase the amount of financing that the World Bank and IMF can lend. Efficiency will also play an important role. Concessional financing has to flow where it is needed most, namely to fragile, low-income countries and adaptation projects.

2024 may prove to be the decisive year for climate finance. However, European countries and the G20 are in danger of missing the chance to secure more and better climate finance for Africa. Forgoing this opportunity will endanger the lives

and livelihoods of Africans across the continent and weaken Europe's role as Africa's premier economic and political partner.

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Brazil's Energy Evolution

From Poverty to Green Jobs: Brazil's Sustainable Shift

Opinion piece

Author:



Adriano Correia
Head of Energy, Utilities &
Resources, PwC Brazil

Institution:



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INTRODUCTION

In the vast and vibrant Brazil, a country known for its breathtaking landscapes and pulsating culture lies a critical challenge that impacts millions of its citizens and the global community alike: the quest for sustainable energy and social equity. As the world grapples with the urgent need for clean energy solutions and the reduction of carbon footprints, Brazil's story offers a unique perspective on the intersection of environmental sustainability, economic growth, and social justice.

Despite significant advancements in renewable energy technologies and green job creation, Brazil confronts the persistent issues of energy poverty and environmental degradation. For many Brazilians, the cost of electricity and gas consumes a substantial portion of their income, forcing difficult choices between essential needs like food and keeping their homes powered. This situation is further complicated by the country's reliance on resource-intensive industries, which, while economically significant, pose challenges to environmental preservation and equitable social development.

As we delve into Brazil's energy landscape, it's essential to recognize the individuals and communities at the heart of this narrative. Women, who disproportionately bear the burden of energy poverty, Indigenous peoples facing the threat of land dispossession, and workers navigating the transition to green economies emerge as central figures in the pursuit of a just and sustainable energy future.

This introduction serves as a gateway to understanding the complexities of Brazil's energy dilemma and the efforts to forge a path towards a greener, more inclu-

sive society. Through a detailed exploration of Brazil's challenges, achievements, and the ongoing transformation in its energy sector, we aim to shed light on the broader implications for global environmental policy, social equity, and the collective responsibility towards our planet.

ENERGY POVERTY IN BRAZIL

Energy poverty, a term that encapsulates the struggle of households to afford their electricity and gas bills, has increasingly become a pivotal concern for Brazilian society.

In 2022, an eye-opening survey conducted by the Instituto Clima e Sociedade (ICS) uncovered a stark reality: nearly 46% of Brazilian families were allocating half or more of their income to cover energy costs.¹ This financial burden is not evenly distributed across the population. It disproportionately impacts those at the intersections of vulnerability - women, mothers, and black people - who are more likely to bear the brunt of the electricity divide.

The consequences of energy poverty extend beyond the immediate financial strain. It has broader social implications, intricately linked to about 3.2 million premature deaths globally each year due to the use of unclean cooking fuels, with women and children being the most affected.² In Brazil, the scarcity of accessible and affordable electricity forces approximately 14 million households to rely on alternative sources such as wood or coal for cooking.³ This not only poses severe health risks due to indoor air pollution but also perpetuates a cycle of time and resource poverty, particularly among women who are often responsible for gathering these materials.

Moreover, the intermittent or poor quality of electricity supply in certain areas hinders economic opportunities, particularly for those working from home. Whether it's the production and sale of food, manual services, or computer-based work, reliable energy is a cornerstone of household income generation and social mobility.

»The consequences of energy poverty extend beyond the immediate financial strain.«

The stark reality faced by 22% of Brazilians, who have had to forgo purchasing basic food items to keep their utilities running, illuminates the gravity of energy poverty.⁴ This forced choice between sustenance and electricity highlights an urgent need for solutions that address both the symptoms and the underlying causes of energy poverty in Brazil.

As Brazil stands at a crossroads, grappling with the multifaceted challenges of energy poverty, it is imperative to seek comprehensive strategies that not only alleviate immediate financial burdens but also ensure long-term sustainable and equitable access to energy for all citizens. The journey towards overcoming energy poverty in Brazil is not just about lighting homes but igniting hope and empowering communities to thrive in a modern, inclusive economy.

THE RISE OF GREEN JOBS

The global shift towards sustainability and environmental stewardship has given rise to an important economic and social phenomenon: the proliferation of green jobs. In Brazil, a country blessed with rich biodiversity and vast renewable energy resources, the green job sector represents a beacon of hope and opportunity amidst the challenges of energy poverty and environmental degradation. This burgeoning sector not only promises to drive economic growth but also to play a crucial role in Brazil's transition to a more sustainable and equitable future.

Green jobs, as broadly classified by the International Labour Organization (ILO) in 2010, encompass positions within green economic activities. These jobs aim to improve environmental quality, reduce energy, materials, and water consumption through high-efficiency strategies, decarbonize the economy, and minimize or altogether avoid all forms of waste and pollution. In Brazil, this definition takes on a unique significance given the country's environmental assets and the pressing need to address its socio-economic challenges.

In 2008, ILO estimates suggested that Brazil was home to approximately 1.4 million formal green jobs, accounting for 3.6% of all formal employment in the nation. An even broader definition expanded this number to 4.8 million jobs or 12% of Brazil's total formal employment.⁵ These figures underscored the already significant role of green skills and jobs in Brazil's economy, a trend that has only grown as the country seeks to balance economic development with environmental sustainability.

The rise of green jobs in Brazil is not just a testament to the country's evolving labor market but also a critical component of its strategy to combat environmental degradation and promote social inclusion. The transition towards a green economy presents an opportunity to address several pressing issues simultaneously: reducing carbon emissions, conserving natural resources, and generating sustainable livelihoods, especially for the most vulnerable segments of society.

Green jobs span a wide array of sectors, from renewable energy production and energy efficiency to sustainable agriculture, forestry, waste management, and environmental conservation. These sectors not only contribute to mitigating climate change and protecting ecosystems but also offer pathways to diversify the economy and reduce dependence on natural resource-intensive industries.

Despite the potential of green jobs to drive positive change, Brazil faces several challenges in fully realizing this potential. The controversial classification of certain jobs as "green" underscores the complexity of defining and measuring the impact of these roles. Moreover, the transition to a green economy requires significant investment in education and training to equip the workforce with the necessary skills. This is particularly important as the country navigates the twin challenges of economic recovery and environmental sustainability.

However, the opportunities presented by the green job sector are immense. By investing in green technologies and skills, Brazil can not only enhance its environmental credentials but also create a more inclusive and resilient economy. This involves not just creating new jobs but also

greening existing ones, ensuring that all sectors of the economy contribute to a sustainable future.

SKILLS FOR GREEN JOBS

The demand for a workforce equipped with green skills is rapidly growing. These skills, which range from renewable energy technology to sustainable agriculture practices, are crucial for the development, deployment, and maintenance of green jobs across various sectors. However, the current availability of such skills in the Brazilian labor market is insufficient to meet the burgeoning demand. This gap underscores the necessity for robust, responsive TVET (Technical and Vocational Education and Training) systems capable of preparing the workforce for the future of green employment.

TVET institutions are uniquely positioned to bridge this gap by offering specialized training and education programs focused on the competencies required for green jobs. This includes not only technical skills but also soft skills such as adaptability, problem-solving, and teamwork, which are equally important in the context of sustainable development.

Despite the clear need for enhanced education and training for green jobs, Brazil faces several challenges in realiz-

»The demand for a workforce equipped with green skills is rapidly growing.«

ing this vision. The economic slowdowns and recent recessions, coupled with high unemployment rates, have hampered progress towards a green economy and the development of green jobs. Moreover, budget cuts have strained the country's education and environmental protection sectors, posing additional hurdles to the advancement of green skills training.

However, these challenges also present opportunities for innovation and reform in Brazil's education system. There is a growing recognition of the need to realign educational programs with the demands of a green economy, which could drive significant improvements in TVET systems. This includes updating curricula to include green skills, investing in teacher training, and enhancing the infrastructure of educational institutions to better support practical, hands-on training in green technologies.

To leverage the full potential of green jobs, a concerted effort is needed from all stakeholders, including government, industry, educational institutions, and civil society. This entails not only increasing investment in TVET systems but also fostering partnerships between the public and private sectors to align training programs with the evolving needs of the green job market.

LAND MANAGEMENT AND STAKEHOLDER ENGAGEMENT

Brazil's land management challenges are as diverse as its ecosystems. From the Amazon rainforest to the Cerrado savanna, each area presents unique issues, including deforestation, illegal land grabs, and the unsustainable exploitation of natural resources. These challenges are exacer-

bated by economic pressures to expand agriculture and mining, often at the expense of environmental integrity and social equity. Moreover, the lack of clear land tenure and governance structures complicates efforts to implement sustainable land management practices.

One of the most critical aspects of these challenges is the impact on Indigenous lands, which are under increasing threat from deforestation and encroachment by agricultural and mining interests. Indigenous communities, with their deep-rooted connections to their territories and vast knowledge of sustainable land use, are essential allies in the preservation of biodiversity and the fight against climate change. However, their rights and contributions are often marginalized in decision-making processes.

Recognizing the complexities of land management in Brazil, several strategies have emerged to promote sustainability while enabling social justice. Central to these strategies is the principle of inclusivity, ensuring that stakeholders, especially Indigenous peoples and local communities, are actively involved in the planning and implementation of land management policies.

Inclusive approaches are key to sustainable land reform. This mantra underscores the importance of collaborative governance models that prioritize dialogue and partnership. By involving Indigenous communities, local farmers, environmental organizations, and the private sector, Brazil can develop land management practices that are both environmentally sustainable and socially equitable.

Key to these efforts is the legal recognition and protection of Indigenous lands.

Securing land rights for Indigenous peoples not only safeguards their way of life but also promotes the conservation of critical ecosystems. Moreover, integrating traditional knowledge with modern conservation science can offer innovative solutions to land management challenges.

Another essential strategy is the implementation of sustainable agricultural practices that balance productivity with environmental preservation. This includes agroforestry, organic farming, and the restoration of degraded lands, which can enhance biodiversity, improve soil health, and increase carbon sequestration.

Stakeholder engagement extends beyond consultation to active participation in decision-making processes. This requires transparent mechanisms for dialogue and the establishment of multi-stakeholder platforms that facilitate the exchange of knowledge and experiences. Furthermore, capacity-building initiatives can empower communities to advocate for their rights and interests, ensuring their voices are heard in land management debates.

CONCLUSION

Brazil stands at a pivotal moment in its journey toward sustainable development, facing the dual challenge of addressing energy poverty and seizing the opportunities presented by the transition to a green economy. This narrative has explored the complex landscape of Brazil's energy challenges, underscored the transformative potential of green jobs, and highlighted the critical role of sustainable development in shaping the country's future.

Sustainable land management and the engagement of Indigenous peoples and local communities are indispensable

in Brazil's green transition. Inclusive approaches are key to sustainable land reform, enabling policies and practices that respect the rights and knowledge of those who have stewarded these lands for generations. The challenges of transitioning to a green economy are significant, from overcoming dependency on resource-intensive economic activities to enacting comprehensive policy reforms. However, Brazil's potential leadership in renewable energy and the crucial role of stakeholder engagement provide a clear direction forward.

»Inclusive approaches are key to sustainable land reform.«

Policy, education, and stakeholder engagement emerge as foundational pillars in navigating Brazil's transition. Strengthening environmental legislation, investing in technical and vocational education to support green jobs, and fostering inclusive dialogue among all stakeholders are essential steps. This holistic approach enables Brazil's green transition to be not only environmentally sustainable but also socially equitable.

As we consider the interconnectedness of these issues, it becomes clear that the journey toward a sustainable future is a collective endeavor. It requires the commitment of government, industry, civil society, and individuals alike. A call to action resonates for all stakeholders

to consider the importance of sustainable development and equitable energy access. By prioritizing policies that support green jobs, investing in education to equip the workforce for the future, and engaging all segments of society in the dialogue, Brazil can chart a course toward a more sustainable, inclusive, and prosperous future.

In closing, let us remember that the transition to a green economy in Brazil is not merely an environmental or economic issue—it is a profound opportunity to redefine the social contract for a new era. It offers a chance to address longstanding inequities, empower communities, and weave a new narrative of development that places people and the planet at its heart.

¹ Pavanelli, Patricia and Vanderlei, Aline [2022]. “Pesquisa Crise Energética”. IPEC - Inteligência em Pesquisa e Consultoria. Page 46

² World Health Organization [2023]. Household Air Pollution <https://www.who.int/news-room/fact-sheets/detail/household-air-pollution-and-health>

³ Pesquisa Nacional por Amostra de Domicílios Contínua (PNAD Contínua). IBGE - Instituto Brasileiro de Geografia e Estatística [2019]. Available on: <https://www.ibge.gov.br/estatisticas/multidominio/condicoes-de-vida-desigualdade-e-pobreza/17270-pnad-continua.html?edicao=24437&t=resultados>

⁴ Pavanelli, Patricia and Vanderlei, Aline [2022]. “Pesquisa Crise Energética”. IPEC - Inteligência em Pesquisa e Consultoria. Page 37

⁵ International Labor Organization [2018]. Skills for Green Jobs in Brazil.

Advancing Just Energy Transitions

Community Energy Projects in Central and Eastern Europe

Policy brief

Authors:



Gesa Geißler
Professor and Chair,
Environmental Assessments
Research Group, Technische
Universität Berlin



Roland Lleshi
Scientific Researcher,
Environmental Assessments
Research Group, Technische
Universität Berlin

Institution:



The Technische Universität Berlin (TU Berlin) is one of the leading technical universities in Germany and Europe. TU Berlin has a long and rich tradition and is recognized globally as an excellent research university. Our goal is to continue to develop science and technology for the benefit of our society. The Environmental Assessments Research Group at TU Berlin investigates governance instruments assessing environmental impacts of public and private policies, plans, programs, and projects aiming at informing public participation and improving decision-making.

Keywords:

citizen-led energy initiatives, community engagement, renewable energy

INTRODUCTION

Moving our societies to carbon neutrality is a huge challenge but crucial in reaching climate mitigation goals. Part of this challenge is to decarbonize the electricity, heating, and transport sectors, e.g. by shifting to renewable energy sources (RES), investing in crucial electricity grids, and improving energy efficiency. In order to be able to realize these changes on the ground we need to be fair and inclusive towards citizens. One approach to engaging citizens actively in the energy transition is to broaden their role from being energy consumers to also being energy producers—labeled as “prosumers” (Campos & Marín-González, 2020). Since the first citizen-owned wind farms in Germany emerged in the 1990s and 2000s, “community energy” or “citizen energy”¹ have become concepts widely known and researched (Van Der Schoor & Scholtens, 2019). Community energy projects thrive across Western and Northern Europe. By 2050, they could supply 37% of the total European energy (Caramizaru & Uihlein, 2020; REScoop MECISE, 2019).

In Central and Eastern Europe (CEE)² the role of communities in shaping and driving the energy transition is recently gaining prominence in many countries (Orhan Seda, 2022). This region stands at a critical juncture in its journey to develop a diversified energy system, with more RES solutions, and facing numerous challenges in involving citizens in the energy transition process (Mišík & Oravcová, 2021).

This policy brief delves into the situation of community energy initiatives in CEE countries, highlighting ongoing research and capacity-building efforts on commu-

nity energy initiatives supported by the German Federal Environmental Foundation (DBU)³ and draws conclusions from a review of ongoing activities.

WHAT IS COMMUNITY ENERGY AND WHAT ARE THE BENEFITS AND CHALLENGES IN PRACTICE

Community energy initiatives represent situations in which a group of engaged citizens join forces to meaningfully invest in the energy sector, distinguished by their commitment to local ownership, decentralized electricity production for the local benefit, and characterized by democratic governance and active community engagement (REScoop, 2019). The benefits associated with community energy initiatives are manifold (Busch et al., 2021), ranging from reduced energy costs and stimulating the local economy through job creation, to empowering citizens and communities by democratizing energy governance. Moreover, citizen engagement in decision-making processes can ensure that energy solutions align better with local needs and preferences, fostering a collaborative spirit that strengthens social ties and the overall well-being of the community (Shortall et al., 2022). Additionally, these initiatives can help achieve a greater societal acceptance of overall RES projects and demystify renewable technologies as a result of direct involvement (Azarova et al., 2019). Energy communities can take different organizational forms such as associations and cooperatives (Caramizaru & Uihlein, 2020), and can be supported by various governmental instruments (Leonhardt et al., 2022).

Since 2019, EU frameworks have recognized energy communities. The Clean

»Community energy projects thrive across Western and Northern Europe. By 2050, they could supply 37% of the total European energy.«

Energy Package established citizens' and communities' rights to become prosumers. This encompasses two EU legal categories: Renewable Energy Communities (RECs) and Citizen Energy Communities (CECs), defined respectively in the revised Renewable Energy Directive (EU) 2018/2001 and the revised Internal Electricity Market Directive (EU) 2019/944. Despite slight differences, both definitions emphasize that energy communities must prioritize environmental, social, or local economic values over just sole profits from investing in RES projects such as wind, solar, or bioenergy and others (Proka et al., 2022). Alongside EU efforts, various entities across Europe, such as umbrella organizations, cooperative networks, and funding institutions, have actively promoted and supported the expansion of energy communities (Debourdeau et al., 2024).

At the same time, energy communities in Europe also face numerous challenges. They include navigating complex regulatory settings, securing adequate financing, addressing technical expertise

gaps, ensuring electricity grid integration, overcoming social acceptance barriers, and competing in energy markets. These challenges underscore the need for supportive policies, financial incentives, information and capacity building, technical assistance, and community engagement to enable energy community initiatives (Koukoulou et al., 2023).

COMMUNITY ENERGY INITIATIVES IN CENTRAL AND EASTERN EUROPE

Whether already part of the EU or aspiring to join, countries in CEE must pursue ambitious goals in achieving climate neutrality by 2050, following EU rules on climate, energy, and nature (European Commission, 2019). This is pressing given the region's heavy reliance on fossil fuels, such as in Poland, Czech Republic, Moldova, Serbia, Kosovo, and North Macedonia (Ember, 2023; Kardaś Szymon, 2024). Furthermore, some CEE countries are significantly impacted by energy poverty (lack of affordable energy services) including Bulgaria, Romania, Hungary, Albania, North Macedonia, and Montenegro (Heeman et al., 2022; Oikoplus, 2022). Additionally, the situation is exacerbated by frequent power outages in countries like Kosovo due to technical and financial difficulties, and Moldova primarily as a consequence of the Russian invasion of Ukraine (Bytyci, 2021; Jordan & McGrath, 2022).

The economic crisis sparked by the war in Ukraine has highlighted the importance of ramping up RES, along with energy efficiency. With fossil fuel prices fluctuating, and energy supply cuts and security issues, there is a pressing need to diversify the energy mix (Orhan Seda, 2022). CEE countries have the opportunity

to shift towards more RES, but also here uncertainties exist on affordability, technicalities, and environmental challenges.

One promising element of the solution for these countries might lay in citizen-driven energy communities that promote inclusive, democratic, sustainable, and decentralized energy systems. While CEE countries are still in the early stages of developing community energy initiatives, they are facing various financial, legal, and socio-technical barriers, with similar but also unique challenges, making generalizations difficult (Mišík & Oravcová, 2021). Transposing the EU legislation on energy communities into their legal framework is essential (Caramizaru & Uihlein, 2020). However, the regulatory frameworks of CEE countries present several challenges. The legacy of centralized energy systems from the socialist times is not fit to accept decentralized energy concepts - such as providing access of energy communities to the (often old) grid system (Anczewska et al., 2024). Financial support for energy communities is often not sufficient. Many people also don't know much about the concept of energy communities or don't understand their benefits in addition to the lack of trust for recently introduced EU policies and negative connotations with concepts such as "cooperatives" and collective ownership in post-socialist states (Lowitzsch et al., 2020; Spasova & Braungardt, 2021). Plus, technical skills and expertise are often missing (Orhan Seda, 2022). This diverse landscape of challenges spans the region, from Bulgaria to Hungary, Moldova, and Latvia to North Macedonia, showcasing a broad spectrum of environmental, socio-economic, and legal hurdles (DBU, 2024).

SUPPORTING COMMUNITY ENERGY UPTAKE IN CENTRAL AND EASTERN EUROPE

Numerous national and international entities, both public and private, play crucial roles in the development of energy communities in CEE countries. They provide legal, technical, and financial support, promoting a sustainable energy transition with citizens leading the way. The German Federal Environmental Foundation (DBU) is particularly focused on enhancing energy communities in the region in partnerships with local and international civil society, academia, and public and private institutions.

The diversity of approaches to supporting citizen energy initiatives can be clustered based on different characteristics. In this context, projects supporting the uptake of community energy initiatives can focus on societal awareness raising, capacity building, stakeholder engagement (empowering citizens), and environmental stewardship, or developing concrete model/pilot projects focusing on technological innovation, legal adjustment, economic empowerment, and knowledge exchange - often these characteristics are interlinked.

Based on this characterization, insights are provided from 13 DBU-funded projects supporting community energy concepts, running in 8 CEE countries (Albania, Czech Republic, Greece, Hungary, Latvia, Moldova, North Macedonia, and Slovakia). These projects aim to ramp up the participation of citizens and create the needed conditions for the establishment of innovative energy communities.

Capacity Building in Local Communities

Projects in Latvia and Moldova focus on building capacities for renewable energy

communities, especially in rural areas.⁴ From Latvia's efforts to promote renewable energy communities in rural regions via initiating dialogue processes to Moldova's focus on practical guidance and the development of rural bioenergy production via training of stakeholders and information events, these projects aim to enhance local capabilities, foster energy democracy, and promote environmental sustainability. Germany's positive experiences will be shared as good practices in both countries.

Developing Pilot Community Energy Projects

Projects in Greece, North Macedonia, and Moldova demonstrate concrete pilot initiatives.⁵ These range from developing the first community-led agri-photovoltaic (the co-production of solar energy and food) project in Greece and North Macedonia, the development of a citizen energy biomass pilot project in rural Moldova, and the installation of a PV-solar system on a building in North Macedonia combined with training courses on their use. Each pilot project explores innovative models of community energy, integrating renewable energy production with different practices or leveraging citizen engagement.

Empowering Marginalized and Under-represented Citizens

Projects in Albania and North Macedonia aim to empower marginalized and/or underrepresented citizens in the face of energy challenges and the transition to renewable sources.⁶ In Albania, the focus is on developing recommendations, policy advice, and training material for gender-just energy communities. This involves

engaging female rural entrepreneurs, low-income households, and young people. In North Macedonia, a project seeks to empower energy-vulnerable citizens of the Albanian minority by establishing energy communities, using the method of "*citizens' assembly*" at the municipal level.

Feasibility Studies for Integrating Energy Communities in Neighborhood Development

The focus of projects in the Czech Republic and Slovakia is on engaging stakeholders in the development of new districts encompassing decarbonized energy systems and exploring the potential of community energy.⁷ In Slovakia, a feasibility study examines the potential for the integration of energy communities in the development of new housing with an alternative heat and power supply at the neighborhood level in the Mayer Malacky district. In the Czech Republic, the project in the city of Židlochovice conducts a feasibility study for an energy community integrated into the development of a planned zero-energy district. Both studies aim to implement pilot energy community initiatives and to draw recommendations for comparable developments in these countries.

Institutionalizing Community Energy Capacities and Knowledge Exchange

Projects in Hungary and the Czech Republic, emphasize the creation and support of coordinating associations for energy communities as a means of fostering knowledge exchange and capacity building.⁸ The development of special institutions, in Hungary the municipal energy development agency and in the Czech Republic the Union of Community Energy shall

support the share of information about model community energy projects, financing opportunities, and manuals on how to set up community energy projects and shall serve as central hubs for community energy initiatives. Both projects draw on mutual knowledge exchange with German partners, making use of best practice examples by German NGOs.

CONCLUSIONS

Energy communities are crucial for advancing a just clean energy transition, yet their progress varies across CEE countries. In CEE countries, the development of energy communities is deeply influenced by historical legacies and present socio-economic conditions, with socialist and communist pasts influencing their establishment, compounded by limited capacity and fragmented understanding of newly introduced citizen-led energy concepts. Several national legislations recognize the importance of energy communities, with some, however, still overlooking the matter and adding bureaucratic hurdles. Socio-economic disparities hinder progress in some parts, particularly for marginalized citizens. Despite EU legislation supporting citizen participation in generating, consuming, and sharing electricity, further efforts are needed for the implementation of community energy initiatives on the ground. Unlike Western and Northern Europe's grassroots initiatives established for decades now, initiatives in CEE states are faced with a top-down approach to community energy mainly coming from recent EU legislation. Adopting EU legislation can be challenging often due to the lack of local contextualization, strict national legislation, overwhelmed

»To foster energy communities as enablers of just energy transition, it is important to develop targeted concepts tailored to the specific context.«

authorities without enough capacities, and infrastructure difficulties coupled often with socio-political resistance to change.

In a nutshell, to foster energy communities as enablers of just energy transition, it is important to develop targeted concepts tailored to the specific context. This can be done by supporting projects aiming at awareness-raising and capacity-building activities, best practice dissemination, scrutinizing policies and financial scarcities, and ultimately deriving valuable learning experiences. Sharing experiences and consolidating results between projects in CEE strengthens networking among stakeholders, promoting effective grassroots implementation of community energy initiatives. Finally, research on country-specific enabling and hindering factors is needed to support the adoption of tailored and evidence-based policies and regulations for the uptake of community energy initiatives.

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- ¹ We use the term “community energy” in this paper to account for the many different terms used in this context such as, “renewable energy communities”, “citizen energy communities”, “citizen energy”, “community-led energy initiatives” etc.
- ² CEE countries in this context are Albania, Bosnia and Herzegovina, Bulgaria, Croatia, Czech Republic, Estonia, Hungary, Greece, Kosovo, Latvia, Lithuania, Moldova, Montenegro, North Macedonia, Poland, Romania, Serbia, Slovakia, Slovenia, and Ukraine.
- ³ <https://www.dbu.de/en/promotion/project-funding/international-projects/citizen-energy/>
- ⁴ For Latvia, see <https://www.dbu.de/en/projektbeispiele/catalysing-and-building-capacities-for-renewable-energy-communities-in-rural-latvia/>. For Moldova, see <https://www.dbu.de/en/projektbeispiele/practical-guidance-on-community-energy-as-regional-self-help-in-moldova/> and <https://www.dbu.de/en/projektbeispiele/rural-biogas-plants-in-the-client-model-in-the-republic-of-moldova/>
- ⁵ For Greece, see <https://www.dbu.de/en/projektbeispiele/solar-community-garden-the-first-community-led-agrivoltaic-project-in-greece-and-north-macedonia/>. For North Macedonia, see <https://www.dbu.de/en/projektbeispiele/nostra-nova-domus-forging-more-effective-partnership-and-capacity-building-for-efficient-use-and-management-of-solar-energy/>. For Moldova, see <https://www.dbu.de/en/projektbeispiele/caz-cosnita-development-of-an-innovative-citizen-energy-model-for-rural-regions-of-the-republic-of-moldova-with-the-integration-of-municipal-and-sme-structures/>.
- ⁶ For Albania, see <https://www.dbu.de/en/projektbeispiele/gender-and-socially-just-energy-communities-in-albania/>. For North Macedonia, see <https://www.dbu.de/en/projektbeispiele/empowering-energy-vulnerable-citizens-by-establishing-energy-communities-in-north-macedonia/>.
- ⁷ For the Czech Republic, see <https://www.dbu.de/en/projektbeispiele/feasibility-study-community-energy-in-the-city-of-zidlochovice-czech-republic/>. For Slovakia, see <https://www.dbu.de/en/projektbeispiele/decarbonized-energy-system-and-possibilities-of-community-energy-for-the-new-district-mayer-malacky-slovak-republic-feasibility-study/>.
- ⁸ For Hungary, see <https://www.dbu.de/en/projektbeispiele/hu-ge-transformer-1-0-hungarian-german-cooperation-for-transforming-community-energy-1-0/>. For Czech Republic, see <https://www.dbu.de/en/projektbeispiele/communion-community-energy-unions-in-czech-republic-and-germany/>.

Climate Policy and Human Well-Being

Well-Being Outcomes Need to be a Central Consideration for Climate and Sustainability Policy

Research paper

Author:



Tabea Lissner
Research Director,
Global Solutions Initiative

Institution:



The Global Solutions Initiative (GSI) works towards a global economic system that benefits people and planet. Rooted in research, GSI brings together policy, academia, civil society, and the private sector to generate insights for better global governance. Founded in 2017, the Berlin-based independent, non-profit organization annually convenes the Global Solutions Summit, which serves as a steppingstone to the G20 and G7 Summits. GSI is led by Dennis J. Snower, Markus Engels, and Christian Kastrop.

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climate policy, climate modelling, human well-being, transformation

Climate change has fundamental repercussions on our current societal structures. Simply put, the transformation needed to reduce emissions to avoid catastrophic impacts requires fundamental changes in our economic system and lifestyles to achieve the transition to net zero. If emissions and temperatures continue to rise, impacts are projected to become increasingly catastrophic (Lenton et al., 2023; McKay et al., 2021; O'Neill et al., 2022). Transformational change is therefore not a choice as such: the choice lies between an orderly transition to climate-resilient and sustainable conditions or a disorderly and forced transition through increasingly catastrophic changes. The recent Intergovernmental Panel on Climate Change (IPCC) assessment reports on this in very clear terms: the costs of inactions for society, economy, and ecosystems far outweigh the costs of action (IPCC, 2023).

Recognition that the current economic focus on growth and GDP is a narrow representation of welfare and is therefore not a suitable measure for progress has been growing for decades (see e.g. Costanza et al., 2009; Hoekstra, 2019). As a result, different initiatives—from research to governments across all world regions and different levels of decision-making—have engaged in developing more inclusive measures of prosperity and human well-being and in outlining alternative economic paradigms, focused on human well-being (Hoekstra, 2019). The challenges arising from the current economic system are manifold and have led to many concurrent crises, such as poverty and inequality as well as increasing polarization or ecosystem degradation and biodiversity

loss. Climate change is one of the most immediate and potentially catastrophic outcomes of the current socio-economic system and paradigm and the urgency of addressing the climate crisis through decarbonization cannot be understated (IPCC, 2022a).

»Solutions to the climate crisis need to be measured against broader societal outcomes.«

A change in the socio-economic paradigm that ensures human and ecosystem well-being is put into focus is an essential ingredient in ensuring this transformation is socially just and environmentally sustainable. Solutions to the climate crisis need to be measured against broader societal outcomes to enable a transition that is cognizant of the polycrisis landscape (Homer-Dixon et al., 2021). Other global challenges that contribute to the current polycrisis equally require an urgent shift in the economic paradigm (Henig & Knight, 2023; Homer-Dixon et al., 2015, 2021).

G20 agendas over the past years have started to reflect the urgency of ambitious and sustained emission reductions and the energy transition; the number and coverage of climate policies within G20 countries have significantly increased over the last decades (Nascimento et al., 2022). While gaps in coverage remain and

»Climate policy is in a unique way responding to climate research and in particular also model outputs.«

current policies and commitments do not deliver on the global goal of limiting temperatures to 1.5°C (Fyson et al., 2021), the direction is clear. G20 priorities continue to focus on increasing ambition to tackle the climate crisis. The current Brazilian presidency also continues along this path and recognizes the importance of addressing questions of inequality and food security in this context, setting the scene for engagement in climate action across a broader spectrum of areas relevant to the socio-economic transformation. These G20 priorities also translate into the topical priorities addressed by the Brazilian Think20 (T20), where considerations of a shift in socio-economic boundary conditions for more sustainable development pathways feature centrally across all six Task Forces.¹

A common framing of well-being and progress that goes beyond purely economic considerations is essential to find adequate solutions to the current polycrisis and to inform the required economic paradigm shift. A focus on multidimensional concepts of human well-being provides an essential interface to ensure consistency across the solution space to tackle the multiple crises we are facing. This is also the case for the different policy areas rel-

evant to tackling the climate crisis. While emission reductions are key to ensure temperatures are limited to 1.5°C, investing in adaptation is becoming increasingly relevant, as impacts start to manifest in increasing intensity across the globe.

CONTEXT AND CONSIDERATIONS FOR BETTER REPRESENTING HUMAN WELL-BEING FOR EFFECTIVE CLIMATE POLICY

As a policy field that requires robust information about future outcomes of current decisions, climate policy is in a unique way responding to climate research and in particular also model outputs.

The different areas of climate research employ different (e)valuation and outcome measures, which are often difficult to reconcile. Where economic valuation, including GDP as a central measure, continues to dominate the Integrated Assessment Modeling (IAM) community (Markandya & González-Eguino, 2019), climate impacts are measured with a variety of different sector-specific measures (Byers et al., 2018) and results of economic impact valuation are characterized by a huge value spread (O'Neill et al., 2022). Neither of the two broader strands of model-based climate research is currently representing effects on environmental or well-being in a multi-dimensional manner.

Approaches to developing better measurements of prosperity have been on the rise over the last decades and a plethora of indices, theories, and policy concepts have been developed from as early as the 1950s (Hoekstra, 2019, 2022). Government initiatives to shift to multi-dimensional measures of progress are emerging across the globe, from national

measurement approaches to EU and UN-led initiatives.² Many approaches build on the Capabilities Approach, first developed by Sen and further developed by Nussbaum, which also provided the basis for the Human Development Index (Anand et al., 2005, 2009; Nussbaum, 2002, 2003). Measures of human well-being have been proposed in various climate and sustainability communities (see, for example, Creutzig et al., 2022, 2023; Lissner et al., 2015). The Years of Good Life (YoGL) approach focuses on good life years, following the tradition of disability-adjusted life years, but assessing years out of poverty and with positive life satisfaction. It adds a dynamic dimension to perspectives of well-being that could – combined with an agreed framework – add further value (Lutz et al., 2021).

Despite these initial studies and the recognition that the current representation of societal outcomes in modeling is insufficient (Andrijevic et al., 2023; Schipper et al., 2022; Van Maanen et al., 2023), there is limited progress in advancing the quantitative representation of human well-being in climate science.

Recent scholarship highlights the need for consideration of alternative economic systems that shift focus on positive outcomes and basic needs, such as health care or education, rather than economic growth as the primary measure of progress (see for example Fitzpatrick et al., 2022; Keyßer & Lenzen, n.d.; Lima de Miranda & Snower, 2020; Raworth, 2017; Steinberger & Roberts, 2010, amongst many others). A focus on well-being outcomes also highlights how the increasing inequality observed across the world and across different dimensions of the so-

cio-economic system can manifest itself in differential access to key resources that provide the basis for human flourishing. For example, higher within-country inequality also leads to overall higher damages from natural disasters and increases the number of people affected, highlighting again the interrelation between human well-being and climate (Cappelli et al., 2021).

The importance of situating responses to the climate crises within the wider set of socio-economic challenges is also highlighted in the latest IPCC report with the concept of climate-resilient development pathways, which describe *“trajectories that strengthen sustainable development and efforts to eradicate poverty and reduce inequalities while promoting fair and cross-scalar adaptation to and resilience in a changing climate. They raise the ethics, equity, and feasibility aspects of the deep societal transformation needed to drastically reduce emissions to limit global warming (e.g., to well below 2°C) and achieve desirable and liveable futures and wellbeing for all.”* (IPCC, 2022b).

The quality of responses to the climate crisis is inherently linked to how well we can assess and quantify potential futures across world regions, as the effects are both unequally distributed as well as time-lagged and appear with a delay of years to decades (Schleussner et al., 2021). While approaches to model biophysical outcomes can project impacts at increasing spatial and temporal granularity, linking those impacts to societal outcomes is in its infancy and we are therefore also unable to understand the effects of policy interventions in a complex societal system.

A COMMON FRAMEWORK OF HUMAN WELL-BEING FOR GLOBAL INTEGRATION AND ITS RELEVANCE FOR POLICYMAKING

With the increasing urgency of addressing several critical crisis points, it is essential that policies can be assessed against broader societal outcomes, including environmental and human well-being, as time and resources are limited. Different strands of research are essential building blocks to inform different policy areas, but due to the complexity of the questions they are addressing, outcomes can lead to conflicting recommendations.

The global applicability of indices to represent universal values has been an issue of debate across research communities well beyond considerations on climate action for many decades. In the context of basic needs, Max-Neef (1992) proposed the important distinction between universally applicable *fundamental needs*, such as access to nutritious food or positive social relations, but distinguishes this from *satisfiers*, which can differ according to preference or resource availability. Similarly, the capabilities approach highlights the need to access different functions, which allows one to put into practice individual preferences (Anand et al., 2009). Such differentiation is essential when thinking about global applicability while recognizing different preferences on the one hand and well as dynamic conditions on the other. For the case of climate action and the required societal transformation towards a low-carbon and resilient economy, fundamental shifts in how we can satisfy needs will no doubt be required. Such a differentiation between universally applicable needs and the various choices

available to satisfy them can make visible the different pathways for substitution that would allow this transition while ensuring basic needs for human well-being are met.

As climate change impacts are becoming visible across the globe, in particular, the areas of adaptation Global Goal on Adaptation (GGA) and Loss & Damage (L&D) have recently gained increasing attention in the international climate negotiations. The focus of L&D negotiations has been on funding in particular, with a recent breakthrough with an agreement on the Loss and Damage Fund. While monetary resources are essential to cope with mounting L&D, the debate also urgently requires better measures of broader societal consequences: much of the anticipated and reported losses are non-economic, but cultural, for example. Representing such losses therefore requires more granular representations of well-being and progress, which can capture the multi-dimensional nature, but are still comparable across the globe under a global agreement. Similarly, adequately representing the needs for and effectiveness of adaptation in a globally comparable manner requires a systematic representation of a broader societal value system that goes beyond monetary valuation.

As Creutzig et al. (2022) have shown for the area of demand-side solutions, an integrated and multi-dimensional representation of well-being can identify the multiple benefits of specific policy choices. While targeted at emission reductions, tested options also achieved benefits across many well-being dimensions. Such an approach would also be applicable to identify trade-offs and co-benefits between policies, in relation to adaptation and mitigation but also beyond.

CONCLUSION

Inadequate representation of societal outcomes in quantitative climate models is concerning and potentially detrimental for several reasons, as these models are at the heart of informing climate policy and their future effects. Firstly, the lack of representation underestimates the full cost of consequences for people and the planet, which are already substantial today. A focus on GDP provides indications of the monetary impacts, but it masks the scale of human and environmental suffering that is already experienced today and will continue to increase. At the same time, the lack of consideration of broader societal outcomes and well-being may overestimate the potential for coping with the consequences of climate change itself, as well as the policies put in place to address it.

Secondly, it masks the distributional effects of both, the measures taken for a transition to net zero across sectors as well as the distributional and cross-sectoral effects of climate impacts, which manifest in many ways in addition to purely economic costs. Ensuring that the social acceptability and overall outcomes of climate policies are equally distributed in terms of costs and consequences is essential for long-term effective climate policy and societal trust in decision-making. Ensuring that policies can be evaluated against a broader set of outcomes is therefore essential. Finally, and maybe most importantly, when looking at the scale of the challenge and the need for proactive solutions, one-dimensional measures disguise pathways that would be beneficial for a range of positive environmental and societal outcomes required to address the

»There is limited progress in advancing the quantitative representation of human flourishing and well-being in climate science.«

multiple crises we face. Transformation is not a choice and we need to address the effects of different transition pathways head-on and understand implications within a common framework, centered around measurement that fully account for human and ecosystem well-being. The economic systems then need to follow from that.

Even within climate science, there is a disconnect between different areas of action - mitigation and adaptation. Climate mitigation and the associated required transformation are often talked about as mostly a cost factor - this is a problematic and also inaccurate account for several reasons. A focus on mitigation costs neglects the level of suffering climate impacts already cause today, particularly for the most vulnerable. Amongst other things, this is evidenced by impacts on key areas of well-being, often not reflected in economic terms. So even though we already see major negative effects on human well-being, the current lack of metrics to assess this leaves these effects largely unaccounted for. A purely economic lens also

»Focusing on well-being metrics provides a huge opportunity for climate resilient development that also reduces inequalities and poverty across the globe.«

distorts the distribution of climate impacts to indicate those with higher incomes may suffer the most, but they only stand to lose more due to their higher incomes. Focusing on well-being metrics that allow for assessing the costs and benefits of different policies more holistically provides a huge opportunity for climate-resilient development – a development that curbs emissions, responds to changes in the system through adaptation, and builds resilience by reducing inequalities and poverty across the globe.

By not employing better metrics for progress, we run the risk of missing out on huge opportunities to reshape our global society, focused on a wider set of aspects to assess human well-being while embarking on the transformation we need. Making visible the scale of the potential, but also the scale of the consequences of climate action or inaction on human well-being, would immediately show that bending the emissions curve in

this critical decade would come with huge benefits for human well-being and prosperity for all.

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¹ <https://www.t20brasil.org>

² UN: <https://unsceb.org/valuing-what-counts-united-nations-system-wide-contribution-beyond-gross-domestic-product-gdp>
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Engineering Sustainability into Prosperity

Creating the Resilient, Productive, and Aspirational Future We Want

Opinion piece

Authors:



Shuva Raha
Head – New Initiatives,
Council on Energy, Environ-
ment and Water (CEEW)
Fellow, Global Solutions
Initiative



Tulika Gupta
Research Analyst, CEEW



Kinshu Dang
Engagement Lead, CEEW

Institution:



The Council on Energy, Environment and Water is one of Asia's leading not-for-profit policy research institutions. CEEW uses data, integrated analysis, and strategic outreach to explain – and change – the use, reuse, and misuse of resources.

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ENVISION, FOR A MOMENT, HUMANITY'S FUTURE. WHAT SPRINGS TO MIND?

Perhaps a stark and minimalist dystopian landscape, where you co-exist with soulless robot companions in a simulated reality with damning social ratings by strangers, jaded by a harsh race for resources – much like a Black Mirror episode. Or is it an enticing vision of a vibrant and creative society, secure and prosperous, its acquisitions and aspirations in sync with the natural world?

Though many studies and our lived experiences indicate that we thrive in the security of our human connections, the richness of our cultural heritage, and the serenity of nature, popular media rarely portrays our future as attractive, abundant, and content. And so, as we stand in a stressed world of myriad crises, exacerbated by escalating climate risks, we are at the cusp of choosing – and creating – the future we want.

A future that is prosperous and aspirational, and yet sustainable and resilient, needs policies and processes that intentionally and proactively engineer sustainability into prosperity, instead of force-fitting ad-hoc corrective, and often punitive, measures into complex existing socioeconomic systems.

We must reimagine our lives and lifestyles – our food, clothes, homes, education and health systems, industries, transportation, recreation, amenities, and even luxuries, in the context of future activities, resources, and technologies. Economic well-being, the bedrock of societies and countries, must prevail, and in emerging markets and developing economies (EM-DEs), people must get opportunities to

»We are at the cusp of choosing – and creating – the future we want.«

better their quality of life and fulfill their aspirations. However, this must follow sustainable, low-carbon pathways.

The world, a half, or even a quarter century ago, was very different from today, and so will be the world a quarter, or half-century, hence. This systematic and foresighted imagining and construction of the future needs the active involvement of all stakeholders, with a concurrent whole-of-society, whole-of-economy, whole-of-government transformation, rather than small, incremental, linear changes to our current systems.

THE UNSUSTAINABILITY OF BINARY THOUGHT AND UNILATERAL ACTION

The increasing evidence of our world afflicted by the disastrous impacts of the climate crisis and escalating, potentially irreversible, breaches of planetary boundaries, have spurred governments and industries to various degrees of action. But much of this action is reactive, sporadic, siloed, rooted in heavy-handed, haphazard legislation and myopic technocracy, and ironically, often, neither productive nor sustainable in the long term.

Public resentment of, and consequent political resistance to, many 'green' initiatives also arise from binary value judgments correlating prosperity, including a fairly high quality of life, to wasteful decadence. However arbitrary alterations to

economic and industrial systems risk triggering degrowth and collapsing societal structures.

Take plastics. India has a national ban on the manufacture and use of single-use plastics, but plastic-packaged commodities, from milk and water to food, cosmetics, and medical products, guaranteeing quantity, quality, purity, longevity, and convenience, are openly marketed as an aspirational evolution over loose-sold variants. Consumers, especially educated urban segments with high disposable incomes, willingly pay the premium despite awareness of plastic pollution and the ban, which is weakly enforced and ineffective in the absence of viable alternatives. Notably, parts of southern India, with higher per capita income and better standards of living, have higher than average plastic consumption (Duraisamy, et al., 2023).

Agricultural practices are contentious too. Each winter, the air over northern India thickens into a miasma with particulate pollution as farmers burn crop stubble. India's Supreme Court, responding to public outcry, directed stern action to end stubble-burning, despite the lack of efficient and affordable crop residue management technologies. This has led to thousands of police cases against farmers with millions of rupees in penalties, and strident protests from farmer unions.

In Europe, too, arbitrary and disruptive 'green' measures have triggered civil unrest. Media has widely reported about farmers in countries such as France, Germany, Greece, Lithuania, Romania, and Spain taking to the streets against the rollback of diesel subsidies for agriculture (Dwyer, 2024). Dutch farmers have unified to protest their government's proposal to buy or

shut down livestock farms to reduce nitrogen emissions (Tullis, 2023). The European Union (EU) has now withdrawn its proposed target to reduce 30% of nitrogen and methane emissions from the agricultural sector by 2040 (Wax & Matheisen, 2024).

Narrow technocratic solutions can also be socially, economically, and environmentally detrimental. Indonesia is shifting its capital from Jakarta, "the world's fastest-sinking megacity," in Java to the new "sustainable forest city" of Nusantara in Borneo. Jakarta's subsidence is caused by wells drawing groundwater even as the concrete core of its urban sprawl prevents replenishment of underground aquifers despite abundant rainfall. However, instead of restructuring the city's infrastructure and utilities to sustainably manage the groundwater system, it was decided to move elsewhere – though Nusantara's development has led to deforestation and displacement of indigenous groups, and subsidence may occur there too if solutions are not engineered into city systems.

Infringing upon the constitutional freedoms and privacy of people on the pretext of managing their emissions also has few takers. Even voluntary carbon credit cards, aimed at climate-conscious customers, that pried into purchase behaviors to measure carbon footprints and imposed monetary restrictions on those breaching their carbon allowances, have been short-lived in the US, Canada, and the EU (G., 2024).

EMERGING MARKETS MUST GROW, AND FLOURISH

EMDEs, home to two-thirds of the world's population and 88% of future energy demand (Bond, Ghosh, Vaughan, & Benham, 2021) must foster economic growth to im-

prove their citizens' lives and livelihoods and fulfill their aspirations. However, they must invest thought and resources in sustainable pathways that serve their socioeconomic imperatives while integrating climate resilience into their systems, instead of hurtling down the carbon-intensive trajectories of the developed economies that have perpetuated much of the climate crisis.

Such a sustainability paradigm would catalyze new ideas, resource-efficient business models, and future-oriented investments to drive "more dynamic growth and development" through "connected and coordinated actions" to deliver systemic transformations for infrastructure grids, transport networks, city systems, and agricultural and industrial processes (Stern & Stiglitz, 2023).

Mexico City, for instance, is tackling the root of its subsidence problem – caused by overdrawing of groundwater – by reviving Aztec-era floating farms. This nature-based solution, the Chinampas, is one of the world's most productive urban agricultural systems and also restores the city's groundwater aquifers (InterlaceHub, 2022). Economic hubs like Vietnam's Ho Chi Minh City, Myanmar's Yangon, China's Tianjin, India's Ahmedabad, and Bangladesh's Chittagong, ranked among steadily subsidizing cities, could employ similar traditional and nature-friendly system-level innovations to manage their rapid growth and water use.

India, the world's largest democracy with 1.4 billion citizens, is set to become its third-largest economy within this decade. This is a whole-of-nation, real-time experiment to become a developed country by 2047 (Viksit Bharat Sankalp, 2024) on a

low-carbon pathway leading to net zero by 2070. Its arsenal comprises an array of national- and state-level multi-sector action plans, an emergent and innovative industrial ecosystem, a population that is deeply mindful of nature and biodiversity, and a rich civilizational history of engineering, trade, and governance.

»Arbitrary alterations to economic and industrial systems risk triggering degrowth and collapsing societal structures.«

India's integrated climate action plans, initiated as early as 2008, cover areas such as clean energy transition and energy efficiency, sustainable water and agricultural systems, and natural resource conservation (PIB, 2021). These underscore that a high economic growth rate is essential to improve the quality of life and resilience of citizens, supported by novel institutional frameworks, resource allocations, and region-specific adaptation and mitigation measures involving local governments, public-private partnerships, and civil society.

India's renewable energy (RE) revolution, targeting 450 GW capacity by 2030, from 36 GW in 2015 (MNRE, 2024), has multi-pronged initiatives to engineer security, accessibility, affordability, and

»A sustainability paradigm would catalyze new ideas, resource-efficient business models, and future-oriented investments.«

sustainability into its clean energy value chains. New institutions and regulations offer commercially viable project finance, cushion contracts, and offtake risks, ensure the must-run status of plants, and direct utilities to source a share of their power from renewables. Supply chain reforms include production-linked incentives of USD 3+ billion to manufacture ~48 GW of solar modules (MNRE, 2023), and mandates to integrate circularity via material recovery from solar waste (PIB, 2023).

The results are evident: India has the world's fourth largest solar and wind capacity (MNRE, 2024b), a ~118 GW market worth an estimated USD ~23 billion, and has raised its share of non-fossil fuel-based power capacity to 40%, with a new target of 50% by 2030. Together, 100 GW of solar and 60 GW of wind capacity (India has 75 GW of solar and 45 GW wind) could create 1.3 million direct and 3.3 million indirect jobs (Kuldeep & Ghosh, 2020).

A notable policy-behavior-market initiative to improve energy efficiency at scale is India's national mission to increase the use of LED bulbs over incandescent and CFL bulbs. The government procured high-quality LED bulbs from private com-

panies to guarantee economies of scale, which reduced the cost per bulb from USD ~3-4 in 2014 to less than USD 1 by 2017 (PIB, 2023b). As of March 2024, 368 billion LED bulbs had been marketed, extending productive hours in rural areas and improving urban street lighting, annually saving USD 2.3 billion in electricity costs and reducing 38 million tons of carbon dioxide emissions (UJALA, 2024).

In the Middle East, Saudi Arabia is employing a whole-of-ecosystem approach to combat extreme water scarcity. Its national strategy involves institutional, household, and industrial use reforms to optimize agricultural groundwater use and increase treated wastewater reuse while improving – rather than curtailing – water availability, affordability, and quality (MO-JS-CEEW, 2023).

But even as EMDEs, many with vast populations, competing developmental demands, and limited resources, tenaciously leverage traditional knowhow, local resources, and domestic capacities to build sustainable systems for their socio-economic priorities, today's hyperconnected world needs multilateral collaboration to engineer sustainability into infrastructure, transport networks and global value chains.

For instance, ecologically and commercially viable product and service design and engineering will improve resource efficiency and minimize waste. Mobility and freight systems, the backbone of connectivity and enablers of prosperity are hard to abate sectors yielding ~9% of global CO₂ emissions (Shell-Deloitte, 2021), and need international solutions to ensure infrastructure availability, adopt clean energy, and manage demand-supply and financing gaps.

However, the bulk of finance and technologies critical for the intended scale and pace of the EMDEs' sustainable development is locked in developed countries. While G20 countries own a highly-skewed ~91% of environmental technology patents; even within this elite group, just five – China, Japan, USA, Korea, and Germany – hold ~85% of all patents granted to G20 countries between 2000 and 2021 (Gupta, Raha, & Mallya, 2023).

The international financial architecture has not created modern avenues to unlock capital flows for the trillions of dollars the EMDEs need for green transition (Stern & Stiglitz, 2023). Controversial metrics to promote climate-linked investments, such as Environmental, Social, and Governance (ESG) norms, have been “reduced to mere accounting tools, a way of balancing trade-offs instead of doing things differently” (Elkington, 2018).

The risk-averse, profit-oriented private sector is also yet to invest at scale in green sectors and technologies, with concerns about long-term project viability, the lack of risk mitigation mechanisms, and limited options for public-private financing and implementation models (CEEW, 2023).

ENGINEERING SUSTAINABILITY INTO PROSPERITY

Gross Domestic Product (GDP), the prevalent economic production volume-based standard of prosperity, does not consider values such as quality, workmanship, sustainability, and desirability. Hence, our economic impetus has been on more (quantity), and not more and better (quantity and quality).

Compounding this problem is the impression that more is necessarily more

and wasteful, which arises from the history of developed countries prioritizing economic growth at any cost, massively exploiting fossil fuels, and indulging in rampant, linear, resource-intensive production and consumption.

To some extent, in the era before the climate crisis, there was no imperative or incentive to be mindful of carbon spaces and resource footprints. Developing countries, many of which were still buckled into colonial shackles, and some which had only just broken free, were specks in the economic rearview mirror. The crises of today were brewing, but there was little foresight – or even intent – to acknowledge these inconvenient truths.

Now that carbon space is almost depleted, resources are stressed, and the EMDEs have started asserting their rights and priorities in the global order, there is a rush to rewrite the rules of economic success. On one hand, there are legislations against excessive emissions and resource misuse, and on the other, efforts are ongoing to redefine prosperity beyond the numeric GDP, using subjective metrics such as well-being and happiness.

Such legislation and metrics tend to apply equally to all countries irrespective of their developmental stages and national circumstances. This matters because the developed countries must drastically alter their unsustainable trajectories to yield

»We must embrace the alternative that sustainable prosperity is possible!«

space for the EMDEs to grow and flourish. But even as multilateral negotiations continue, **we must embrace the alternative that sustainable prosperity is possible!**

This perspective disrupts the prevalent narrative that living within planetary boundaries necessitates degrowth and deprivation. The India-led global initiative, Lifestyles for Environment (LiFE), which has inspired the G20 High-Level Principles for Lifestyles for Sustainable Development, promotes “mindful and deliberate utilization, instead of mindless and destructive consumption,” noting that consumption, by itself, is not the crisis [G20 Development Ministers, 2023].

The 2023 G20 New Delhi Leaders’ Declaration underscores the imperative to “decouple economic growth from environmental degradation.” Its Green Development Pact outlines opportunities to design and develop resource pathways, products, services, systems, and lifestyles that will sustain our future needs and wants (G20, 2023).

While there are many multilateral forums including the United Nations, the G20 is emerging as strategically agile. Till 2022, the G20 housed two-thirds of the global population and accounted for 85% of global GDP. With the inclusion, in 2023, of the 55-country, 1.4 billion people, USD 3 trillion GDP African Union (Munyati, 2023), the G20 has become exponentially larger and more diverse.

The G20’s socioeconomic reach and political heft enable its responsibility and capacity to shape a sustainable, resilient, and prosperous future. It can nudge the behaviors of people and countries towards sustainable options, create markets to serve these needs and wants, and influ-

ence its members’ policies to drive positive change at scale, globally.

This needs mapping macroeconomic risks caused by unsustainable growth and climate change at the global and country levels, including estimating the costs of inaction and planning transition pathways for core sectors such as agriculture, energy, industry, transport, and construction. Then, we must use this knowledge and consensus to map, source, and deploy the policies, tools, and capacity for each challenge by providing timely and affordable finance, clean technologies, and optimized resources.

We must rethink and rebuild our food, water, land, and air systems to be sustainably productive. The physical and digital infrastructure we create, even as we strengthen and preserve what we have, must be nature-friendly, resilient, and inclusive. Our energy and resource systems and transition pathways must be secure, clean, and equitable, with well-planned use and reuse, not misuse. Our trade and value chains, bringing us goods and services, must be designed to ensure that everything we produce and consume is useful and safe while minimizing resource wastage. We must follow our aspirations to inhabit inviting and serene spaces that improve our well-being and connections, supported by sustainable mobility and market systems.

Research and innovation are ongoing worldwide, some in collaboration, some in siloes, to achieve parts of this ambition. Rarer, however, is the genuine belief that we can have a cleaner, productive, inclusive, and prosperous future that is in sync with our natural world. The relentless harping on the ills and vagaries of the

day has drained us of humanity’s innate curiosity and capacity to imagine what we could build if we truly wanted it.

Our multilateral system, riddled with inadequacies and inequities, must be urgently reformed to rise, again, to its task of informing and inspiring our collective decisions and actions. Emerging influencers like the G20 must demonstrate the political will, public consensus, industrial capacity, and thought leadership to scope macro challenges and solve them at micro levels.

Above all, each of us must focus our thoughts and energies on the positive. We must open this historic window of opportunity to choose – and create – the future we want. We must utilize our scientific knowledge, traditional wisdom, and ability to innovate to engineer sustainability into prosperity. We must remember, and celebrate, that every economic choice is a lifestyle choice. Our choice.

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Reforming the International Financial Architecture

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Unpacking Developing Country Debt Problems

Homi Kharas
Charlotte Rivard

Unpacking Developing Country Debt Problems

Selected Reforms to the International Financial Architecture

Research article

Authors:



Homi Kharas
Senior Fellow, The Brookings Institution



Charlotte Rivard
Research Analyst, The Brookings Institution

Institution:

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Keywords:

debt, financial architecture, developing countries, MDBs, World Bank

INTRODUCTION

Entering 2024, multiple forums are debating reforms to the international financial architecture to resolve developing country debt problems. These forums should start by identifying the different problems that need to be solved. In this paper, and a longer technical paper with supporting empirical evidence (Kharas & Rivard, 2024), we argue that there are four debt-related questions that developing countries are confronting: (i) how to meet current debt service obligations; (ii) how to open fiscal space for debt-financed sustainable infrastructure and other priority development investments; (iii) how to best use debt in responding to natural disasters; and (iv) how to improve debt transparency to better the overall functioning of global capital markets.

PROBLEM 1: HOW TO MEET CURRENT DEBT SERVICE OBLIGATIONS

In 2020, the nominal dollar value of developing country exports fell by almost 10%, just at the time when external debt service was rising and when global capital was rushing to advanced country safe-havens. Developing countries owed 10% of total GDP in external debt service.

A G20-led Debt Service Suspension Initiative (DSSI) helped alleviate the liquidity problem in the lowest-income countries. Surges in lending from the IMF and multilateral development banks also helped.

In 2022, central banks in the major advanced economies started to raise interest rates, with a significant impact on interest payments owed by developing countries in 2023. Meanwhile, the DSSI had expired, and net financial transfers from official multilateral agencies declined steeply in

»This is not the time to embark on broad-based debt relief initiatives, nor single international sovereign debt restructuring mechanisms.«

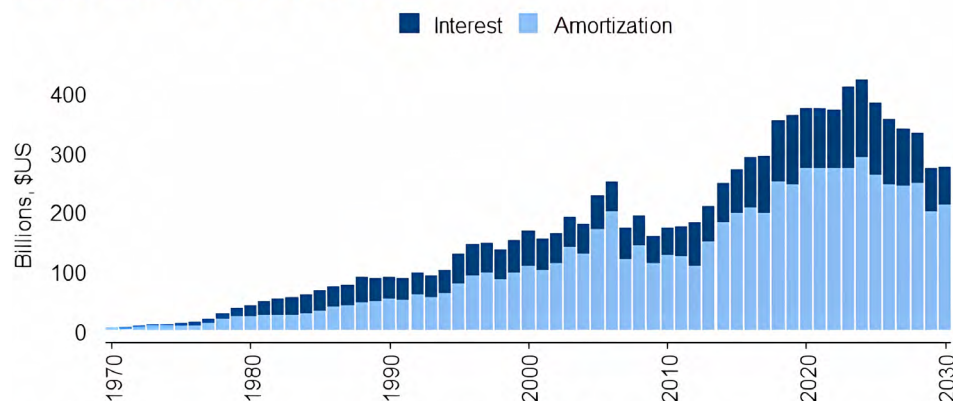
2023. No IDA-eligible country was able or willing to issue a bond on global capital markets in 2023. Many countries faced severe shortages of foreign exchange.

At the start of 2023, officials at the IMF, World Bank, and UN had warned that 60% of low-income countries were either in, or at high risk, of debt distress (IMF, 2023). This triggered calls for systemic change to streamline the G20 Common Framework for Debt Treatments into a speedy, efficient mechanism for debt resolution that could also be applied to middle-income countries.

During 2023, only Ghana applied for relief under the Common Framework auspices. Nevertheless, the feared systemic spread of debt crises did not materialize. Most developing countries were able to muddle through and meet their external payment obligations, albeit at considerable cost of cutting needed social programs and investments. Ethiopia was the only developing country to default in 2023, missing a late December bond payment.

Debt service due in 2024 is now estimated to be lower in Sub-Saharan Africa and the Middle East regions, while exports

Debt Service 1970 to 2030



Source: World Bank International Debt Statistics, 2/29/2024. PPG debt service, current \$US.
Notes: Excludes China.

Figure 1

are rising (WEO, 2023 October). From 2025 and onward, debt servicing should be manageable in most cases (Figure 1) without resorting to exceptional measures, such as blanket debt relief. It is important for developing countries to retain hard-won access to global capital markets.

Two lessons should be learned from the experience of the past few years. First, reliance on private sector financing carries with it high liquidity risks, complicates re-profiling of debt service, and so cannot easily substitute for official financing. Second, private lenders have been shielded from the consequences of their over-lending. There is a moral hazard in global capital markets that now needs to be rolled back.

PROBLEM 2: HOW TO OPEN FISCAL SPACE FOR DEBT-FINANCED SUSTAINABLE INFRASTRUCTURE

Emerging economies in sub-Saharan Africa, Latin America, and developing Europe

have investment rates that average between 20-22 percent of GDP. These rates are lower than in 2015 when the international community agreed to pursue ambitious sustainable development goals and to refresh the global framework for development financing with the Addis Ababa Action Agenda (United Nations, 2015). Since Addis, the need for higher investment and more financing in emerging economies has risen, to meet commitments to invest more in global public goods and challenges: climate action, pandemic surveillance, and nature preservation.

President Ruto of Kenya, along with other leaders, has called for a new energy pact for Africa to finance and realize energy projects, while tackling governance, environmental and labor issues (Ruto & Birol, 2023). The problem is that many governments lack fiscal space and cannot access new project finance due to the overhang from existing debt.

When countries have high debt, policymakers face a dilemma: cut back spending to reduce the rate of debt accumulation or accelerate investment in high-return projects to grow out of debt problems. At present, creditors tend to favor the former while borrowers argue for the latter. The empirical evidence as to which strategy better averts debt problems is mixed and heavily dependent on context and time (IMF, 2023 April). In contrast, the empirical evidence on which strategy is needed to better address climate change and sustainable development is strong: a big push on investment (Bhattacharya et al., 2022).

A big push investment strategy should be effective in most developing countries. The World Bank estimates its projects have had a median ex-post 17% rate of return in developing countries of all types—middle-income and low-income and in every geography. It has documented “200 investment booms—episodes in which per-capita investment growth accelerated to 4 percent or more and stayed there for more than six years” as periods of income growth, higher productivity, and reduced poverty (World Bank, 2024). Such evidence corroborates modeling simulations done by the IMF that find a large public investment push would be beneficial for borrower governments and their populations, as well as for new and existing creditors.

Such microeconomic evidence on high rates of return to public investment is treated with skepticism in some quarters because of the possibility of selection bias, or the difficulties of scaling up in the face of possible Dutch Disease and adverse macroeconomic effects of high investment.

»A big push investment strategy should be effective in most developing countries.«

A mindset change is needed for such evidence to be taken seriously. The presumption that public sector debt insolvency reflects economic mismanagement, waste, and corruption needs to be overcome. Historical evidence suggests that wars and revolutions are more frequent causes of insolvency than economic mismanagement (Luckner et al., 2023).

For those who view debt as unsustainable because of past waste, a solution may lie in debt write-offs. This can, in principle, resolve the debt problem. It is unlikely, however, to resolve the problem of inadequate investment and growth. For this, new money is needed and a bad track record will reduce access to funds.

Hence, we suggest an alternative strategy to manage the debt overhang. Let multilateral development banks (MDBs) lend more for specific public and private investment programs (IEG, 2023). MDBs enjoy preferred creditor treatment and have a proven track record of high returns on the development projects they finance. They also provide additional benefits in the form of policy advice, project origination, and long-term affordable loans. MDBs can coordinate a bridge between new money, investment, and policy reform, along the lines suggested by President Ruto and by academics (Diwan et al., 2024).

»We suggest an alternative strategy to manage the debt overhang. Let multilateral development banks (MDBs) lend more for specific public and private investment programs (IEG 2023).«

MDB lending to support country platforms should be the initial entry point for their scale-up. Figuring out how to expand the number of high-quality projects and enhance design and implementation capability is not a simple matter. Country-owned, country-led transformation platforms are novel institutional mechanisms to do this. These have been piloted in energy transition and other sector programs that seek to achieve specific results over a specified time period.

Country platforms also provide a mechanism for partnering with private creditors. Ultimately new private creditors will only participate at scale if they are able to reduce their risk, either implicitly via a “halo” effect from engagement with MDBs or explicitly through a guarantee from a AAA-rated entity such as an MDB.

To encourage private sector activities in non-investment grade developing

countries, finance for green investments in designated country platforms should be treated in the same way as trade finance and exempted from future negotiations on debt rescheduling. The added advantage of reducing risk in this way for global-priority investments is that the interest rate that commercial banks charge on green infrastructure projects would also be driven down, raising financial returns.

Of course, this approach should be implemented in a measured and selective way to keep the level of senior debt manageable and to strengthen fiscal solvency over time. New tools and mechanisms to assess public solvency in a nuanced fashion are needed. The MDBs should modernize their debt sustainability assessments (DSAs) to focus on public solvency, leaving the assessment of liquidity and rollover risk to the IMF. There are useful programs for international technical assistance to strengthen public debt management and these could be given greater priority. Official creditors could also support the establishment of independent fiscal councils and public net worth accounting in developing countries, both of which could provide better controls on the appropriate level of public investment than the debt and debt service ratio threshold criteria embedded in DSAs and other MDB creditworthiness assessments.

PROBLEM 3: HOW TO BEST USE DEBT IN RESPONDING TO NATURAL DISASTERS

When developing countries are hit by natural disasters, they borrow to cushion the effect of the shock. This is a sound use of borrowing capacity, but it has its limits. When there is a sequence of natural di-

sasters destroying capital that then needs to be rebuilt before being destroyed by the next disaster, borrowing is ineffective. Debt simply mounts, while domestic assets do not grow. Many Caribbean countries have fallen victim to this cycle. The IMF estimates that the cost to the Caribbean from natural disasters has averaged 2.4% of GDP each year between 1980-2020. One in ten disasters causes damage and loss of more than 30% of GDP in small countries.

There are now 68 member states in the V20 group of vulnerable countries faced with the risk of a cycle of disaster-rebuild-repeat, or a single disaster that is very large compared to the economy.

Debt relief can help in these cases, but it is the second-best solution. Seychelles and Belize restructured their debts after major catastrophes. Grenada and Barbados have pioneered automatic disaster relief clauses in their debt contracts. Such clauses should become standard practice in new bond contracts. The International Credit Market Association has developed appropriate standardized contracts that can be used in private debt contracts. Similarly, the World Bank has expanded its climate-resilient debt clauses for selected borrowers. Other official lenders should follow suit.

A preferred solution is more and better insurance but the insurance gap in developing countries remains enormous. According to Xing and Aggarwal (2023), 60% of global insurable crop production was unprotected against natural disasters and accidents, and 76% of global exposure to catastrophes was unprotected.

Catastrophe bonds are now available for individual countries. However, premi-

ums can be exorbitant, and the pre-existing condition of a country's geography can create a market failure. In such situations, it would be just and equitable for the international community to bear a portion of the underlying risks by subsidizing insurance premiums through donor-funded mechanisms like the Global Risk Financing Facility. The newly established loss and damage fund also directly provides subsidies to countries hit by natural disasters and could potentially be used to buy down insurance premiums. But these and other examples of subsidized insurance facilities must be adequately resourced to be impactful at scale.

PROBLEM 4: HOW TO IMPROVE DEBT TRANSPARENCY

Without debt transparency, global credit markets cannot work efficiently. Risk rises and with it the cost of capital to developing countries. Aggregate credit limits, used by lenders to limit moral hazard and adverse selection, only work if data is reliable, up-to-date, and verifiable.

Only one IDA-eligible country, Burkina Faso, has been judged as fully transparent in its debt reporting. A raft of initiatives to improve reporting is ongoing, in the IMF, World Bank, and OECD. However, there is little evidence of progress, and incomplete information complicates and lengthens debt negotiations, as exemplified by the Zambia case. Efforts to encourage countries receiving debt relief under the debt service suspension initiative to improve their reporting have so far been unsuccessful.

Elevating the priority of debt transparency is a prerequisite to any sustainable treatment of developing country debt. An

»MDB lending to support country platforms should be the initial entry point for their scale-up.«

institutional strengthening component for debt reporting should be included in all debt relief packages.

CONCLUSION

Eichengreen and Kenen (1994) succinctly summarized the problem with debt treatments: “An insolvent debtor must pursue a debt-reducing strategy, but an illiquid debtor should pursue a debt-raising strategy to make its interest payments and defend its creditworthiness.” In the current environment, this needs to be revisited. Both illiquid and insolvent debtors need to pursue a strategy of raising sharply the amounts of debt from official sources and using these resources for high-quality public investments.

A range of technical options is available that would address each of the debt-related problems we have identified. Small steps, led by different institutions in different forums, could make a big difference.

This is not the time to embark on broad-based debt relief initiatives or single international sovereign debt restructuring mechanisms. The next two years are critical for avoiding default and longer-term debt issues must be addressed by multiple forums working in parallel.

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Growth Through Care**

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Vanessa D'Alessandre
Florencia Caro Sachetti
Bruno Muñoz

A Comeback for Industrial Policy?

Opinion piece

Author:



Holger Görg

Director of the International Trade and Investment Research Centre, Kiel Institute for the World Economy

Institution:



The Kiel Institute for the World Economy sees itself as *the* research institute in Germany for globalization issues. Our researchers investigate the drivers and effects of international economic activity, the integration and disintegration of global markets as well as the opportunities and limits of political action in open economies. The Institute analyzes the world economy not just as the sum of individual national economies, but rather as a global economic area that must be understood and shaped. We have tasked ourselves with identifying emerging global economic challenges and developing practical solutions that are compatible with open markets and competition while also taking account of everyone's standard of living.

Keywords:

industrial policy, global supply chains, innovation, growth

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Ever since the US administration under Joe Biden passed the CHIPS and Science Act and the Inflation Reduction Act, there has been talk of a renaissance in industrial policy. What are the objectives of industrial policy? And what are its pros and cons?

The global economy has been rocked by many crises in recent years. The coronavirus pandemic, Russia's invasion of Ukraine and other geopolitical conflicts, natural disasters, and China's growing geopolitical ambitions have led many companies to fundamentally rethink the structure of their international supply chains and their production locations. One much-discussed objective is to reduce dependence on specific markets, with the European debate focusing on China and Russia. Part of the strategy to reduce these dependencies is to try to influence the location decisions of companies in critical high-tech sectors by encouraging them to locate in Europe. Subsidies and other government financial incentives are used to this end.

For a long time, such industrial policy was frowned upon in many highly industrialized countries. But at least since the adoption of the CHIPS and Science Act and the Inflation Reduction Act (IRA) in August 2022 by the US administration, there has been talk of a comeback of industrial policy. After much political wrangling, the EU has also adopted industrial policy measures to counter the IRA, in particular the EU Chips Act.

But what are the aims of industrial policy? How does it work? What are its advantages and disadvantages? And has industrial policy really been forgotten for a long time?

WHAT IS INDUSTRIAL POLICY?

Industrial policy comprises economic policy measures that explicitly aim to change the structure of economic activities in order to achieve a specific public goal — a goal that cannot be achieved by the activities of firms and the market alone, or not quickly enough.¹

The reason for this is that private economic activities generate externalities that are not sufficiently taken into account by private companies. For example, an investment by a high-tech company not only creates new jobs in the investing company but may also lead to an increase in the number of highly skilled workers in the region, who can then be recruited by other companies.

It is also important to recognize that industrial policy is designed to bring

»The number of industrial policy measures has increased significantly since 2010, and has risen sharply again, particularly since 2019/20.«

about structural change in the economy: a particular part of the economy is subsidized — for example, semiconductor manufacturers through the EU and US Chip Acts — which at the same time means that other parts do not receive these incentives. Typically, the aim is to promote innovation and growth in certain sectors, such as high technology, to expand climate protection measures, or to maintain or create jobs in selected companies or industries.

This policy can be implemented through a variety of measures. Subsidies and tax incentives are the most widely recognized, partly because they are easy to measure and quantify. For example, when the IRA was passed in the US, it was stated that around USD 369 billion in financial incentives for investment in “green technologies” would be made available. But this is not the only way in which industrial policy is being pursued. Trade policy measures such as tariffs to protect domestic production or incentives to export in certain sectors are also used. For example, the EU has been discussing for several months whether to impose additional tariffs on Chinese car imports to protect the domestic car industry. Reducing bureaucratic hurdles or requirements for certain sectors can also pursue industrial policy objectives: both the EU Parliament’s decision to ban internal combustion engines in cars from 2035 and the German opposition to this law and the associated exemptions for so-called e-fuels can be seen as industrial policy measures.

CRITICAL OBJECTIONS

But why was and is this type of economic policy so frowned upon in parts of politics, academia, and society? Economic criticism

of industrial policy tends to focus on two aspects: the role of the state and the effectiveness of the measures.

If industrial policy is to promote certain sectors of the economy, then these should of course be particularly “worthy” sectors and companies. In most cases, these will be companies with particular growth opportunities in the future, i.e. “winners” in the economy. But they can also be companies in specific sectors that have been weakened by external influences and need to be stabilized in order to safeguard jobs. In either case, the state must be able to judge which sectors of the economy are worthy of support. This ability is often questioned on the grounds that the market is better placed to make such decisions because it generally has better information. In addition, there are potential conflicts of interest in the implementation of these policies and the potential for lobbying by companies to obtain government support.

Independently of this first aspect, the question arises as to whether industrial policy measures can achieve their objectives. For a long time, the prevailing view in economic research was that this was generally not the case. For example, studies in the 1990s and early 2000s showed that subsidies and protectionism in certain sectors were associated with declining productivity growth in the sectors concerned.

Another aspect related to the effectiveness of policies arises from the different objectives of industrial policy and the trade-offs involved. The aim of industrial policy may be to promote innovation and growth in certain promising sectors but also to maintain or create jobs — where maintaining employment often means

supporting companies and sectors that are exposed to either temporary or structural negative shocks. In this case, the trade-off boils down to the question of whether to revitalize aging industries in a downturn or to focus on new industries with uncertain prospects. Structural change is a necessary but also painful process for the long-term growth of the economy and is not always easy to implement politically.

GLOBAL INDUSTRIAL POLICY

Despite the criticisms, industrial policy has been pursued on a large scale in developing and emerging economies, as exemplified by the Southeast Asian tigers of South Korea, Taiwan, Singapore, and Hong Kong. Since the 1970s and 1980s, these countries have implemented industrial policies to transform their economies into high-tech industries. With success, as economists around the world attest.² Latin American countries also have a long tradition of industrial policy.³ The People’s Republic of China has also made a name for itself in recent years for implementing industrial policy measures, especially subsidies in selected sectors — often to a rather negative response in Western countries.⁴

Recently, a trend reversal has taken place in the major highly industrialized economies. In particular, in response to the rise of China as an international competitor, industrial policy has become increasingly important to counter the perceived risk of increased relocation of businesses or the takeover of domestic companies by foreign competitors. This importance has increased further in the wake of the crises mentioned above.

The large number of possible industrial policy measures makes it difficult to

»The economic debate today is less about whether industrial policy can be effective and more about what policies need to be in place for it to be successful.«

provide precise estimates of the monetary size of such interventions. However, the economic literature contains some attempts at measurement with very interesting results. For example, DiPippo et al. (2022) collected data on subsidies, tax incentives, and other financial support that can be considered industrial policy measures. This data was analyzed for the year 2019 for eight countries — China, Brazil, Germany, France, Japan, South Korea, Taiwan, and the US. In this group, China spent by far the most on industrial policy, at 1.5 percent of gross domestic product. The other countries ranged from 0.7 percent (Taiwan) to 0.3 percent (Brazil).⁵ It is reasonable to assume that this figure has risen since then as a result of responses to the crises mentioned.

Juhász et al. (2023) take a different approach to measuring the importance of industrial policy. The analysis uses a database that lists industrial policy measures implemented by countries worldwide since 2010. They count only the number of industrial policy measures, not the mone-

tary amounts involved. Analysis of this data shows a very clear trend (see the figure). The number of industrial policy measures has increased significantly since 2010 and has risen sharply again, particularly since 2019/20 — i.e. the start of the coronavirus pandemic. It is also clear that OECD countries are responsible for the majority of industrial policy measures.⁶

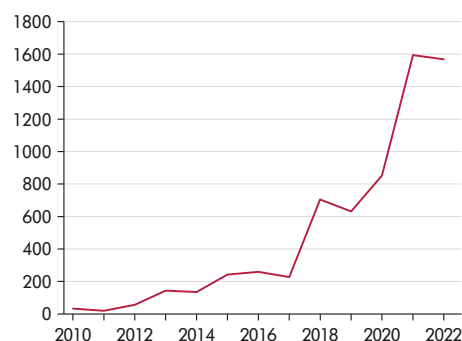


Figure: Number of industrial policy measures worldwide

Source: Juhász, R. and Lane, N. J. and Rodrik, D. (2023) 'The New Economics of Industrial Policy'. NBER Working Paper 31538/2023, National Bureau of Economic Research.

PICKING WINNERS

So industrial policy seems to be back in vogue in the developed world, including in the EU. But how does this fit in with the criticisms mentioned above?

It is often argued that empirical studies are methodologically incapable of convincingly demonstrating the effectiveness of policy measures. This is due to the nature of economic policy interventions. Economic policy picks firms or sectors for inter-

vention that it believes have high growth potential. The selection is therefore not random, but usually based on economic criteria. This means that firms or sectors are subsidized that have a different growth potential than other, non-subsidized firms. It is then not easy for researchers to prove whether the economic policy has had an impact. Is the difference in growth due to the fact that the firms were subsidized or simply because these sectors have different growth prospects per se?

A number of recent empirical studies have addressed this issue using theoretical models and newly developed empirical methods. They provide methodologically credible evidence for the hypothesis that industrial policy measures can be effective.⁷ For example, the analysis of an industrial policy intervention in South Korea in the 1970s, targeting the heavy and chemical industries, shows that this policy measure had a positive impact on the comparative advantage of the selected industry and thus boosted the growth of exporting firms and their suppliers in these sectors.⁸

But even if the evidence now suggests that individual industrial policies can be effective, does the fundamental criticism not remain that the governments should not intervene in the economic process by picking winners? Are markets not better at obtaining and evaluating information about the future prospects of industries, companies, or products? Against the backdrop of the crises of recent years, this argument appears no longer tenable. The production and supply shortfalls during the coronavirus pandemic or the reactions of companies to rising energy prices as a result of Russia's war of aggression against

Ukraine have soberingly demonstrated that the market is also limited in its ability to assess correctly future developments and their impact on the economy.

However, even independent of such crises, it cannot necessarily be assumed that firms have a fundamental information advantage over state actors. This may be the case for existing goods and products. On the basis of available information, growth opportunities can be assessed under uncertainty as long as no unexpected crises occur. The situation is different when it comes to completely new industries and their growth prospects — i.e. future industries on which industrial policy focuses. Here it is not clear that the market can gather better information than the government.⁹ Both government and market actors face great uncertainty. Even private companies do not have all the information and the state may well have a role to play.

Another important aspect is that a successful industrial policy is not just about choosing the "right" industries to support — i.e. supporting industries that promise growth opportunities as "winners". It is also about letting "losers" go.¹⁰ This means that policymakers should stop supporting companies or sectors that have already received support and are not achieving the expected potential.

CONCLUSION

The economic debate today is less about whether industrial policy can be effective and more about what policies need to be in place for it to be successful. At least three things are important here:

First, clear targets need to be set for companies receiving support. These need

to be monitored and, if necessary, support withdrawn if targets are not met.

Second, it is important to take into account potential trade-offs in support. For example, support for companies in certain high-tech sectors where production is predominantly carried out by robots may achieve the goal of making a location attractive to this industry and also send technological impulses through the new settlements to the rest of the economy. However, the use of robots would create relatively few jobs. If industrial policy also aims at creating new jobs, this could lead to a conflict of objectives. Accompanying policy measures should be considered.

Third, policymakers should be aware of the potential negative effects of subsidies, even if they believe that they are effective. On the one hand, such negative externalities result from the comparison between subsidized and non-subsidized firms. If the subsidy is effective, the former will develop better than without it. However, the subsidy can also have a potentially negative effect on the non-subsidized firms.¹¹

Another possible negative effect of subsidies is the risk of subsidy competition. Subsidizing a particular industry in one country can lead to companies from other countries relocating to take advantage of the subsidies. To prevent this, other countries could also offer subsidies, which would be economically inefficient. A recent example of the danger of such a subsidy race is the US IRA and EU Commission's reaction to respond with the same means.¹² In such a subsidy race, only one side wins the companies, who can negotiate with different governments to choose the location that offers the best financial incentives.

To avoid such wasteful subsidy races, international coordination is desirable. Like-minded countries could agree on which industries should be promoted. Within the bloc, companies should then be free to choose where to locate. There should then be a mechanism for compensating countries that did not attract the firm to ensure that the benefits are shared across the bloc.

In summary, industrial policy is back. It is now important to consider how policies can be designed to maximize their effectiveness while minimizing trade-offs and other possible negative effects.

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Green Technology in post-COVID Recovery

Harnessing Green Technology for Inclusive Economic Recovery post-COVID-19

Policy brief

Authors:



Syed Munir Khasru
Chairman, IPAG



Bob Koopman
Research Fellow,
International Trade and
Regional Programme,
Centre for Economic Policy
Research



Jian Xu (Jeffrey)
Education, Education
Practice, Human and Social
Development Sector, Asian
Development Bank (ADB)

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Institutions:



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The Asian Development Bank (ADB) envisions a prosperous, inclusive, resilient, and sustainable Asia and the Pacific. Its mission is to eradicate extreme poverty in the region, which still houses a significant portion of the world's poor. The ADB assists its members and partners by providing loans, technical assistance, grants, and equity investments to promote social and economic development.

ABSTRACT

The COVID-19 pandemic's shift from a health crisis to an economic downturn has prompted a need for green and inclusive recovery strategies, especially among G20 nations. Green technology offers a dual benefit of economic revitalization and environmental sustainability. Global efforts include financial support for green transport, circular economy initiatives, clean energy research, and ecosystem restoration. However, challenges persist in balancing green spending with other priorities and restructuring sectors for lower emissions. This policy brief advocates for G20 action in harnessing green technology to create jobs, foster economic diversification, and achieve sustainable growth in line with international commitments like the Paris Agreement and SDGs.

INTRODUCTION

The COVID-19 pandemic triggered global economic turmoil, prompting massive stimulus spending of US\$14 trillion¹ by the G20 to counteract job losses and supply chain disruptions.^{2,3} The Russia-Ukraine conflict exacerbated inflation and supply chain woes, leading to currency devaluation and income inequality.⁴ While pandemic-induced shutdowns temporarily improved environmental conditions^{5,6} concerns arose over sustainability amidst stimulus measures. Integrating green technology into recovery plans⁷ emerged as a solution, promoting inclusive economic revival and environmental goals alignment. However, recovery efforts have often neglected sustainability as governments faced tensions between stimulus efforts and supply chain disruptions creating unpopular inflation-

»Integrating green technology into recovery plans promotes economic revival and environmental goals.«

ary conditions. But these circumstances highlight the need for a “Building Back Better” approach.⁸ This concept advocates for recovery plans that prioritize reducing emissions, enhancing climate resilience, and conserving biodiversity. Despite G20’s recognition of sustainability importance,⁹ support for unsustainable activities persists, emphasizing the delicate balance between immediate economic recovery and long-term environmental sustainability.¹⁰

THE CHALLENGES OF GREEN RECOVERY

The Asia and Pacific region is on the frontline of climate adversity, hosting six out of the ten nations most devastated by weather-related loss events from 2000 to 2019 (Eckstein et al., 2021). With climate change potentially carving 24% of the region’s GDP by 2100, including staggering losses of 35% in India and 32% in South-east Asia under a high emissions scenario (ADB, 2023), the urgency for a low-carbon transition is palpable. The region’s GHG emissions share surged from 22% in 1990 to 44% in 2019 (ADB, 2023), underscoring its growing influence on the global climate

equation. This transformation to a green economy demands comprehensive policy frameworks, green finance, and sustainable technology promotion (ADB 2017; OECD, 2023). The shift is set to reshape labor markets, with an estimated 43% of the workforce currently engaged in climate-vulnerable sectors or those transitioning to greener operations (Deloitte, 2023), highlighting the critical role of education systems in equipping the workforce with necessary green skills.

Prior to the pandemic, there was already a learning crisis, with many individuals lacking basic literacy and numeracy skills. The COVID-19 pandemic has exacerbated pre-existing inequities in education, hitting low-income and disadvantaged households the hardest. The pandemic has particularly affected vulnerable groups such as girls, children with disabilities, and those living in remote areas or belonging to ethnic minorities and indigenous peoples, increasing their risk of dropping out of school. This has highlighted the urgent need for foundational learning for all and transformative measures to make education systems more adaptive and inclusive.

The post-COVID-19 era offers the chance to harness digital transformation for a sustainable economic rebound. Digital technologies provide innovative solutions to climate challenges and educational reforms, fostering a skilled workforce for a green economy, as seen in the EU’s Climate Pact. Such technologies have proven successful, with Indonesian drones assessing climate risks and apps promoting environmental stewardship.¹¹ AI is central to this transformation, optimizing carbon reduction in construction

with companies like Mortar IO, advancing sustainable agriculture through Agro-Scout, and reducing industrial emissions via Eugenie.ai.¹² These initiatives demonstrate the potential for AI and technology to spearhead a green transition, improving air quality, agriculture, and industry, paving the way for a resilient recovery.

POLICY RECOMMENDATION FOR INCLUSIVE GREEN RECOVERY

1. Structural Changes: Promoting low-emission, sustainable industries and infrastructure.

The transition to green economies requires structural reforms across key sectors like agriculture, energy, transportation, manufacturing, construction, and finance, especially within G20 nations. For agriculture, well-designed and targeted subsidies can support sustainable practices like organic farming. In energy, carbon pricing mechanisms such as carbon taxes can incentivize emission reduction, as seen in the EU ETS.¹³ Transportation sectors can promote electric mobility with incentives for EV adoption and infrastructure development. Manufacturing can adopt circular economy principles to reduce waste, following Japan’s example.¹⁴ Green building standards can be enforced to promote energy-efficient construction, akin to LEED certification in the USA.¹⁵ Finance sectors can invest in green projects through policies like China’s Green Bond Principles.¹⁶ Cross-sectoral policies include investment in clean technology research, education on sustainability, and international cooperation. Carbon pricing mechanisms could help fund these green subsidies and incentive schemes.

2. Fiscal and Monetary Policies: Incentivizing green investments and technologies, reforming subsidies, and implementing carbon pricing.

Fiscal policy recommendations suggest setting up green funds, offering concessional loans and grants and tax incentives for green investments,¹⁷ phasing out fossil fuel subsidies and reinvesting savings into green energy/infrastructure,¹⁸ and implementing carbon pricing mechanisms.¹⁹ Again, these carbon pricing mechanisms can help fund green incentive programs.

Monetary policy recommendations include issuing green bonds, developing sustainable finance frameworks,²⁰ and integrating sustainability criteria into central bank operations.²¹ Cross-cutting recommendations involve international cooperation, transparency in reporting green investments and emissions, and public-private partnerships for low-carbon technology development. Collaboration within the G20 can harmonize standards and prevent carbon leakage while leveraging public-private partnerships to drive green investments.

3. Job Creation and Economic Diversification through Green Technology: Leveraging green tech for new jobs and sectors.

The Green Transition offers numerous opportunities for job creation and economic diversification. Shifting from a fossil fuel-based economy to a renewable energy economy will often require the construction of new energy-generating plants and equipment. Existing renewables in the form of hydro or geothermal will likely need to be expanded and/or their power distributed more widely. Jobs are likely

to be created in Environmental Services aimed at the integration of new technologies and mitigation of climate and environmental disruptions. The World Bank has estimated that as many as 30 million “green” jobs could be created by 2030 in these green technology sectors.²² However, it is also important to keep in mind that many jobs are likely to be lost in fossil fuel-related industries, and it is not always clear that workers from the fossil fuel sectors will be able to transition to the growing sectors. Hence job training and education programs will likely be needed to facilitate labor force adjustments.

4. Enhancing Environmental Sustainability: Strategies to reduce carbon footprints and promote circular economy principles.

The strategies needed to reduce carbon footprints and promote a more circular economy require a significant rethink of traditional energy-intensive economic growth and corporate produce-and-forget approaches. Reducing carbon footprints requires domestic economic and regulatory policies that initially increase costs to citizens and companies, though those increased costs are just capturing the real costs of carbon emissions. Economists typically argue that a “carbon” tax is the most efficient and effective mechanism to ensure a reduction in emissions,

but governments and policymakers often prefer more indirect regulatory approaches with specific quantitative reductions in emissions. For issues like borderless carbon emissions one government’s actions are likely to be ineffective without global cooperation and coordination. Given that developing and least developed countries typically have lower levels of capacity to implement either carbon taxes or regulatory approaches, some differentiation in global commitments is required. Lower-income countries generally emit more carbon per unit of output creating significant equity challenges when it comes to addressing climate change while ensuring economic growth for those who need it the most.

5. Alignment with International Commitments: Ensuring policies support the Paris Agreement and Sustainable Development Goals (SDGs).

Non-binding agreements such as the Paris Agreement and the SDGs have weak mechanisms to effect change on the part of governments. Domestic politics dominate climate change policy development and international cooperation is viewed as secondary to domestic concerns. This is problematic for a global commons issue like carbon emissions and climate change. Often international agreements, including economic ones with fairly strong enforcement mechanisms such as the WTO and some regional trade agreements, usually do not have specific commitments to help meet the environmental goals. Trade agreements may even include provisions that need clarification or updating to ensure that climate objectives are considered

potentially valid issues for exceptions to agreement rules. Illustrating the need for more international economic cooperation around equitable commitments, the IMF has suggested a series of differentiated yet effective carbon prices depending on a country’s level of development, from \$75 per ton for advanced economies to \$25 per ton for lower-income emerging markets.²³ The WTO has emphasized the role of trade in allowing countries to access at low-cost leading green technologies, that trade can help mitigate the negative effects of climate shocks, and that WTO members could reduce tariffs and trade costs on a group of energy-related environmental goods and boost trade and reducing global emissions.²⁴

6. The Role of Sustainable Finance: Mobilizing private and public funds for green initiatives.

Currently, there is a significant shortfall in the provision of finance for the Green Transition. Wealthy nations have pledged over \$100 billion per year to support developing countries in their transition. Some estimates indicate at least \$1.2-\$1.7 trillion in investment in sustainable infrastructure is required by 2030, which is double the estimated current contributions of \$600-\$800 billion.²⁵ The IEA and IMF estimate that to achieve net zero carbon emissions by 2050, global investment will need to increase an additional 0.6 to 1 percent of global GDP, which amounts to a cumulative \$12-\$20 trillion (IMF, 2021).²⁶ Current high levels of government debt constrains developing and developed countries alike in their ability to fund the transition making it clear that there is a very important role for private investment.

ACTION PLAN

Short-Term Strategies (1-3 Years)

- Assessing greenhouse gas emissions across sectors to establish baselines.
- Implementing carbon pricing mechanisms to encourage emission reductions and help fund green transition incentive programs.
- Incentivizing electric vehicle (EV) adoption through subsidies and tax rebates.
- Promoting circular economy principles in manufacturing, encouraging product design for reuse and recycling.
- Providing subsidies for organic farming and water-efficient irrigation techniques.
- Enforcing green building standards for new constructions.
- Developing frameworks for green bonds and sustainable investments in finance.
- Increasing funding for clean technology research and creating innovation hubs.
- Implementing education programs on sustainability.
- Engaging in international collaborations to share best practices and build capacity.

The short-term plans are low-hanging fruits since many of the G20 countries are already engaged in these activities. While others can learn from them, effective knowledge-sharing and collaboration can address these actions in the short run.

Long-Term Strategies (3+ Years)

- Increasing investments in renewable energy sources and phasing out high-emission power plants.
- Setting targets for EV penetration and investing in public transportation electrification.

»Green technology is pivotal for sustainable growth post-COVID-19.«

- Implementing efficiency and environmental standards in manufacturing.
- Educating farmers on sustainable practices and investing in sustainable agricultural technologies.
- Create job training and assistance programs to facilitate the worker transition from working with fossil fuel-intensive technologies to green technologies.
- Providing incentives for sustainability certifications and retrofitting existing buildings.
- Encouraging the adoption of sustainable investment criteria and directing funds towards green technologies.
- Adjusting strategies based on performance data and stakeholder feedback for continuous improvement.
- Aligning central bank operations with sustainability goals, incorporating green fiscal and monetary policies.
- Investing in skills development training for workers transitioning from fossil-fuel industries.
- Implementing regulations for mandatory disclosure of environmental impacts and sustainability practices.

CONCLUSION

In the face of the COVID-19 pandemic and subsequent global challenges, the G20's commitment to a sustainable and inclusive economic recovery is paramount. By integrating green technology and prioritizing environmental sustainability, these nations can navigate the dual crises of economic downturn and climate change. The proposed action plan offers a balanced mix of short-term initiatives and long-term strategies aimed at reducing emissions, promoting green jobs, and fostering economic diversification. Effec-

tive implementation, coupled with international cooperation, is key to realizing these goals. Ultimately, this approach not only addresses immediate recovery needs but also sets a foundation for a resilient and green future.

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Driving Sustainable Growth Through Care

Seven Specific Measures to Guide the Profile of Investment in Caregiving

Policy brief

Authors:



Gala Díaz Langou
Executive Director, CIPPEC



Vanesa D'Alessandre
Principal Investigator of Social Protection Programme, CIPPEC



Florencia Caro Sachetti
Associate Researcher of Social Protection Programme, CIPPEC



Bruno Muñoz
Coordinator of Social Protection Programme, CIPPEC

Institution:

CIPPEC 

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Keywords:

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Authors: Gala Díaz Langou, Vanesa D'Alessandre, Florencia Caro Sachetti y Bruno Muñoz¹.

Caregiving is the activity that societies allocate to the development, maintenance, and repair of human capabilities. Everyone requires care, but at certain stages of life—such as childhood, advanced age, when suffering from illnesses, or living with disabilities—it becomes indispensable. Indeed, from the individuals' perspectives, the capability to build meaningful lives and make decisions freely is closely tied to the care they receive at each stage of the life cycle. Therefore, the integration of caregiving into economic frameworks is imperative. In fact, capabilities are increasingly central to the market economy. Currently, 75% of companies' profits come from human capital, with only the remaining 25% directly attributed to financial capital (Gasparini, 2022). However, the link between caregiving, capabilities, and sustainable development remains largely invisible.

Critically, the Human Development Report 2021/22 unveiled a troubling trend: for the first time since its inception in 1990, the Human Development Index saw a decline over two consecutive years. The root cause of this global civilizational crisis lies in the indiscriminate exploitation of the planet's resources, the ongoing undervaluation of caregiving, and the systemic neglect of policies supporting families and caregivers (UNDP, 2022).

In November 2022, the member states of the Economic Commission for Latin America and the Caribbean, which participated in the XV Regional Conference on Women, responded to this crisis with a powerful and guiding concept: the care society. A society that recognizes fragility

»The link between caregiving, capabilities, and sustainable development remains largely invisible.«

and dependence as inherent aspects of life rather than merely as unintended outcomes of human activity. The care society, where life's sustainability and the essential factors that enable its reproduction to serve as guiding principles of the development model, represents a significant milestone in a debate that feminists have actively engaged in over the past five decades. This paradigm shift acknowledges the vital role of caregiving in shaping societal structures and highlights the need for policies that prioritize the well-being of people and the planet (Tronto, 2020).

The lion's share of caregiving duties within societies falls on women, mainly from within their households, which remains unpaid. The persistent lack of care support services that would help caregiving families cope with the scarcity of time and financial resources constraints, coupled with the disproportionate burden of unpaid caregiving work on women, are among the primary causes contributing to the crisis of social reproduction in contemporary societies.

Faced with this challenge, how can governments harness the potential of caregiving to drive sustainable development? In this article, we present seven specific measures to guide the profile

of investment in caregiving. Collectively, these guidelines aim to strengthen the care society and foster a more equitable and sustainable future. Put simply, they are measures for governments to influence the redistribution of unpaid caregiving work, to narrow the gaps of inequality among social strata, genders, and generations, and to contribute to energizing the economy while recognizing the crucial contribution of caregiving to the development of human capabilities.

Care Support Services.

The institutional provision of childcare, education, and long-term support services for individuals with functional dependencies has proven beneficial for the development, maintenance, and repair of the capabilities of populations with higher dependency. Concurrently, it enables households to transfer part of the caregiving work to the paid sector. Thus, it helps women in caregiving households regain time to continue their education, engage in paid work, and/or take on leisure activities. However, access to these

»They are measures for governments to influence the redistribution of unpaid caregiving work, to narrow the gaps of inequality.«

services falls short of what is needed. A recent UNICEF study confirms this trend regarding childcare services: only 66% of children aged 3 to 4 in Latin America, less than 50% in Asia, and 25% in Africa have access to this institutional offer (UNICEF, 2023).

Investing in care services has significant potential to stimulate the economy and leverage women's labor force participation. Indeed, a recent study by the International Labour Organization (ILO) indicates that this investment generates three times more employment than investment in construction. Moreover, since they are labor-intensive and historically feminized, expanding the network of such services would positively impact women's participation in the labor market (ILO, 2022).

In summary, enhancing access to care support services can foster economic growth, and promote gender equality, and social inclusion. Governments can address the systemic barriers that hinder women's full participation in the workforce by investing in care services.

Time.

Parental leaves contribute to the emotional and physical well-being of caregivers and children alike. Indeed, parental leaves allow families with young children to have sufficient time to establish lasting and meaningful caregiving bonds without sacrificing income. Consequently, parental leaves create a conducive environment for shared responsibility in caregiving between men and women, as well as between companies, the government, and families.

There is significant room for improvement in this regard. Currently, 64 coun-

tries provide less than the minimum 14 weeks established by the International Labour Organization's Maternity Protection Convention No. 183. Additionally, only 4 out of 10 fathers have access to any form of paternity leave, which varies from two days to several months (ILO, 2022).

Moreover, expanding parental leave policies can have broader societal benefits, including greater gender equality in the workforce and improved child development outcomes. Research suggests that countries with more generous parental leave policies experience higher rates of women's labor force participation and greater parental involvement in childcare. Thus, enhancing access to parental leave can contribute to building more equitable and supportive societies.

Money.

The majority of goods and services needed by caregiving families—such as food, shelter, household equipment, transportation, etc.—are purchased using income earned from the labor market. Money is an essential resource for families to provide quality care. However, the number of households with dependents lacking sufficient income to cover basic food costs is staggering. Currently, almost 700 million people worldwide live in extreme poverty, and children are twice as likely as adults to live in poor households. Indeed, while they represent only 31% of the global population, children constitute more than half of those living in extreme poverty (World Bank, 2023).

Expanding the non-contributory pillar of Social Protection Systems can significantly mitigate income poverty. In Latin America, for example, conditional cash

»Enhancing access to care support services can foster economic growth, promote gender equality, and social inclusion.«

transfer programs have been a crucial part of the strategy to alleviate hunger and poverty in recent decades. However, for this policy tool to impact caregiving dynamics within families without reinforcing the gender division of labor, it is essential to coordinate it with the expansion of caregiving support services.

Furthermore, addressing income poverty among caregiving families requires comprehensive social protection measures that go beyond cash transfers. Access to affordable healthcare, housing, and education are also critical components. Coordinating these efforts with initiatives aimed at improving caregiving support services can create a more holistic approach to addressing poverty and inequality within communities.

Care Workers.

Paid caregiving is heavily feminized and remains one of the lowest-paid and most precarious sectors of the economy. Improving working conditions and providing training for care workers are essential pillars towards the consolidation of a systemic caregiving policy. Indeed, investing in training, competency certification, and

professionalization of these workers is key to revitalizing the paid caregiving sector.

Additionally, governments must actively engage in protecting the labor rights of care workers. Incorporating the International Labour Organization's Domestic Workers Convention (C189) into domestic legislation and regulating and promoting digital platforms that connect workers with potential employers are two concrete measures to improve their working conditions.

Moreover, recognizing the contributions of care workers to society is essential for building a more equitable and just society. Governments should prioritize policies that ensure fair wages, access to benefits, and job security for care workers. Strengthening labor protections and promoting collective bargaining rights are vital steps toward creating dignified and sustainable work environments in the caregiving sector.

Systemic Approach.

The caregiving perspective enhances the scope and effectiveness of the aforementioned policies. The paid caregiving sector, childcare services, long-term support services, leaves, and non-contributory financial transfers transform the social organization of caregiving when aligned towards the same purpose and bespoke to the real demands of families. However, authorities leading the consolidation of caregiving policies often struggle to set a common framework that encourages communication and coordination among actors accustomed to working independently.

Technical and financial assistance for mainstreaming the caregiving perspective in social policy is crucial to consolidating an institutional architecture and regula-

tory framework that articulates scattered initiatives, avoids overlap, and fills critical gaps. The District Care System in Bogotá at the local level and the National Care System in Uruguay at the national level are encouraging experiences in this regard.

Additionally, promoting public awareness and understanding of the caregiving perspective is vital for garnering support and fostering collaboration among stakeholders. By prioritizing education and advocacy efforts, governments can foster a culture that values caregiving and recognizes its pivotal role in sustaining healthy communities.

Furthermore, establishing mechanisms for ongoing evaluation and feedback is essential for ensuring the effectiveness and responsiveness of caregiving policies. By regularly assessing outcomes and soliciting input from stakeholders, policymakers can refine strategies and address emerging needs more effectively.

Social Representations.

The disproportionate burden of unpaid caregiving work in households on women, along with the underestimation of the goods and services families need to provide care, is rooted in gender representations that legitimize these practices. Particularly those that conceive of caregiving as an inherent capability of the female condition.

From this perspective, the consolidation of social representations promoting gender equality is a necessary condition to prioritize and make visible the contribution of caregiving to sustainable development. In this sense, mass awareness campaigns are an effective strategy to combat gender stereotypes, promote shared responsibility

between men and women, and foster cooperation among government, businesses, civil society, and families.

In summary, fostering a culture of gender equality requires challenging traditional gender norms and promoting inclusive representations of caregiving as a shared responsibility. Through targeted awareness campaigns and educational initiatives, societies can dismantle stereotypes and empower individuals to participate equitably in caregiving roles.

Evidence.

The evidence provided by data and applied research contributes to positioning caregiving on the public agenda and legitimizing investment in policies aimed at harnessing the potential of caregiving to drive sustainable development. Regular compilation of intersectoral data at the individual and household levels, along with policy analysis, is crucial to identifying best practices and guiding the consolidation of caregiving policies. Moreover, ongoing evaluation and monitoring of caregiving policies ensures their effectiveness and responsiveness to evolving societal needs and challenges.

From this angle, the Basic Care Basket (BCB), a synthetic indicator to estimate the costs of families' caregiving production developed by CIPPEC and Southern Voice with the support of IDRC, is a powerful tool to build evidence and guide policy implementation based on information.

Preliminary results of the BCB for Argentina (2018-2021) indicated that around 60% of households with young children do not have sufficient resources to provide care. Only approximately 40% of households with children and adoles-

»Transitioning towards a care society prioritizes sustainability and acknowledges the intrinsic value of caregiving in shaping societal progress and well-being.«

cents demonstrated successful caregiving dynamics. That is, households where all children and adolescents are enrolled in school and do not exhibit developmental difficulties, while also having no individuals engaging in more than seven hours of unpaid work per day. The minimum resources invested by households with successful caregiving dynamics were equivalent to 2.2 poverty lines. One-third of these resources constituted unpaid work. Additionally, 70% of these households received free health and education services from the state. On average, these resources represented 18% of their total investment.

The care society is an alternative to a development model based on the exploitation of natural resources and caregiving that jeopardizes the continuity of life. Recognizing the link between caregiving, capabilities, and sustainable development is key to overcoming the crisis of social reproduction in which our societies are immersed. The seven measures presented in this article aim to guide the necessary investment to consolidate a systemic

caregiving policy that strengthens the paid caregiving sector, provides households with the resources they need to care, and reverses the reproduction of social and gender inequalities. Ultimately, we want to move towards a society committed to sustainable development and prioritizing people and the planet. In essence, transitioning towards a care society prioritizes sustainability and acknowledges the intrinsic value of caregiving in shaping societal progress and well-being for all.

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¹ The authors work at the Centre of Implementation of Public Policies for Equity and Growth (CIPPEC). Gala Díaz Langou is the Executive Director. Vanesa D'Alessandre is Principal Researcher from the Social Protection Programme. Florencia Caro Sachetti is Researcher Associate from the Social Protection Programme. Bruno Muñoz is Coordinator of the Social Protection Programme

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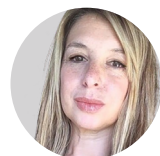
Regionally Based Socio-Economic Ecosystems: Case Studies from Argentina

Research paper

Authors:



Paul Grainger
Senior Honorary Research Associate, UCL Institute of Education and Global Foundation for Cyberstudies and Research



Silvia Lanza Castelli
Professor-Researcher, Universidad Siglo 21
Professor-Researcher, Universidad Tecnológica Nacional



Maria Paula Gonzalez
Professor-Researcher, Universidad Siglo 21
Professor-Researcher, Universidad Nacional del Sur

Keywords:

inclusive digital transformation, social ecosystem model (SEM), vocational education and training (VET), talent gap

Institutions:



UCL founded in 1826 in the heart of London, UCL is London's leading multidisciplinary university, with more than 16,000 staff and 50,000 students from over 150 different countries. UCL is consistently ranked as one of the top ten universities in the world (QS World University Rankings 2010-2022) and is No.2 in the UK for research power (Research Excellence Framework).



Universidad Siglo 21, with more than 67,000 students and 23,000 graduates is the largest private university in Argentina. Created in 1995, it offers a hybrid education covering 23 Argentine provinces with 300 learning centers, presential, face-to-face, mixed and full online proposals.



Universidad Tecnológica Nacional (UTN) is an Argentine public university with a federal organization, focusing on Engineering degrees. UTN is the largest Argentine engineering university with a strong presence in the working sector of society.



Universidad Nacional del Sur is a public university situated in Bahía Blanca, Argentina. Founded in 1956 and with more than 30,000 students, UNS is among the 10 best universities in Argentina and among the 50 best universities in Latin America.

ABSTRACT

In recent years, growth in digital transformation has increased exponentially, but in some regions, only slow growth has been achieved, as in Argentina. This represents a remarkable Argentine deficit of skills and a shortage of talent for the development of industry 4.0/5.0. The conclusion reached at an International Engineering Workshop which took place in Cordoba, Argentina confirmed this. Documentation derived from a collaboration with the UCL Global Engagement Strategy was considered, and projects and start-ups in London and Glasgow associated with digitalization, as well as lessons learned, were included. Finally, during 2023 a survey of digital maturity was carried out with Argentine companies. In addition, a field observation of direct data collection from Argentine companies as well as interviews with experts were conducted. Furthermore, 51 Argentine job banks were consulted, looking for digital transformation-related skills. Beyond the business world, 500 academic programs of study within Argentine university degree programs were examined to detect digital transformation-oriented content.

Even considering the particularities of the country, some patterns were detected including the urgent necessity of improving education as a guarantee of growth to promote a better Argentine digital transformation. Indeed, based on the diagnosis and including key points of the Social Ecosystem Model, a set of recommendations oriented towards aligning professional skills covered by university degrees in Argentinian academia with market needs was formulated. These focus on the Vocational Education and

Training framework as a basis for collaboration between employers and academic VET providers, to involve the active participation of all actors in the transformation of the Argentine university curricula, focused on engineering and applied Sciences programs and oriented toward a competencies model.

INTRODUCTION AND MOTIVATION

Currently, inducing inclusive digital transformation is a key factor in ensuring the well-being and balanced socio-economic growth of a society or region. Indeed, digital transformation has increased exponentially (Zaoui and Souissi, 2020). However, in some regions, only slow growth has been achieved, as in the case of Argentina (Vélez, G., 2022). In this context, this work reports on an extensive correlational study carried on in Argentina oriented towards collecting rich qualitative and quantitative data, identifying a remarkable deficit of skills in the face of Industry 4.0/5.0. Based on the study, based on recommendations coming from the Social Ecosystem Model (SEM) (Grainger and Spours, 2018) as a highly valued direction to follow, some policies aligned with the Vocational Education and Training (VET) viewpoint are

»Very low level of digital transformation even for large-sized Argentine enterprises.«

proposed, to deal with the observed talent gap, with an emphasis in the urgency to achieve agreed synergies between local enterprises, academia and all social actors involved.

The rest of this article is organized as follows. The next section discusses all the parameters of the study. Some policies aimed at improving what was observed are outlined. Following this, related works are compared with current contributions. Finally, conclusions and future work are presented, designed to interpret the problem described as a fundamental opportunity for growth and empowerment of the Argentine region towards the benefits of inclusive digital transformation.

SITUATIONAL ANALYSIS: TOWARDS A SOCIAL ECOSYSTEM MODEL FOR THE ARGENTINE REGION

In March 2019 the International Engineering Workshop "Understanding of Skills Systems: How to Involve Employers and Educators Applying Agile Methods" was held in the central Argentinian city Cordoba, organized by Universidad Tecnológica Nacional. Young entrepreneurs who develop their IT-based businesses or who were expanding their enterprises toward new digital business and customer niches were invited together with companies such as McAfee - Córdoba, PluralIT and so on, all of them recognized by government institutions as leaders of regional and national digital transformation. As a result, the talent gap caused by the strong discordance between market requirements and the academic training available was pointed out as one of the most pressing factors. In response to the conference conclusions, the importance of adopting

policies based on a VET viewpoint was highlighted, and some preliminary recommendations for academia were sketched. After this meeting, and largely due to the consequences of the COVID-19 pandemic, it is evident that in all regions of the world, the digitalization transformation processes accelerated and became one of the main keys to socio-economic survival. Consequently, what was concluded in the mentioned workshop became relevant, meriting being considered again in much more detail.

Subsequently, the authors involved themselves in some activities proposed by the UCL Global Engagement Strategy.¹ Under the guidelines of this initiative, the most relevant characteristics of socio-economical ecosystems that foster high levels of digital transformation were collated having in mind the differences between developed and emerging countries and regions. Besides this, projects between colleges and start-ups in London and Glasgow were analyzed to take advantage of the lessons learned. Again, the relevance of achieving an oriented VET model capable of dealing with the talent gap emerged. As a consequence, and framed in profound changes in political and social direction, the particular socio-economic environment associated with the Argentine digital transformation was once more put under the spotlight. Indeed, work in two complementary lines of investigation started.

On one hand, during 2023 a poll still in progress surveying digital maturity was carried out between representatives of Argentine companies to detect self-perception and key issues regarding digital transformation. Different regions of the

country were covered; and a mix of 100 small, middle, and big enterprises were contacted so far 30 have responded. The pool was developed bearing in mind the patterns proposed by (Mugge et al, 2020), but considering particular aspects of the Argentine region and the new scenario post-pandemic. Enterprises like Pan American Energy (energy provider, 200 employees), Toyota S.A. (car industry, 2000 employees), Cooperativa Obrera (supermarket, 5000 employees), MEGA Company (hydrocarbons, gas and petrochemicals sector, 10,000 employees), Bodgas Bianchi (wine sector, 1000 employees), Condor Estrella (passenger transport, 5000 employees), La Anomina (supermarket, 8000 employees), Acon Timber (export lumber sector, 2000 employees), Grupo Ledesma (agribusiness in the sugar sector, 6000 employees), Vista Oil & Gas (energy company, hydrocarbon export, petrochemical, 2500 employees), Barrick Gold Corporation (miner sector, gold, 4000 employees), Claro (telecommunications and TI sector, 10,000 employees) participated, among others.

»Results support the imperative necessity of change led by the SEM (Social Ecosystem Model) as a high-valued direction to follow.«

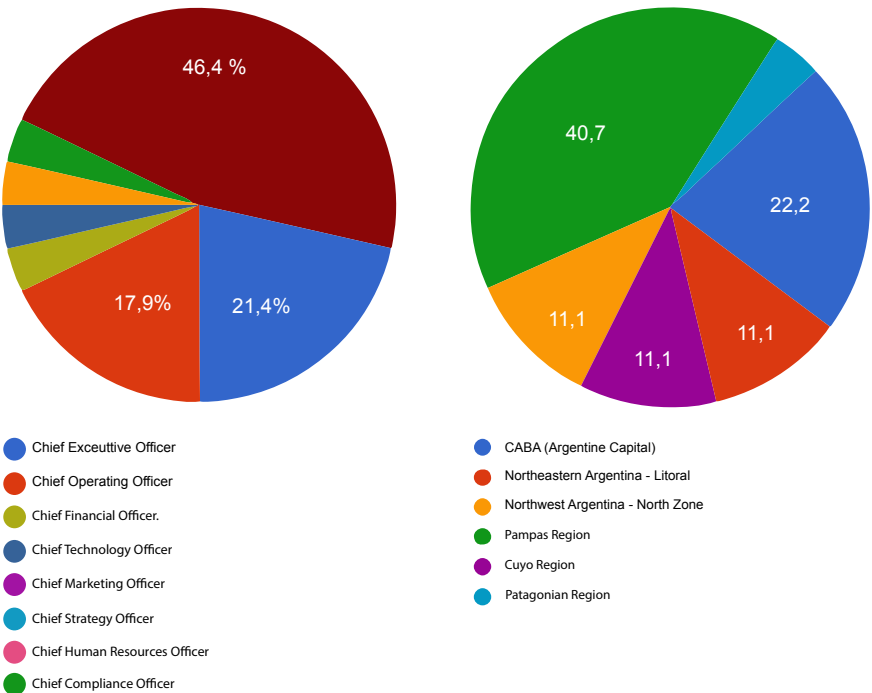


Figure 1: Role of person who represents the company (left) / Geographical distribution of surveyed companies (right)

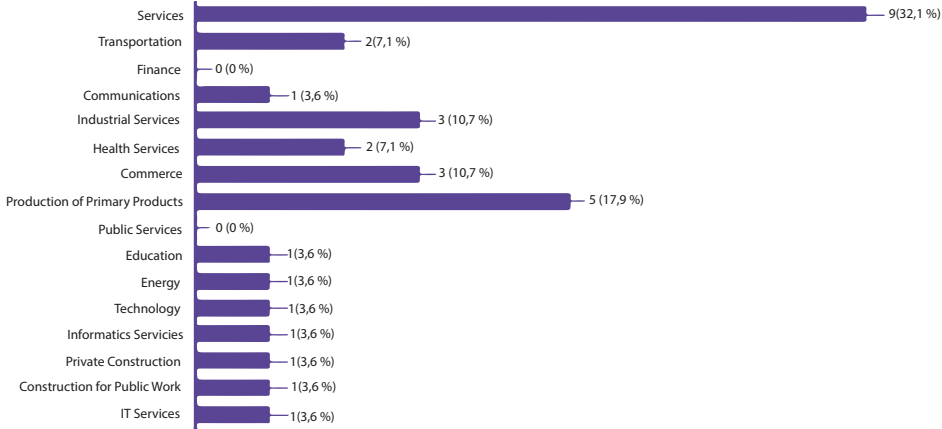


Figure 2: Surveyed economic sectors.

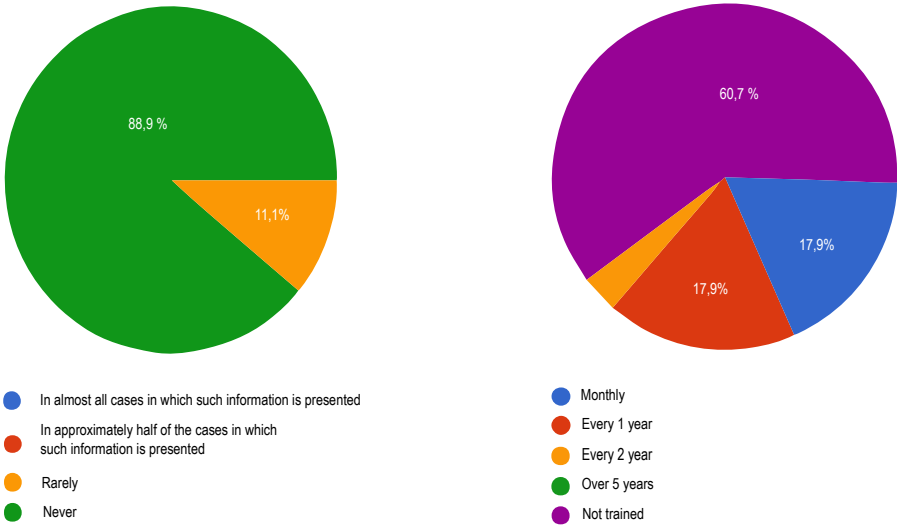


Figure 3: Cases on which Data Science Techniques or Tools are used to process available information (left) / Frequency of digital training (right)

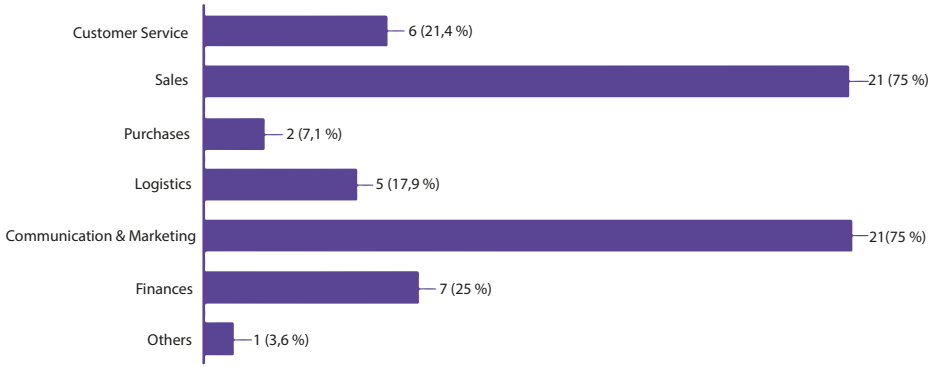


Figure 4: More relevant processes in the Company that suffer a digital transformation may be at 50% during the last 4 years.

Figures 1, 2, 3, and 4 summarize some obtained results. Despite the well-known importance of digital transformation, collected data reinforces the previous hypothesis supporting a very low level of digital

transformation even for large-sized Argentine enterprises. Besides, direct data collection from 10 Argentine companies was undertaken. A sample of small enterprises was considered and results fol-

»Policies supporting VET (Vocational Education and Training) viewpoint are suggested as a crucial strategy for improving the talent gap observed.«

lowed the tendency shown in the survey. Interviews with experts as a secondary collection method are in progress, with the ratification of what was observed.

In addition, 35 job banks managed by public and private Argentine universities plus 16 job banks related to the most relevant Professional Associations throughout the country were consulted. As a result, only 8% of the job applications belonging to the university job banks asked for some Artificial Intelligence or other advanced digital skills regarding digital transformation. In the case of job banks of Professional Associations, the percentage drops to 6.5% of cases.

On the other hand, 500 academic programs of subjects belonging to Argentine university degree careers in science were observed to detect the digital-oriented talent gap as one possible cause of the digital transformation slowdown in the region. If careers in Computer Science or Informatics, Data Science, and Technological Innovation are not considered, few references for competencies or skills regarding dig-

ital transformation could be determined (less than 5%). In all cases, competencies focus on specific traditional software usage more than in regarding industrial processes, in discussing changes in communications and monitoring possibilities, in Artificial Intelligent tools usage and possibilities, or in global comprehension of the novel business rules of the basic contracts underlying Argentine population moving from 4.0 to 5.0 economy.

After all the situational diagnoses were carried out, results support the imperative necessity of change led by the SEM as a highly valued direction to follow. Policies supporting the VET viewpoint are suggested as a crucial strategy for improving the talent gap observed. Achieving agreed synergies between local enterprises, academia and all social actors involved in Argentine digital transformation is not only a very harsh reality but also an opportunity for the entire Argentine society to fulfill more favorable living standards for all citizens. The Argentine Digital Agenda must be positioned at the center of the social and political scene, so that global agreements in the short and medium term can mitigate the slowdown in the adoption of a socio-economic inclusive digital culture, by best practices observed in other geographical regions.²

RELATED WORK

Digital transformation has been measured over the last years in different Argentine scenarios. For example, (Vadell, 2023) describes and analyses factors that show the degree of progress in digitization in Argentina. Unlike this work, the focus is on the process of the tax administration in the country. Another interesting study is pre-

sented in (Fernández et al, 2020), where digital transformation in the Argentine health system is sketched. In addition, in 2023 a recent form to measure the digital enterprise maturity of insurance Argentine companies was launched by the recognized non-governmental organization, the Argentine Chamber of the Software Industry, CESSI in collaboration with the Argentine Association of Insurance Companies.³ Similarly, the Argentinian government made available to the public a digital maturity self-diagnosis through INDTech 4.0, a public-private collaborative hub created for the digital transformation of small companies in which a comprehensive offer of solutions with Argentine technology is articulated.⁴ This reveals the importance that both the institutions and the government provide to the topic under discussion.

One more engaging work is shown in (Califano, 2024), where the author examines the public actions and interventions needed to address the digital inequalities that emerged and became a central issue on the public agenda during the Covid 19 pandemic in Argentina. Although the SEM frame is not mentioned, the author takes into account how digital transformations have disrupted traditional systems of work, education, domestic lives, and methods of communicating. The author explores the extent to which the public actions between 2020 and 2021 have helped to cope with the online activities of everyday life. Respecting the academic training, Martínez-Pérez and Rodríguez-Abitia (2021) discuss a roadmap for the digital transformation of Latin American universities. However, to the best of our knowledge, there are no similar studies as the one presented in this paper.

CONCLUSIONS AND FUTURE WORK

This article discusses Argentina's slowdown in digital and inclusive digital transformation. Starting from the detection of an imperative gap of talent and taking into consideration VEP viewpoint, other countries' strategies and lessons learned, and SEM best recommendations, a worrying lack of demand for skills associated with digital transformation was surveyed, added to a marked lack of university training that promotes an adequate 4.0 and 5.0 oriented professionals skills and competences.

In the short term, future work includes continuing to record the level of digital maturity of Argentine companies as well as other job banks, as more evidence is required. Besides, currently, Colombia is considering not only expanding the survey of business data and contrasting it with the Argentine one but also examining academic Colombian curricula in a similar way that was done for the Argentine case. In the medium term, synergies between the university and the business world must continue to strengthen. Work in all these directions is currently being pursued.

»Agreed synergies between local enterprises, academia and all social actors involved in Argentine digital transformation.«

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³ See <https://cessi.org.ar/2023/04/26/10-05-indice-de-maduracion-digital-de-companias-de-seguros/>

⁴ See <https://www.argentina.gob.ar/produccion/asistencia-digital-para-pymes/autodiagnostico-indtech>

A Consumer-Centric Approach for Inclusion in Digital Public Infrastructures

Digital Public Infrastructure and its Opportunities for Financial Inclusion

Policy brief

Authors:



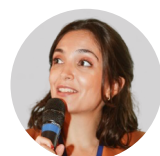
Marina Meira

G20 digital policy advisor,
Consumers International



Hannah Draper

G20 Digital Strategy Advisor,
Consumers International



Camila Leite Contrí

Co-coordinator, Digital
Rights & Telecommunica-
tions Program, Brazilian
Institute for Consumers
Defense (IDEC)



Luã Cruz

Co-coordinator, Digital
Rights & Telecommunica-
tions Program Brazilian
Institute for Consumers
Defense (IDEC)



Alexandre Costa Barbosa

Independent Researcher,
Universität der Künste Berlin
(Design Research Lab)

Keywords:

digital public infrastructure, digital payment
methods, inclusive digital transformation,
financial inclusion, consumers

Institutions:



Consumers International is the membership organisation for consumer groups around the world. We believe in a world where everyone has access to safe and sustainable products and services. We bring together over 200 member organisations in more than 100 countries to empower and champion the rights of consumers everywhere.



Idec (Instituto de Defesa de Consumidores) is a non-profit consumer association, independent of companies, parties or governments. Founded in 1987 by a group of volunteers, our mission is to guide, raise awareness, defend ethics in consumer relations and, above all, fight for the rights of consumer-citizens on a variety of fronts: health, finance, sustainable consumption and, among others, telecommunications and digital rights.

DESIGN RESEARCH LAB

The Design Research Lab at the Berlin University of The Arts works on interdisciplinary design research projects that mediate the gap between technological innovations and people's real needs. With more than twenty researchers, we are exploring smart textiles, human computer interaction as well as communities in our digital society.

ABSTRACT:

Digital public infrastructure (DPI) in financial systems increases access to bank accounts, loans, and discounts for using instant payment systems. DPI also benefits businesses, especially small- and medium-sized enterprises, offering a safer and cost-effective alternative to credit card commission fees.

While DPI promises improved access, it can exacerbate existing inequalities. Those without internet access are further disenfranchised. Consumers with low digital literacy are at increased risk of fraud, data mismanagement, and discriminatory automated decisions.

Low-income women and rural populations are disproportionately at risk of financial exclusion. Vulnerable consumers are not systemically accounted for in digital finance transformation, with consumer advocates worldwide participating in only 20% of their countries' deliberations about new technologies.

This article investigates the impacts of DPI, highlighting best practices and learnings from Pix Brazil's instant payment system, Pix. It argues that for inclusive digital financial transformation, DPI must adopt a consumer-centric perspective, safeguarding the mutual dependency between consumers and enterprises.

»DPIs are considered to be fundamental to accessible and inclusive digital interactions.«

»DPIs, especially digital payment methods, promise a range of societal benefits.«

To meet this objective, stakeholders should acknowledge consumers' interests and support them to exercise their rights. Governments should advance policies promoting digital and financial inclusion by investing in connectivity and literacy, regulating financial service providers to ensure trustworthy and transparent DPI, and prioritizing public solutions. Direct consumer participation and representation in relevant national policies and infrastructures should be fostered. Businesses should create safe and data-protected financial infrastructures with contextually adequate risk mitigation in compliance with legal requirements.

Ultimately, to advance the global economy and overcome inequalities, the G20 can set consumer-focused government and business standards for financial DPI, building on the *2022 G20/OECD High-Level Principles on Financial Consumer Protection* and examining Brazil's Pix system.

INTRODUCTION

While the definition of digital public infrastructure (DPI) is still evolving, its adoption across much of the globe is widely acknowledged. The United Nations Development Programme states that DPI is a combination of: "networked open technology standards built for a public interest,

enabling governance, and a community of innovative and competitive market players working to drive innovation, especially across public programs" (UNDP, n.d.). The World Bank, similarly, describes DPI as "digital platforms - including the institutional and legal frameworks around them - that enable the provision of essential society-wide functions and services" (T20 India 2023 - Official Engagement Group of G20, 2023), while 2023 G20 task forces came up with dozens of definitions. Nevertheless, a general agreement that DPI consists of three core layers has emerged: identification (ID), payments, and data exchange (World Bank, 2022).

DPIs are considered to be fundamental to accessible and inclusive digital interactions: they are designed to enable the provision of fundamental services through long-lasting, effective operating systems. Notably, there are also concerns that most DPIs, including digital payment methods, operate under centralized, techno-solutionist architecture (Morozov, 2013), and governance models that prioritize quick profit over consumer rights and accessible design. The latter places consumers at the risk of financial disenfranchisement and exacerbates existing inequalities. Meanwhile, the financial sector is cut off from potential business opportunities that can develop from DPI designed with consumer inclusion in mind.

In this article, we examine both the design and implementation of payment systems; and, in particular, their promise of improved inclusion and effectiveness for consumers, governments, and businesses. We use Pix, the Brazilian digital payment method, as a case study to examine the potential benefits and risks of DPI. Fur-

ther, we assert that financial DPI must be designed and implemented with a consumer-centric perspective if we are to see inclusive digital financial transformation and safeguard the mutual dependency that exists between consumers and enterprises. Finally, we provide recommendations for governments, businesses, and the G20 to support the advancement of inclusive digital finance infrastructure.

Case Study: Pix, Brazil

Pix is a digital payment method that facilitates instant payments between Brazilian bank accounts, operating 24/7 and transferring money in seconds. Since the Brazilian Central Bank launched Pix in February 2020, it has established itself as the payment method most used by Brazilians - surpassing cash and credit cards. From its inception, until September 30, 2023, Pix logged 26 billion transactions with a value of BRL\$12.9 trillion, approximately €2.37 billion (Banco Central Altera Regras De Limites Das Operações via Pix, 2022). Due to its success, Pix has become a point of national pride, also inspiring other countries to develop similar digital payment methods (Folha de São Paulo, 2023).

Pix is a strictly online payment method, free for individuals to use, and offers businesses very low rates for transactions (Governo Federal Não Mudou Regras De Tarifa Para Pix, 2024). It also provides the scheduling of payments, cash withdrawals, and a free alternative to wire transfers. Moreover, Pix encourages healthy money management¹ by consumers as a short description of transactions can be provided.

Pix is a more inclusive payment method for both businesses and consumers than credit or debit card systems, which often

require minimum transaction amounts and charge high commission fees to vendors. Fees on small purchases, which are common in Brazil and other Global South countries, especially impact economically vulnerable consumers; circumventing these charges also helps to foster market competition by lowering barriers to entry for small and emerging enterprises.

Pix has become a hallmark of open, integrated, and versatile technology. Only a bank account and a Pix "key" (ID, email, or random self-generated code) are necessary to use it - because a user's Pix key is linked to their account details, it's not necessary to share the personal data and account numbers typically needed for bank transfers. Every bank in Brazil with more than half a million customers² is required to make Pix available, encouraging the widespread adoption of this service across Brazil.

The success of Pix demonstrates that DPIs can offer popular, efficient, inclusive, and accessible alternatives to private solutions (such as WhatsApp Pay) for digital payment methods, without raising concerns about market concentration and its implications for consumers' rights and choices (Sutto, 2021; Idec, 2021; Pignati, 2023).

Unfortunately, the ease of the Pix user experience has brought new challenges. For example, Pix has emboldened some forms of online fraud, often through social media sites³, usually involving personal data more typically protected by banks.

Pix has also put a strain on previously existing public security issues. Criminals have taken advantage of the instant payment capability, through stealing phones to facilitate multiple transfers in a short space of time. In response, Pix implemented a control, creating a transfer limit

between 20:00 and 6:00. Users can also control daily and monthly limits, and register trusted contacts that can be paid outside of these limits. Pix is an online platform, but as a fraud prevention measure it requires users to make any substantive changes through an ATM.

Despite the challenges, Pix continues to be a popular, affordable, and inclusive digital payment system and has led to the development of solid security standards for DPI.

DPI AND THE PROMISE OF FINANCIAL INCLUSION

The extensive and expeditious payment systems made possible by DPI offer an array of potential benefits for various stakeholders, including consumers, businesses, and governments. In terms of benefits to consumers in particular, digital payment methods are intended to:

Drive financial inclusion

The primary promise of financial DPI is to facilitate access to banking services, such as opening bank accounts, loan disbursements, and discounts, thereby creating opportunities for new consumers. DPI can also facilitate access to insurance and credit. When interoperably operating on a supra-national scale, DPI may also facilitate international remittances, which are vital during emergencies and crises, thereby improving livelihoods (Ansar, 2023).

Democratize the digital economy

DPI is designed to support individual and informal retailers by enabling affordable financial tools for micro-financial management, driving economic development. Additionally, the more consumers experience

the material benefits of digital payment methods, the greater consumers understand the need to familiarize themselves with adequate mobile device use and to have a proper internet connectivity plan.

Promote convenience

Digital payment methods provide a demand-oriented consumer experience, improving accessibility in financial transactions through fast, straightforward, and easy-to-use design, as illustrated by the popularity of Pix (Siagan et al., 2022).

Alongside potential benefits to consumers, digital payment methods may support higher rates of economic circulation, as well as allow governments to improve the efficiency of social programs. If properly integrated with social information management systems through broad and multistakeholder oversight, DPI can facilitate G2P transactions. Reducing administrative overhead can significantly benefit every activity that involves cash transfers, such as social welfare programs.

For business, benefits of digital payment methods include:

Cost-effectiveness

As in the case of Brazilian Pix, DPI offers low transaction fees, as a result of institutional multi-stakeholder efforts and technology-enabled, streamlined financial processes, reducing frictions and fostering operational efficiency (India's Unified Payment Interface's Impact on the Financial Landscape, 2023).

Inclusive innovation

Digital payment systems can help to level the digital economy playing field: they are accessible even to micro-enterprises and

allow national companies to compete on fairer terms with international ones.

DPIs, especially digital payment methods, promise a range of societal benefits; however, it remains critical to properly identify and systemically mitigate the unintended effects of these infrastructures, to prevent their expansion from having a regressive impact on consumers (There Are Risks but Also Big Potential Benefits From Digital Payments, 2023).

Risks to consumers

Digital payment methods may have a range of deleterious effects on governments, businesses, and consumers – with consumers most likely to be disproportionately affected (Putrevu & Mertzanis, 2023). The most significant risks of digital payment methods to consumers include the following:

Financial exclusion and inequality

Despite some examples of offline payment methods, DPIs largely rely on internet connectivity, adequate devices, digital skills, networking infrastructure, and a consistent energy supply. Reliance on digital transactions may exacerbate inequalities, especially for women and those living in remote or rural areas, especially in Global South countries. Finally, relying on DPIs as the primary way for governments to connect to citizens may create technological lock-ins, impeding opportunities for future changes.

Expansion of data-driven societies

While the availability of consumer data can support customized and personalized financial services and products, it also increases the possibility for consumers

to be manipulated by governments and corporations. The extensive adoption of digital payment methods leads to cultural shifts in consumer behavior, which might have unintended consequences, such as subjecting consumers to data-extraction business models and making alternative digital economy models unviable.

Lack of transparent and participatory regulatory frameworks

Many countries, especially from the Global South, are encouraged by international agencies to implement DPI without adequate transparency mechanisms in place, for example regarding data flows and automated decisions (Access Now, 2021). Many countries implementing digital payment systems do not have data protection laws and the capacity to enforce them, or effective digital financial regulation.

Furthermore, the absence of participatory mechanisms in the development of such infrastructures can limit social participation and agency over the technology. As a result, policies may not appropriately address the needs of consumers.⁴

»Substantial and meaningful efforts must nonetheless be made to mitigate any unintended negative impacts on consumers.«

Increased exposure to security risks

As with any digital system, DPI is susceptible to cybercrimes, such as phishing attacks, and data breaches. Vulnerabilities can be exploited to steal personal and financial data, and lead to identity theft, financial loss, behavior-tracking, and non-consensual data trading (BC comunica vazamento de dados de 238 chaves Pix, 2023). The regular occurrence of these events also jeopardizes the trust building between DPI and the financial system as a whole (Haidar, Karcze-ski & Paschoalini, 2023).

»That these systems will function well and support the growth of economies.«

These security risks exist beyond the digital environment: the fast and easy money transfer capacity of financial DPI can be easily exploited to commit crimes such as street robbery, kidnapping, and extortion (Reuters, 2023).

While DPI in payment methods creates many opportunities for diverse stakeholders, substantial and meaningful efforts must nonetheless be made to mitigate any unintended negative impacts on consumers.

Recommendations for Inclusive and Accessible Digital Payment Methods

To ensure digital payment methods are drivers of inclusive digital transformation, we recommend that governments:

Design and implement financial DPI from a consumer-centric perspective

Ensuring that consumers are at the center of the design and implementation of financial DPI ensures that these systems will function well and support the growth of economies. Features such as transparency, access to redress, safety, and privacy should be central to all DPI-related policies and design. Risks should be assessed regularly and mitigating measures put in place.

Regulate financial service providers

In locations where there is already digital financial regulation, robust transparency and accountability mechanisms must be in place. In countries without existing relevant legal infrastructure, it is fundamental that rule of law-based regulations precede the development and deployment of digital payment methods, especially at a national scale.

Ensure consumer participation in national regulation

There is a need and opportunity to establish multi-stakeholder advisory committees with the participation of consumer protection bodies and consumer-rights civil society organizations, who can represent consumers' interests.

Governments can also benefit from the creation of open innovation laboratories to foster consumer and civil society engagement and prototype new solutions and improvements based on experimentation and collaborative design.

Consider previous financial technical infrastructures

Governments must assess existing infrastructure, and consult with technical and

human rights experts to ensure existing capabilities are appropriately adapted to meet current needs and maximize inclusion.

In alignment with the above recommendations, we further suggest businesses should:

Implement safe and data-protected infrastructures

Businesses must proactively establish complaint and redress mechanisms and ensure other consumer rights. The establishment of good practices and effective communication are critical factors in characterizing companies' social responsibility regarding DPI.

Coordinate with governments and consumers for smart investments

Private organizations have a central role in managing and operating DPI, especially in the context of digital payment methods. Therefore, the sector must act in a coordinated and organized manner in conjunction with governments and consumer protection bodies to allocate investments for financial technologies effectively and produce results for all parties.

Commit to mitigating the risks to consumers

Companies can be drivers of inclusive digital transformation by adopting an approach based on mitigating risks to consumers from conception. Technological development processes must consider consumer principles from conception for this to occur.

Lastly, the G20 can play a key role in setting consumer-focused government

and business standards for financial DPI, for example, by building on the 2022 G20/OECD High-Level Principles on Financial Consumer Protection (OECD, 2022). Furthermore, the G20 can coordinate the development of a framework for an interoperable, open-source, and consumer-centric payment method based on evidence of benefits and risks from existing systems, such as the Brazilian Pix, assuring that the advancement of financial DPI and digital transformation is inclusive.

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³ For consumer awareness of these frauds, see: *Novas regras do Pix: 4 mudanças que você precisa saber*. (n.d.). Idec - Instituto Brasileiro De Defesa Do Consumidor. <https://idec.org.br/dicas-e-direitos/novas-regras-do-pix-4-mudancas-que-voce-precisa-saber>; and *A Era dos Golpes - Mês do Consumidor 2023*. (n.d.). Idec - Instituto Brasileiro De Defesa Do Consumidor. <https://idec.org.br/mes-do-consumidor>

⁴ For example, only one out of five national technology-related decisions made worldwide involve organizations working with consumer rights. This proportion can be greater with the introduction of highly centralized DPI technology and governance structures. See: *Fair Finance - Consumers International*. (n.d.). <https://www.consumersinternational.org/what-we-do/fair-finance/>

A Blueprint for Inclusive Digital Co-ordination

Policy brief

Author:



Catherine Mulligan
Co-Founder, Emerging Technologies Sustainability Taskforce and Visiting Lecturer, Imperial College London

Institution:



A team of experts spanning Accounting, Technology, and Sustainability, with a keen focus on promoting the sustainable utilization of technology, ETST was created to fill the recognised need for a transdisciplinary approach to the world of standardisation. ETST has a strong focus on the real-world usability of the standards created and exists to transform how digital technologies are used to create sustainability outcomes.

Keywords:

standardization, inclusive growth, digital technologies, digital coordination

Globalization and rapid technological change have reshaped the global landscape, ushering in opportunities and challenges. The resurgence of protectionist sentiments and apprehensions surrounding future technologies underscore the complexities of navigating this new era. Most of the global focus recently has been on AI. However, this misses many other technologies that should be addressed with AI as a suite of technologies rather than separately. Amidst this complex backdrop, digital technologies are often seen as pivotal in achieving the Sustainable Development Goals (SDGs). While digital technologies hold immense promise in addressing the SDGs, the proliferation of such initiatives introduces uncertainties in an evolving multipolar world order, which the G20 must appropriately consider.

Many global initiatives have been launched that aim to facilitate the equitable distribution of digital technologies and emphasize digital technologies' role in alleviating poverty and fostering inclusive innovation. Not least among these initiatives is the Digital Public Infrastructure (DPI) work supported by the G20. The G20 is, therefore, trying to assume a pivotal role in fostering constructive relationships and forging models of global cooperation concerning digital technologies. This policy brief delineates three main recommendations for the G20 to navigate the complexities of global technology governance, ensuring it facilitates inclusive pathways to prosperity while safeguarding security and privacy. Rather than focus on one initiative specifically, it focuses on digital technologies applied at the government (nation-state) level as part of Critical National Infrastructure (CNI), with a specif-

»Due to the increasingly complex nature of digital technologies and increasing geopolitical instability, a more structured approach to co-creating digital solutions is necessary.«

ic focus on creating inclusive growth and co-creation of solutions.

Firstly, it addresses the G20's role in formulating effective strategies to combat disinformation and bolster digital intelligence alliances. Secondly, it outlines engagement strategies that ensure middle powers (aka the Global South) are included as equals in these processes. Strengthening these alliances by including middle powers is imperative to safeguarding global peace. Finally, it proposes a blueprint of global cooperation for technology, which builds upon past successes while managing the inherent challenges associated with digital technologies. The G20's proactive engagement in shaping global technology governance is imperative for navigating the complexities of the digital age, particularly when digital technologies are used as critical infrastructure. Through strategic collaboration and inclusive poli-

cymaking, the G20 can pave the way for a future where digital technologies catalyze sustainable development and shared prosperity. As many other multilateral systems, such as the UN, struggle to deliver on their mandates, the G20 can play a strong coordinating role in the emerging world order.

I. INCLUSIVE DIGITAL INNOVATION

Over the last decade, several waves of technological innovation – IoT, Blockchain, Metaverse, and AI, have all been proposed as solutions to the world’s problems. The latest focus has been on AI, while a few years ago, the regulatory focus was on Blockchain. With each new technology, governments and regulators struggle to respond. This is because each new technology is treated separately as its own General-Purpose Technology (GPT). Viewing the technologies as an infostructure enables a more robust discussion and allows high-order regulation and global coordination. Moreover, many of the newer technology solutions proposed to solve the SDGs are not just government systems or corporate systems, but they are systems that include citizen IDs, payments, and biometrics. As such, these systems are

not traditional IT systems and, as such, should be treated as Critical National Infrastructure (CNI); i.e. infrastructure considered essential by governments for the functioning of a society and economy and, therefore, deserving of special protection for national security.

A comparison could be drawn to the regulatory environment for Pharmaceuticals – which focuses on ensuring the “safety, efficacy, and quality of the drugs available to consumers” (Olson, 2014). It does this by focusing on the overall impact of entire drugs, rather than focusing on one chemical compound within it. Rather than creating separate regulations for AI, Cryptocurrency, or Social Media platforms, which is the equivalent of focusing on only one chemical compound in a drug, technology regulation should instead be looking at the overall impact of the technologies within the infostructure. Taking an infostructure approach to regulation would allow easier alignment between regions and nations and create similar regulatory goals. Following Pharmaceuticals’ example, regulation of the infostructure could include guiding principles such as “secure, democracy-preserving, high-quality”, which would be set by the G20.

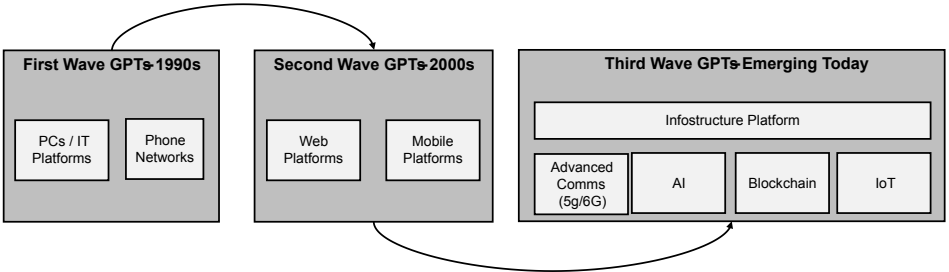


Figure 1: Several Waves of General Purpose Technologies

Underlying the infostructure is data; IoT solutions are only usable with data analysis and, increasingly, AI. Blockchain solutions, meanwhile, are not useful without storing transaction data. Data has become a new factor of production – it is now a critical input to many goods and services of the 21st century. Most companies working with the large-scale collection, storage, and processing of this new factor of production for the global marketplace are headquartered in one nation – the USA. The companies associated with the data as a factor of production economy are commonly referred to as MAGMA – Meta, Amazon, Google, Microsoft, and Apple. Amazon has a market cap or net worth of \$1.79 trillion as of March 12, 2024, Microsoft a little more than \$3 trillion, and Apple’s market cap is just under \$3 trillion. Alphabet (Google) has a market cap or net worth of \$1.69 trillion as of March 12, 2024 (Data source: Statista, 2024). As illustrated in Table 1, this is significantly higher than the market caps of many nations; only seven countries have higher market caps.

»These solutions should be treated as Critical National Infrastructure (CNI) - infrastructure considered essential by governments for the functioning of a society and economy.«

Therefore, another critical issue for the G20 is enabling an even distribution of the benefits and revenues of such technologies.

- CONCRETE RECOMMENDATIONS:**
- G20 should approach digital technologies from a holistic perspective, rather than regulate technologies individually.

Rank	Country	GDP (Trillion USD)	Market Cap (Trillion USD)	GDP per capita	Share of GDP
1	USA	25.463	50.8	75,269	25.32
2	China	17.963	12.2	12,598	17.86
3	Japan	4.231	6.36	34,135	4.21
4	Germany	4.072	4.07	48,845	4.05
5	India	3.385	4.5	2,389	3.37
6	UK	3.070	2.4	45,485	3.05
7	France	2.783	3.9	43,061	2.77

Table 1: Market Cap and GDP of Nations (Data source: World Bank, 2023)

- G20 should set globally recognized guidelines for the application of digital technologies that have an impact on the nation-state.
- G20 should foster globally interoperable regulatory regimes by approaching regulation from the lens of an infostructure.
- New methods of global collaboration should be sought that enable a globally inclusive approach to revenue generation from data.

II. BUILDING DIGITAL COOPERATION FOR THE 21ST CENTURY

In today’s multi-polar world, there is a need to enable regions, countries, and companies to have equal opportunity to input to the development of technologies and equal opportunity for domestic companies to earn money from the data collected from their citizens. Due to the increasingly complex nature of digital technologies and increasing geopolitical instability, a more structured approach to co-creating digital solutions is necessary which:

- 1) Enables innovation and market creation globally.
- 2) Equally distributes economic opportunities across all world regions.
- 3) Ensures the security of the citizens using them.
- 4) Ensures the agency of each nation to deliver its national security.

Several successful global coordination mechanisms exist within the technology sphere, for example, the standardization processes used for telecommunications, which have successfully enabled global market creation and co-development

of solutions for multiple generations of technology. Telecommunications – as a critical national infrastructure itself – can inspire global coordination mechanisms when combined with the benefits of a more IT-driven approach. These processes should be adapted to ensure participation from all regions. A rough blueprint follows. This brief focuses on CNI, however, this process can also be adapted for other multilateral and multipolar governance issues; in short, it can act as a blueprint to enable multilateral cooperation around technology more broadly.

STAKEHOLDERS

In a multipolar world, the technology development process must balance several highly complex stakeholder relationships. These include primary and secondary stakeholders, as illustrated in Table 2 below.

Primary stakeholders include active participants in developing standards, while secondary stakeholders are active in ensuring the standards developed are usable for their needs. Secondary stakeholders traditionally do not actively contribute to the standards but are consulted by relevant primary stakeholders, most often around the requirements. In our scenario, however, civil society organizations and end-user community groups can apply to participate. Due to space limitations, this document focuses on the primary stakeholders and how these can be successfully developed for multipolar technical cooperation, rather than the secondary stakeholders. In contrast to today’s standards bodies, operational partners should be drawn from all regions of the globe, enabling a more inclusive approach.

Grouping	Stakeholders	Description
Primary Stakeholders	Corporations	Companies/organizations working on relevant technologies and solutions
	Regional Partner Organizations	Established standards organizations in regions (e.g. ETSI)
	Operational Partners	Should represent each major region— e.g., Europe, Asia, India, the Americas, Africa, and ME. Responsible for ensuring solutions are implemented and tested correctly
Secondary Stakeholders	End-User Communities	Groups with domain knowledge
	Government Departments	Departments with direct interest
	Civil Society Organizations	Groups with domain knowledge
Approval Body	G20 Established Group or one established at the ITU by the G20	This group acts as a final approval for the standards to ensure that there are stable releases

Table 2: Stakeholders for developing inclusive digital cooperation.

The standardization work should be contribution-driven; anyone who participates can contribute documents for review and inclusion. Stakeholders should apply to participate through membership in an Organizational Partner, e.g., the Regional Standards Committees. Specifications would be co-created and co-developed at relevant working groups (WG). WG meetings would be held several times yearly, and contributions would be prepared, debated, and discussed. Those deemed suitable would be included in the final specification.

Specifications would be grouped into “releases”, each with an internally consistent set of features and specifications. Op-

erational Partners can then transpose the approved specifications into deliverables.

»Taking an info-structure approach to regulation would allow easier alignment between regions and nations and create similar regulatory goals.«

»The G20’s proactive engagement in shaping global technology governance is imperative for navigating the complexities of the digital age.«

Notably, this innovation framework means any company can develop and implement solutions based on these specifications, even those who did not attend the meetings. This enables a stable set of digital critical infrastructure services to be developed and tested for application in national contexts and a secure, stable market for

the companies producing them. This process enables a market-creation process between companies, users, and regulators/governments in a multi-sided market. Due to the requirements for a structured, secure, and stable approach to the delivery of CNI products and services, it would be helpful to adopt a four-stage methodology, adapted from the three-stage methods of the ITU-T (ITU,1998) covering:

- *Stage 1 specifications* define the service requirements from the user’s point of view.
- *Stage 2 specifications* define an architecture to support the service requirements.
- *Stage 3 specifications* define an implementation of the architecture by specifying protocols in detail.
- *Stage 4 specifications* define test specifications to ensure the system, product, or service works as described.

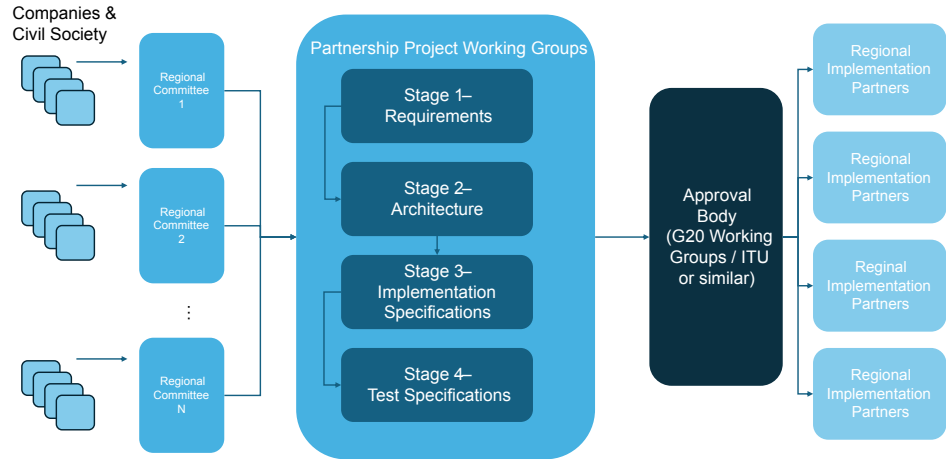


Figure 2: Example Structure for Standardisation of Digital Technologies for CNI

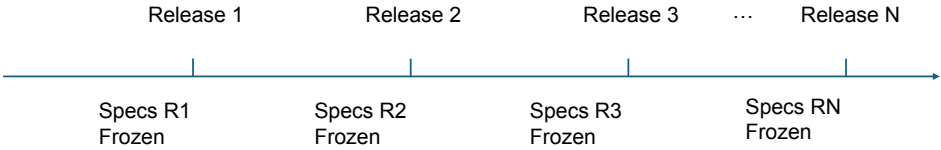


Figure 3: Example Release Freezes over time.

CONCRETE RECOMMENDATIONS:

- G20 should establish a body that runs the standardization process globally for digital cooperation that can ensure the correct parties are involved in the process. This could be done in conjunction with the ITU.
- Capacity building for standards globally should be prioritized so all regions can participate effectively.

III. ALLIANCES FOR CYBER RESILIENCE

One of the most critical areas of cooperation that the G20 should establish as digital technologies are rolled out as CNI is alliances for cyber resilience and national security. Undoubtedly, information wars – specifically those aspects that manipulate information to influence public opinion – are already challenging governmental institutions and growing in number and sophistication (Prier, 2017, Aïmeur et al, 2023). There are also increasing attacks on open-source repositories, which could affect the CNI solutions built using this model (Nelson, 2024).

In previous eras, where national cyber security has been at risk, new forms of international cooperation have been established – two well-known examples are Five Eyes (Australia, Canada, USA, UK, New Zealand) and Fourteen Eyes (Aus-

tralia, Canada, New Zealand, UK, USA, Denmark, Netherlands, France, Norway, Germany, Belgium, Spain, Sweden, Italy). For those third-party countries that wish to gain access to the intelligence from these alliances, there is an option to pay to receive information. Smaller coalitions today are already working together – e.g. AUKUS works on AI (Luckenbaugh, 2023). However, the ability to scale these types of organizations will be critical to the longer-term success of the use of digital technologies such as CNI.

Cyber resilience at a national security level requires many highly specialized human resources. This capacity building should occur before any of the systems are installed in nations around the world. A failure to properly develop capacity in this regard will increase the threat landscape for other countries.

In addition, nation-states must be able to retain control and agency over their national security. In some instances, placing their government systems under the control of corporations headquartered in other countries could create critical risks, especially in a world with a shifting geo-political landscape.

CONCRETE RECOMMENDATIONS:

- The G20 should implement flexible coordination mechanisms that can manage many nations suddenly becoming “digitally enabled”. Loosely coupled alliances could help to protect the overall global infrastructure alongside the more established treaties.

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The Challenges of Governing AI-Elections

Shared Principles and Collaboration for Latin American Democratic Processes

Policy brief

Authors:



Julia Pomares
GSI Fellow, Global Solutions Initiative
Guest Professor, School of Government, Di Tella University



Vicente Arias González
Associate, The Global Initiative for Digital Empowerment

Institution:



The Global Initiative for Digital Empowerment (GIDE) brings new practical policy solutions and diverse international partners to ensure that the rules of the digital economy are more directed to the broad interests of humans, not just businesses and governments. The GIDE is driven by a volunteer, self-selecting, and expanding group of researchers, policy experts, civil society advocates, Internet technical and security experts, and businesspeople dedicated to shaping the rules for digital governance. We are dedicated to a multistakeholder model for problem identification, policy development, and advocacy.

Keywords:
elections, artificial intelligence, digital governance

INTRODUCTION

Governing AI is a commonplace concern among legislators and policymakers. Following the regulatory momentum of leading economies, Latin America (LATAM) is going through incipient but increasing regulatory debates on how best to regulate artificial intelligence (AI). While many LATAM governments are creating national strategies, UNESCO's *Santiago Declaration* shows a regional willingness to harmonize norms and foster collaboration. There has also been increasing pressure from civil society and academia for a human rights-based and participatory approach to AI governance, which resulted in the *Montevideo Declaration* in March 2023. The 2024 Brazilian presidency of the G20 offers an important opportunity to advance this agenda in the region.

While generative AI (GAI) has received much regulatory attention, the 2024 super-electoral cycle has raised the need for the responsible use of AI in democratic processes. Most electoral bodies and stakeholders will face the challenges of the first AI elections with no regulatory framework yet.

This work focuses on the intersection of AI-generated content and democratic processes. Based on analyzing potential threats to electoral integrity in the region and the current regulatory landscape regarding data governance, we outline a series of practical policy proposals to foster democratic representation, accountability, and trust in election processes. We seek to provide a LATAM-tailored strategy to address the region's systemic needs in ongoing global debates.

DISSECTING THE AI CHALLENGES TO ELECTION INTEGRITY IN THE LATAM REGION

In 2024, voters will go to the presidential polls in Mexico, El Salvador, Panama, and Uruguay. Local elections will also occur in Brazil, Chile, and the Dominican Republic. In 2025, several other LATAM countries will hold parliamentary or presidential elections. Are AI threats qualitatively different from what we knew before? How should governments and stakeholders prepare to face them?

Amidst the hype created by the massive adoption of large language models, such as ChatGPT, the use of AI-generated content during democratic elections has recently received special attention. For instance, just days before Argentina's 2023 runoff election, The New York Times wondered whether Argentina was the first AI election (Herrera & Nicas, 2023) highlighting the role GAI-generated videos and images played in the campaigns of both Argentine candidates.

AI's challenges to election integrity in LATAM cannot be analyzed in a vacuum. The region is witnessing a deterioration of electoral processes, characterized by rising political polarisation and social fragmentation (McCoy, 2023). Latin America is also experiencing growing social inequality and inefficient enforcement capacities to face challenges brought by the widespread adoption of emerging technologies (Berg et al., 2024). This context makes misuse of AI tools of utmost importance. The highest risks to electoral processes in the region posed by AI can be organized into three groups:

(1) Large-scale disinformation campaigns can be easily deployed with GAI

(e.g., deep fake videos, synthetic text, or audio cloning), posing serious threats to electoral integrity, especially if disinformation actions are conducted close to Election Day. These campaigns might be more effective than previous ones by enabling easier micro-targeting in political advertising online or offline (Colomina et al., 2021, The Guardian, 2024). Incipient empirical evidence (mostly experimental) suggests that mass manipulation of voters is unlikely, but the perception of manipulation and the potential deterioration of trust in elections are important concerns (Kleinfeld, 2023). Without clear principles and frameworks, campaign efforts to react in real-time to these threats and responses from electoral management bodies and big tech platforms will likely lack efficiency.

(2) Use of AI-generated biased or inaccurate electoral information by administration authorities or other providers of electoral information, such as media outlets or NGOs. GAI allows easy access to election information from the citizenry (for example, about candidates' policy stances). Yet, its irresponsible use, especially by trusted institutions, can unintentionally help disseminate disinformation and compromise trust in elections. The poor accuracy of chatbots, as shown by the *AI Democracy Projects* (Angwin et al., 2024) in the context of the US 2024 presidential primary elections, confirms the need for further work to ensure the use of AI-generated strengthens electoral integrity.

(3) Hack-and-leak operations, cyberattacks, and attempts of electoral interference will likely grow in scale, exposing sensitive information about candidates and political leaders. Hackers may also probe

or compromise election systems, such as the networks that hold voter registration data or vote tallies. The unregulated use of AI can compound this risk.

If unaddressed, the challenges above might undermine the well-functioning of democratic systems. Therefore, it is essential to establish frameworks that ensure AI technologies are used ethically, transparently, and guided by democratic principles. Moreover, these challenges call for responses that tackle the underlying features of the digital economy that facilitate the misuse of AI. As we will show below, these efforts require collaboration from several actors, not only electoral management bodies.

DATA GOVERNANCE IN THE REGION

Data governance is critical to AI governance. LATAM is well behind leading economies in digital data regulation. AI challenges in the context of democratic elections can be traced to citizens' inability to control personal data (Snower & Twomey, 2022). This lack of control is an enabler for the well-known misuse of AI, including different forms of political targeting, disinformation, and misinformation campaigns. Giving citizens meaningful and collective control over personal data can lower the risks of misusing AI during election campaigns. If failing to do so, we anticipate that misuse of AI will grow in scale and impact, which can ultimately pose severe threats to LATAM's democratic systems.

The intersection between the use of AI and election integrity is data (King & Meinhardt, 2024). Political targeting uses personal data to tailor campaigns. Narrow AI tools, such as social media recommendation systems, use specific data for training,

adaptation, and customization (Interaction Design, 2023) Foundation models require gigantic amounts of data for training purposes. AI-image and video generators, already used in Argentine and Mexican election processes, used hundreds of millions of pictures from the Internet to train their AI systems (Growcoot, 2022).

Existing governance frameworks struggle to keep pace with the many ways AI tools can be used during election cycles. Regulatory gaps are exploited by actors that prioritize their interests over public welfare or electoral stability.

In general, LATAM countries have enacted very little legislation protecting their citizens' personal data (Bryant, 2024). Most countries have initiated processes or recently passed legislation seeking to align their principles with those of the EU General Data Protection Regulation. Each effort suffers from the same systemic failures (Snower & Twomey, 2022). Such failures can be traced to citizens' lack of control over how data about them is used, stored, shared, sold, or bought. Two particular shortcomings stand out. First, regulatory systems are overly dependent on individualistic principles for data processing. Second, these regimes assume that service providers and consumers have similar knowledge and negotiation power. Empirical experience shows otherwise. Data aggregators do not have legal or economic incentives to change their practice, and consumers lack the necessary market power and technical skills to demand it.

Citizens can only agree to some requests to process data because it is simply impossible to know who processes information about them or how much their personal data circulates in the digital eco-

»Existing governance frameworks struggle to keep pace with the many ways AI tools can be used during election cycles.«

system. GAI systems pose further uncertainties, as it is difficult to know whether personal data provided as output has resulted from a hallucination, an inference, or information from the dataset (Breunig, 2023).

For example, by accepting the T&C and privacy policy of only one dating App, users see their data shared with more than 4,000 third parties (Forbrukerrådet, 2020). This lack of control can enable the well-known misuse of AI in democratic processes, including voter suppression and different levels of political targeting based on highly sensitive data such as gender, sexual preferences, or ethnic background. Citizens in LATAM countries also face regular data breaches from government bodies.

Therefore, we dispute the narrative that legislation is a mechanism that cannot keep pace with rapidly evolving technologies. Granted, LATAM's legal systems are generally slow to catch up with unregulated or novel threats. However, individualistic approaches to data protection would make any legislative efforts to protect citizens' personal data unfit. Citizens must be protected well before they enter digital interactions.

TOWARDS A REGIONAL GOVERNANCE FRAMEWORK TO PROTECT ELECTIONS IN LATAM: PRACTICAL RECOMMENDATIONS

We propose that shared principles and collaboration in the LATAM region can help countries address the challenges of AI misuse during election processes.

Although every technological innovation process poses its own features, lessons can be learned. Historical difficulties in regional coordination call for mechanisms that foster integration. LATAM countries must learn from the mistakes of the early days of the commercial Internet and make efforts to align incen-

»Short-term solutions based on electoral legislation alone will be inefficient in addressing the challenges AI poses to electoral processes.«

tives and ensure the digital ecosystem is driven by competition and works against the consolidation of monopolies. To that end, we suggest policymakers should be skeptical of over-relying on norms without enforcement mechanisms. Regional strategies should also be mindful of how the use of authoritarian countries in the

region make use of AI (Singer, 2023). Also, since countries share values rooted in common historical challenges, a regional strategy should be tailored to reflect regional cultural values, challenges, and specific needs and avoid verbatim copy strategies from other regions. Chile has already taken such an approach to its AI strategy (*MinCiencia*, 2024).

Moreover, short-term solutions based on electoral legislation alone will be inefficient in addressing the challenges AI poses to electoral processes. A more extended approach is needed in which data protection is a prerequisite. Hence, we suggest five different policy proposals focused on short-term and mid-term goals.

SHORT-TERM GOALS

1. A Regional Commitment to Responsible use of AI in election processes is crucial to ensuring common policy principles across LATAM. International commitments of tech platforms, such as the Tech Accord to Combat Deceptive Use of AI in 2024 Elections, should inform local debates. Regional efforts, including *Santiago's Declaration*, are ideal venues to discuss this strategy and lead to a regional commitment to secure responsible AI use in elections. A regional declaration should set voting suppression as a clear standard for electoral integrity and shift focus beyond content moderation towards the transparency and audit of algorithms. This calls for the cooperation of big tech platforms and other relevant actors in elections, such as media journalism and civil society organizations.

2. Support and help catalyze the coordinated government efforts of the region already underway to address common challenges in AI governance. LATAM countries

struggle to produce enough local data or technical expertise to mitigate biases from imported databases or algorithms. Coordinating efforts can help understand how to tackle such biases, including underrepresentation, gender divides, and misrepresentation of a country's status or needs. For example, it should follow closely the implementation of pioneering regulations enacted by the Brazilian Electoral Tribunal ahead of the 2024 local elections (Folha de S. Paulo, 2024).

MID-TERM GOALS

3. Promote revisions and improvements of data protection laws that are prerequisites for AI governance. Understanding that there are different levels of digital transformation and immediate challenges, we propose that each country draws lessons from short-term goals and drafts local legislation to deal with the misuse of AI in their territories. Such legislation should embed country-based values and challenges but should also seek to allow regional harmonization.

4. Promote the establishment of a multi-stakeholder community of practice for AI election integrity, bringing together experts and practitioners as well as a wide range of stakeholders, including electoral management bodies, political parties, tech platforms, and civil society. It is essential to create a collaborative environment where practitioners can collectively address the complexities of AI governance, contributing to the development of responsible AI practices and policies in the region. A multi-stakeholder community of practice would facilitate the systematic diffusion of policies among countries and institutions and amplify the

LATAM voice in international discussions on AI governance. A practical outcome would be the creation of a regional data repository to collect and share relevant data for AI monitoring and analysis, further strengthening AI election integrity efforts in LATAM.

5. Work towards the harmonization of digital governance rules of LATAM countries aimed at fostering the creation of a regional digital ecosystem. This would entail promoting consistency and coherence in regulations to ensure that AI systems are held to similar standards across different jurisdictions. It also ensures citizens are protected similarly across the region. Endorse the creation of collective digital rights of association and representation, to help bridge the lack of knowledge or interaction between Individuals and every entity that holds information about them.

At the same time, a regional digital ecosystem should facilitate the interoperability of AI systems, enabling data and insights to be shared more easily between LATAM countries. It requires enhancing legal certainty for local developers and users of AI technologies, fostering trust, and encouraging innovation.

LATAM becoming a unified strong bloc in the digital economy is paramount for the advancement of ethical use of AI in the region. We envision an ecosystem that empowers citizens to collectively determine how data about them is processed, facilitates the collaboration of citizens across borders, enables the formation of cross-country data expert markets (BMZ Digital, 2023), and democratizes the use of data in the digital economy, while still fostering innovation and economic growth.

CONCLUSION

The exponential growth and adoption of AI tools call for systematic and rapid responses to protect democracies and promote innovation and social welfare. The urgent focus on AI threats should not prevent us from pursuing a long-term goal of devising how to use AI to make Latin American democracies better fit for the twenty-first century. To get on that task, stakeholders must ensure digital transformation within data governance frameworks that empower citizens. This article illustrates the need and the potential for human-centered frameworks that recognize digital users as consumers and citizens, with agency, solidarity, and trust as fundamental human needs.

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The Promise of Government-to-Person 3.0

Opinion piece

Authors:



Denni Puspa Purbasari
Executive Director, Program Management Office of Kartu Prakerja, The Coordinating Ministry for Economic Affairs of the Republic of Indonesia



Hengki Sihombing
Director of Operations, Program Management Office of Kartu Prakerja, The Coordinating Ministry for Economic Affairs of the Republic of Indonesia



Romora Edward Sitorus
Head of Evaluation, Research, Dissemination, and Advocacy, Program Management Office of Kartu Prakerja, The Coordinating Ministry for Economic Affairs of the Republic of Indonesia



William L. Megginson
Professor & Price Chair in Finance, George Lynn Cross Research Professor, Michael F. Price College of Business, The University of Oklahoma

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Institutions:



The Program Management Office of Kartu Prakerja oversees and manages the Kartu Prakerja Program. Kartu Prakerja is the first active labor market policy and social assistance program in Indonesia with end-to-end digital implementation and beneficiary-centric G2P payment mechanism. From 2020 to 2023, Prakerja has provided training access and social assistance to over 17.5 million individuals across all districts and cities in Indonesia.



The Michael F. Price College of Business at the University of Oklahoma is a business school that prepares students for undergraduate, master's, and doctoral degrees. Established in 1917, it aims to ensure the enduring global competitiveness of Oklahoma and the United States. The college is the top-ranked business school in Oklahoma by U.S. News And World Report.

INTRODUCTION

The COVID-19 pandemic catalyzed a global expansion of government-to-person (G2P) programs, primarily through direct cash transfers from government agencies to individuals. This rapid response was critical, as the pandemic's impact on economies led to a worldwide surge in extreme poverty, marking the most significant escalation in decades. Such an increase poses a considerable challenge to the global agenda, especially in eradicating poverty in all its forms by 2030, as outlined by the Sustainable Development Goals (SDGs). To address this, a concerted global effort is necessary, one that must accelerate poverty-combating measures at a rate 26 times faster than the current pace (Yonzan et al., 2023). This situation underscores the importance of robust G2P programs not only in alleviating immediate financial distress but also in laying the foundation for sustainable economic recovery and development.

Moving forward, while there's a gradual return towards pre-pandemic poverty levels, the journey ahead remains challenging. The World Bank's projections for 2023 indicate that approximately 691 million people, or 8.6% of the global populace, are still expected to live in extreme poverty, subsisting on less than \$2.15 per day

»The ideal G2P system should be interoperable, scalable, and secure.«

»The addition of e-money options in the Kartu Prakerja payment mechanism has also contributed positively to promoting financial inclusion.«

[Yonzan et al., 2023]. This signals a pressing need for accelerated action in poverty eradication, a goal that has seen limited progress since 2019. So far, the countries that have achieved notable reductions in poverty rates attribute their success to the efficient deployment of social assistance programs. As we navigate the aftermath of the pandemic, the importance of G2P initiatives cannot be overstated.

The ongoing evolution of Government-to-Person (G2P) payments during and after the COVID-19 pandemic highlights a significant transformation in how governments reach and support their citizens. This shift from traditional in-kind government support to G2P 1.0 (cash-delivery), G2P 2.0 (digital delivery through a single channel), and then G2P 3.0 (digital delivery through multiple channels and offering choices to beneficiaries), marks a significant leap in the accessibility of these programs. The ideal G2P system should be interoperable, scalable, and secure. Most importantly, it must be flexible enough to meet the diverse needs of beneficiaries,

ensuring quick and reliable support during crises and shocks.

UNLOCKING THE POTENTIAL OF G2P 3.0

At its core, G2P 3.0 embodies a shift towards digital platforms, enabling single programs to connect with multiple providers. This digital transformation ensures faster, more cost-effective, and secure transactions, significantly reducing vulnerabilities to fraud and leakage that were present in earlier versions. More crucially, G2P 3.0 also introduces the element of choice, allowing beneficiaries to select their payment service providers (PSPs) among a variety of options for receiving funds. This choice extends to account providers and withdrawal access points, thus enhancing consumer autonomy and promoting financial inclusion. By adopting this approach, G2P 3.0 serves as a gateway to a wider array of financial services, tailoring solutions to meet the diverse needs of all citizens, especially the unbanked and underbanked.

The benefits of G2P 3.0 are multifaceted. For beneficiaries, it could substantially enhance user experience, welfare, and convenience—through reduced costs, minimized time investment, closer cash-out options, and better complaint resolution (World Bank, 2022). It could further improve financial inclusion by offering financial products and services tailored to enrich beneficiaries' financial well-being. Furthermore, G2P 3.0 plays a crucial role in empowering vulnerable groups, like women, by granting them greater control over their resources, thereby empowering them and giving them a voice.

From the government's perspective, enabling G2P 3.0 payment that leverages

digital public infrastructure can create efficiencies across programs. This approach can reduce governmental expenditures, minimize financial leakages, enhance the accuracy of targeting beneficiaries, and deter fraudulent and corrupt activities. Ultimately, such enhancements are anticipated to culminate in substantial fiscal savings for the government.

Lastly, the consistent flow of transactions presents a significant business opportunity for payment service providers. It may foster competition, reduce operational costs, and expand service coverage. Moreover, broadening the base of financially included individuals enhances the viability of digital payments, encourages the refinement of financial products and services for those previously excluded, and promotes the development of financial infrastructure in areas previously underserved.

Nevertheless, unleashing the full potential of G2P 3.0 requires overcoming several obstacles. These include adopting a system-wide perspective for integrating payments, encouraging cooperation between the public and private sectors, connecting existing infrastructures, and demonstrating the system's viability through multiple payment program prototypes. Achieving this also depends on ensuring that a robust digital infrastructure, essential to widespread digital financial inclusion, is firmly established.

INDONESIA'S KARTU PRAKERJA: MODERN BENEFICIARY-CENTRIC G2P

In 2020, the Indonesian government launched the Kartu Prakerja Programme. Kartu Prakerja is a pioneer of self-targeting, multi-channel, and beneficiary-cen-

tric Government-to-Person (G2P) payment in Indonesia, proven to have built economic resilience and driven financial inclusion. Primarily, Kartu Prakerja is a large-scale skill development initiative that grants training vouchers and disburses post-training cash incentives directly from the government to individuals. Initially aimed at enhancing skills like competence, productivity, competitiveness, and entrepreneurship, the program expanded its objectives in response to the COVID-19 pandemic to include distributing social assistance to those economically impacted and in need of financial support. From 2020 to 2023, Prakerja has provided training access and social assistance/post-training incentives to over 17.5 million effective beneficiaries in all 514 districts/cities across Indonesia.

Kartu Prakerja distinguishes itself as the first G2P 3.0 payment system in Indonesia to offer beneficiaries a wide array of payment options, including e-wallet, firmly rooted in a customer-centric and transparent design philosophy. This innovative approach has led to partnerships with a variety of state-owned and private banks, as well as e-wallet platforms, ensuring beneficiaries have control over when and how they receive their payments. Such transparency allows for better financial planning, with some partners even offering zero fees for money transfers and withdrawals, fostering a competitive environment that promotes quality services. Additionally, the program's adoption of e-money enables beneficiaries to access their funds with ease, directly from their mobile phones.

Beyond merely facilitating transactions, Kartu Prakerja focuses on address-

ing the varied needs of its users, employing online surveys to measure customer satisfaction and customize its offerings to a diverse demographic. Registration is made simple, allowing individuals to sign up online with basic information, which is subsequently verified for eligibility. The payment process is equally user-friendly; beneficiaries receive their incentives directly in their bank or mobile money account after completing training and assessments, facilitating a seamless transition for those new to banking or e-wallet services.

»Ultimately, the goal of G2P 3.0 implementation is to drive long-term development outcomes.«

The addition of e-money options in the Kartu Prakerja payment mechanism has also contributed positively to promoting financial inclusion. The World Bank - TN-P2K (2022) study found that the majority of Kartu Prakerja beneficiaries (58.5%) are either first-time users of e-money (49.8%) or bank accounts (8.7%). Around 96.4% of all beneficiaries reported satisfied with the cashless disbursement method, with no difference between bank and e-money users. The primary reason for their satisfaction was due to how fast beneficiaries received the incentive. Furthermore, about 85.4% of beneficiaries also experience a

fast incentive cashing-out process, taking 15 minutes or less.

The program has demonstrated that multi-channel G2P systems can overcome the limitations of traditional single-channel distributions, maximizing benefits for beneficiaries by reducing intermediary costs and increasing accessibility. Importantly, Kartu Prakerja has contributed to financial inclusion for a significant portion of its beneficiaries, marking a step forward in Indonesia's journey towards a more inclusive economic ecosystem. This G2P 3.0 payment system, exemplified by Kartu Prakerja, showcases the transformative potential of digital solutions in addressing contemporary economic challenges and setting a precedent for future social assistance programs worldwide.

FUTURE DIRECTION FOR G20: ENHANCING G2P ACCESSIBILITY AND IMPACT

The G20 should further enable the integration of multiple government programs into a unified G2P infrastructure within each country. This infrastructure needs to be interoperable, seamlessly supporting diverse programs and financial service providers. Ensuring a wide range of payment service provider options, including extensive ATM and agent networks, is critical. G2P payments should be deposited into fully functional accounts, facilitating not just cash withdrawals but broader financial engagement. It is essential to design G2P systems that prioritize the beneficiaries' needs, obstacles, and preferences, to create impactful and user-centered programs.

To unleash the full potential of G2P 3.0, several demand-side interventions

are recommended. Firstly, the government should endorse practical applications for beneficiaries using banks/e-wallets and digital financial services (DFS). Enhancing trust and confidence in bank/e-wallet transactions for those beneficiaries who are new to digital financial interactions is crucial. Second, Ensuring all beneficiaries have a National ID, which is critical for bank/e-wallet account opening, alongside advocating for a risk-based Know-Your-Customer (KYC) framework for bank/e-wallets, will further streamline access. Third, addressing the digital divide, particularly among women, the elderly, and persons with disabilities, through increased mobile phone ownership is essential for broadening G2P 3.0's reach and effectiveness.

To ensure the successful implementation of G2P 3.0, it's also crucial to acknowledge and address key supply-side factors. First, there is the need to nurture a vibrant digital ecosystem, a foundation that supports the seamless operation and expansion of G2P 3.0. Equally important is the promotion of interoperability and the development of a shared infrastructure, which together facilitate the integration of various programs and financial services. Furthermore, prioritizing enhanced public communication, alongside stringent data protection and cybersecurity measures, is vital. These steps are essential not only for keeping beneficiaries informed but also for guaranteeing their ability to securely manage their payment preferences, ensuring a smooth and secure transition into the digital framework of G2P 3.0.

Ultimately, the goal of G2P 3.0 implementation is to drive long-term development outcomes, improving beneficiaries'

welfare through greater convenience, financial inclusion, and economic empowerment. This initiative seeks to encourage innovation and the growth of the private sector, thereby making a substantial contribution toward fostering more inclusive and financially empowered beneficiaries. Through strategic implementation and focused efforts, G2P 3.0 implementation aspires to create an environment where all stakeholders have the opportunity to thrive.

CONCLUSIONS

Kartu Prakerja is a prime example of the potential of technological innovation and leapfrogging in building adaptive and shock-responsive social protection systems. Indonesia's experience has shifted the paradigm of how we think about social protection delivery and offers valuable lessons for the region and beyond. Kartu Prakerja was able to reach scale quickly by using novel approaches and building a new delivery model for social protection systems. This customer-centric and multi-channel method provided a way to support Indonesian residents in a situation of urgency. Previous infrastructure investments in mobile network infrastructure, payment ecosystems, and digital literacy enabled Kartu Prakerja's delivery model, yet these enabling factors are not necessarily distributed uniformly or progressively within Indonesia's socioeconomic landscape.

Other G20 countries can leverage the innovations introduced by Kartu Prakerja and combine them with more conventional approaches to increase the reach of social protection systems. Local conditions such as digital readiness

call for differentiated, complementary, and flexible policies to optimize program delivery. Combining approaches requires forward-thinking design, including using modular data structures to integrate future data sources and ensure the interoperability of data sources through unique identification systems.

The G20 Countries have a unique opportunity to develop digital G2P 3.0 payment ecosystems, as well as Digital Public Infrastructure (DPI) more broadly. Doing so can ultimately lay the foundation for shared payment infrastructures capable of enhancing convenience, inclusion, and empowerment for their beneficiaries. Through G2P 3.0, financial intermediaries benefit from consistent cash flows and an expanded client base. Meanwhile, beneficiaries gain access to digital tools that enable them to manage their assets, save for future investments, smooth consumption patterns, and create a savings buffer against adverse events. Additionally, governments stand to improve payment efficiency through electronic delivery and achieve amplified developmental impacts due to its enhanced efficiency and multiplier effects. This modern approach could streamline social assistance delivery and foster a more inclusive and resilient digital ecosystem.

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**China Can Play
a Greater Role in
Mediating Major
International Conflicts**

Henry Huiyao Wang

Toward a New Era in Global Relations

The Potential of Middle Power Diplomacy to Shift Global Political Dynamics

Opinion piece

Author:



Colin Bradford
Global Fellow, Global
Solutions Initiative
Lead Co-Chair, China-West
Dialogue
Senior Fellow, The Brookings
Institution

Institution:

The China-West Dialogue (CWD) was founded on the premise that the bilateral US-China relationship is leading the world toward a bipolar competitive era and that a plurilateral process that involves Europe, Canada, China, Japan, and the US would create complexity and dynamics that focus more on substance and less on rhetoric and ideology in addressing and negotiating major issues.

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1. INTRODUCTION AND OVERVIEW

US-China relations shifted into a confrontational mode under the Trump presidency, with tariffs imposed on Chinese exports beginning in early 2018 and in 2020 when Trump labeled the pandemic as being caused by the “China virus.” The Biden administration stayed true to the more aggressive tone of the relationship in both policy and rhetoric beginning with the Anchorage, Alaska, meetings between the highest diplomatic officials of both countries in March of 2021.

The argument in this paper is that, as a result, *2024 could be a year of opportunity* for advancing global governance in addressing global challenges by capitalizing on latent, underlying global political dynamics to tee up a new era in which global governance can advance, even as systemic competition continues between the US, China, and Europe.

From China-West Dialogue’s (CWD) broad engagement of a variety of perspectives from more than a dozen countries including China, the Global South the G7, and the BRICS during the last four years, we conclude that: diversity is a creative force, pluralism is a powerful global political dynamic, and that inclusion is crucial to generating *agency* for humanity in addressing global challenges.

The Brazilian and South African G20 presidencies during 2024 and 2025, with the US to follow in 2026, could become pivotal focal points for the transition to a new era in global relations in which middle-power diplomacy demonstrates the feasibility of advancing humanity’s quest for systemic sustainability, despite the necessary acceptance of geopolitical tensions as a reality.

2. THE ROLES OF MIDDLE POWERS IN GLOBAL RELATIONS

In the current context, most countries do not want to choose between either China or the US. Middle powers find themselves defined by different dynamics. They are capable of independent foreign policy positioning and are contributing to the new global political dynamic of *pluralism*. Pluralism generates complexity, motion, fluidity, and countervailing forces that impact great power relations by scrambling binary tensions, dispersing intensity, and defusing ideological fervor.

Middle Powers exist today and have agency and influence precisely because they are:

- Independently concerned with *global threats* and seek to play a role in addressing them rather than seeking a prominent role in international relations only as a projection of national strength and identity;
- Capable of self-interested contributions to *global decision-making* characterized by diversity of perspectives, competitive behaviors, and shifting coalitions of consensus rather than fixed allegiances based on normative values; and
- Basing their actions and behaviors in the international arena on *national interests* and pragmatic articulation rather than values which have resulted in ideological differences and confrontational tensions.

These foundational shifts mean that **Middle Power Diplomacy (MPD)** is a prominent feature of the new global order now taking shape. Understanding these new global dynamics and nurturing them can make them into transformative forces in defining a new global order.

Middle power diplomacy is based on observations of existing practice that countries are already pursuing their *national interests*, that foreign policies are pragmatic in choosing with whom to align on different issues, shifting allegiances as issue areas change, and that diversity of views is now perceived as an asset for collective decision-making.

Japan, Australia, and Latin America provide good examples of middle-power diplomacy surfacing as an innovative framing for foreign policy in the 2020s.

There is a strain of foreign policy thinking in Japan that supports “the concept of ‘middle power diplomacy’, which aims toward “a more autonomous foreign policy.” The Asia’s Future Report (Soeya and Mochizuki, 2023) proposed that “Japan should...exercise leadership to help mitigate the competition between the U.S. and China in Asia through *constructive diplomacy*....Without this, there can be no solution to transnational problems and no progress toward a world free of nuclear weapons.”

Former Australian Prime Minister, Bob Carr, and former Foreign Minister, Gareth Evans, led a group of 50 Australian signatories to support a “Détente Statement”, which among other things argued that “Australia can contribute to changing [the] environment by renewing our commitment to an *activist middle power diplomacy*.”

Carlos Fortin, Jorge Heine, and Carlos Ominami, prominent thought leaders from Chile each of whom have had significant public policy careers, have edited a book on “Active Non-Alignment and Latin America [as] A New Doctrine for the New Century” (2021) with 24 authors from the

region, which makes clear the degree to which independent *policy space* is a priority for Latin American countries.

“The Nonaligned World: The West, the Rest and the New Global Disorder” was the theme for the May/June issue of *Foreign Affairs* in 2023.

As these brief examples suggest, there could be *a new global order based on secular interests, non-ideological formulations, and multiple sources of global leadership which interactively generate composite outcomes embodying contradictory but valid perspectives from different vantage points that move the world forward to addressing systemic global challenges in significant ways*. This shift in the global political dynamic toward pluralism driven by middle power diplomacy does not inevitably lead to “a new global *disorder*”, but rather could become a more inclusive, integrated network of significant countries to drive global solutions, defining a new global order.

Middle power diplomacy is based on listening, learning, brokering, give-and-get bargaining, inclusion, embracing diversity, being as comfortable with “difference” as with “like-mindedness,” understanding that “shifting coalitions of consensus” is better for global governance than fixed alliances and blocs, and adjusting pre-positioning by being open to enabling unexpected insights and different ways of seeing issues and opportunities to shift perceptions and change positions.

3. OPPORTUNITIES FOR MIDDLE POWER DIPLOMACY: 2024-2025

The challenge for those exercising global leadership is immense: Trying to orches-

trate power dynamics in positive-sum ways to keep the international community whole and manage global relations in ways that strengthen global governance, by invigorating coordinated efforts to generate sustainable outcomes for people and the planet. Despite the global tensions generated by the Ukraine war and the invasion of Gaza, there has been a shift in the tone of China-US relations since the Biden – Xi summit in November 2023 in San Francisco which could open opportunities for middle power diplomacy to play decisive roles in global governance addressing global challenges.

For example, the Bali G20 summit at the end of 2022 set an unexpectedly high mark in convergence among G20 countries on asserting strong adherence to universally agreed norms and principles for international conduct, especially in the face of the Russian war in Ukraine. (G20 Bali Leaders Declaration, paragraphs 3 and 4.) Indonesian President Jokowi and Indian President Modi played key roles in advancing these commitments and in extending ambition to other systemic issues.

The India G20 year in 2023 was a blizzard of G20 official and engagement group meetings, seeming to set a record in the number and size of the meetings held throughout a host country. Both Jokowi and Modi sought to project their capacities to *broker* global deals with domestic benefits for their countries and to *mediate* tense relations between G20 members who were at odds over the war in Ukraine and the situation evolving in Gaza and the Middle East.

The Brazil and South Africa G20 presidencies during 2024 and 2025 provide opportunities for them to capitalize on

»A new global order could be based on secular interests, non-ideological formulations, and multiple sources of global leadership which interactively generate composite outcomes from different vantage points.«

the “pause” in toxic tense geopolitical relations between China and the US during 2024 and to strengthen the roles of middle power diplomacy in global governance.

There are now 17 middle powers in the G20 that are capable of assuming leadership on different segments of the global agenda and working with others to generate agreements on specific issues and convergence where there has been division. There are two categories of countries that qualify as Middle Powers (MP). One is those Advanced Industrial Countries (AIC MPs) from the West, each of whom has regional and global influence in global affairs. The second category consists of Emerging Middle Powers (EMPs) which are rising powers largely from the non-western world.

Macron has made France a leader of an independent vision for Europe. Scholz’s commitment to a multipolar world has put

Germany in a distinctive posture. Borrell's "strategic autonomy" for the European Union has been important in Europe's relations with China. Italian Prime Minister Giorgia Meloni's plurilateral leadership within the EU has made Italy influential in Brussels and Washington. A new Labour government in the UK will raise the global profile of Great Britain. Australian and Japanese independent thought streams manifested in the "détente statement" by 50 Australians and the Asia's Future Report (Soeya and Mochizuki, 2023) could increase the policy independence of both countries. Korea's relations with China vis a vis North Korea distances South Korea from lockstep relations with the US. Canada's longstanding tradition of MPD goes back to Lester Pearson and Pierre Trudeau. These characteristics position these AIC MPs as strong players in global relations.

»Middle Power Diplomacy can cut across traditional groups, incorporate contradictory viewpoints and focus hard on practical policy issues to ideological polemics and geopolitical theatrics.«

Saudi Arabia is increasingly asserting itself on the global stage as a global commercial hub and playing diplomatic roles in the Middle East, including working with China on international issues. Turkey has fiercely positioned itself as an EU aspirant and as a global power broker between neighboring Russia and the West while protecting its independent interests in the Mediterranean. The inclusion of the African Union (AU) as the 21st member of the G20 gives greater focus and voice to Africa in global governance. Argentina, Brazil, and Mexico in Latin America, India and Indonesia in Asia, as well as Saudi Arabia, Turkey, South Africa, and the AU, put each of these G20 members in play in the global arena.

The 9 EMPs along with the 9 AIC MPs constitute a significant and diverse number of Middle Powers that have the potential to change the global landscape, if and as they choose to exercise global leadership in ways that *cut across* traditional groups, *incorporate* contradictory viewpoints and *focus* hard on practical policy issues and avoid ideological polemics and geopolitical theatrics.

The full potential of MPD becoming a significant force in global relations depends on the degree to which these two categories of MP countries resist the temptation to form blocs generating and amplifying tensions between the G7 + and the BRICS+. Rather, embracing the modality of *shifting coalitions of consensus* by affiliating with countries in the other category would engender the *pluralism* that entails the complexity, diversity, inclusion, and pragmatism necessary for global governance, which in the end is a professional endeavor.

The superpowers – the United States, China, and Europe – have much to gain from MPD becoming a growing force in global affairs by facilitating the advance of an otherwise stalled global agenda, by *pluralizing* US-China relations, by interceding between Russia and the West on Ukraine, and by containing the spillover effects of the violence in Gaza.

These positive effects of MPD implicitly assume that the US and China could be open to its advantages. On the other hand, if internal polarization in the US leads to a second term of populist nationalism, CWD deliberations have concluded that such a result could paradoxically mobilize even greater MPD than under a more benign scenario. This realization provides a window into why MPD has appeal, precisely to protect "autonomy", independence, and policy space for varied national interests and a variety of different constructs of strategic advantage.

Both Brazil and South Africa are members of the BRICS and at the same time, each with open relations with the United States and Europe could position each of them to *bridge divides* between countries in the G7 and the BRICS. Identifying what those opportunities are and how to develop approaches to differences in perspective will require forethought and skill.

Indeed, perhaps the greatest opportunity during this brief two-year window is to reconcile some of the tensions between the so-called "Global South" and the "Great Powers" by not only asserting middle power diplomacy as an instrument of leadership by middle powers but also by enabling great powers to understand the advantages of the styles and approaches of MPD which might serve as a preferable

»The full potential of Middle Power Diplomacy depends on the degree to which different types of MP countries resist the temptation to form blocs, amplifying tensions between the G7 + and the BRICS+.«

dominant modality for interactions of all the major players in global governance.

What could be the most important result of two years of middle-power diplomacy might be the realization by both the US and China that reigning in the hegemonic impulse might be a more effective way to keep the international community whole and move global governance forward into a new dynamic that is more productive and effective. In recent years, the divide between the West and the rest of the world, and the "great powers" and "middle powers" in the international arena, constrained ambition and limited the delivery of results.

It might very well be in the interest of the United States to alter the tone and approach to be more consistent with MPD for the US G20 Year in 2026, leaving the hegemonic rhetoric for the G7 Summits of the "like-minded." There could /should

»The issue for Brazil and South Africa is how to mediate between the BRICS and the G7, between the West and the Global South, and bridge divides rather than take sides.«

be a realization that the global context has indeed changed, that significant countries seek their place and space in the global order, and that interactive, fluid, adaptive, responsive global leadership is more effective than the assertive dominance characteristic of the previous global order.

CONCLUSIONS:

- The issue for Brazil and South Africa is how to *mediate* between the multiple modalities of the global order, between the BRICS and the G7, between the West and the Global South, and *bridge* divides rather than take sides.
- Can Brazil and South Africa build on the potential that middle power diplomacy seems to offer to *shift the dynamics* from the dominance of hard power geopolitical tensions severely limiting global governance to an eclectic world in which diversity, pluralism, and pragmatism drive greater global action?
- This eclectic world of middle power diplomacy has the potential to generate *complex convergences* that better

reflect and embody broad and varied interests rather than drilling down on core values and systemic competition as the only drivers of global negotiations and outcomes.

- Not an easy task, but one that Brazil and South Africa could undertake to demonstrate their form of leadership and the capacity of Middle Powers to lead, even in challenging moments like these. A focus on *human security* to integrate the Brazilian priorities of inequality, climate, and international reform could clarify the strategic thrust needed now. Perhaps, a new global order could result from the changes in mindsets, narratives, and behaviors globally that become more visible and valid in the next two years with Brazil and South Africa showing the way forward.

The opinions expressed in this article correspond to its author and are his sole responsibility.

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Toward a Collaborative Ecosocial and Cultural System for Sustainable Development: Fostering Trust and Values-Based Solutions

Opinion piece

Authors:



Rana Dajani

Professor of molecular biology, The Hashemite University, Jordan.
Founder and President of Taghyeer/We Love Reading, Jordan



Sanam Naraghi Anderlini

President and Founder, International Civil Society Action Network (ICAN)



Reetta Toivanen

Professor of Sustainability Science (indigenous sustainability), Helsinki Institute of Sustainability Science and Department of Cultures, Faculty of Arts, University of Helsinki

Institutions:



The Hashemite University in Jordan is committed to academic advancement and national development, with a dedication to innovation, research, and community engagement, playing a vital role in shaping future leaders and professionals of Jordan and beyond.

Keywords:

social innovation, collaboration, nature, ecosystems, symbiosis, evolution



Taghyeer is an NGO, aims to create a healthy, vibrant society by empowering people to think critically and lead the change they seek in their communities.



ICAN promotes inclusive and sustainable peace globally. Recognizing the gendered impact of conflict and the critical role of women peacebuilders, we shape and guide peace and security policies through thought leadership, strategic advice, and gender-responsive analysis. We foster a global movement of locally rooted women peacebuilders to have voice and influence in matters of peace, conflict, rights, and human security. We bring the spirit of the Women, Peace and Security agenda to life.



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ABSTRACT:

The world stands at a critical juncture, grappling with unprecedented challenges of climate change and conflict. A staggering 360 million people are in urgent need of humanitarian aid. The established frameworks and institutions meant to safeguard peace, security, health, and sustainability, painstakingly crafted by past generations, are being disregarded by powerful entities entrusted with their enforcement. Consequently, public trust has plummeted to an all-time low, and pessimism pervades our global consciousness. Focusing excessively on what isn't working not only perpetuates inertia it diverts attention from the diverse solutions that exist, and the extraordinary work of many stakeholders, often working in civil society and local communities worldwide.

This paper underscores the importance of global governance and multilateralism while highlighting positive developments rooted in local contexts yet interconnected on a global scale within multilateral frameworks. It highlights the 2023 UNGA resolution "Promoting the Social and Solidarity Economy for Sustainable Development" (A/RES/77/281), which acknowledged the importance of social innovators, especially civil society, to be included in all planning and decision-making. It argues that the G20 has a unique opportunity to lead other resolution implementations to cultivate thriving societal ecosystems to move beyond inertia and pessimism to tackle contemporary challenges effectively. Offering illustrative examples, the paper provides guidance for G20 nations to spearhead ecosystemic approaches that acknowledge the invaluable contributions of all stakeholders—be they local,

»The G20, with inclusive models prioritizing solidarity, equity, and innovation, catalyzes transformative change for sustainable development and resilience.«

national, or international; governmental or non-governmental; civil society or private sector. By embracing such inclusive and cooperative models that prioritize solidarity, equity, and innovation, the G20 can catalyze transformative change, fostering sustainable development and resilience. These influential nations can pave the way for a more hopeful and collaborative future, where the collective well-being of humanity and the planet are safeguarded.

INTRODUCTION: AN UNPRECEDENTED MOMENT IN HISTORY

The world stands at a critical juncture, grappling with unprecedented challenges such as climate change and conflict. Over 360 million people are in urgent need of humanitarian aid (Guterres, 2023). 100 million of them are war-affected - either internally displaced within their own countries or refugees. For the first time in history, children are making up a significant percentage of war casualties. For example, in Yemen, ap-

proximately 30% of casualties are children, while in Gaza they make up 41%.

Multilateral structures and frameworks and institutions established to safeguard peace, security, health, and sustainability, painstakingly crafted by past generations, have, for too long, been taken for granted, instrumentalized, or disregarded by powerful entities entrusted with their enforcement - namely governments. Ongoing efforts made by states and global civil society movements to evolve the multilateral system to meet contemporary and future challenges have had mixed and limited success. In the realm of peace and security, for example, the end of the Cold War was a pivotal moment of hope and change. Transformative agendas offering new approaches, ranging from human security to the women's peace and security (WPS) agenda, the Responsibility to Protect commitments (R2P), and the International Criminal Court (ICC) emerged thanks to the co-creativity of civil society social innovators and governments. The Universal Declaration of Human Rights (UDHR) which is one cornerstone of the UN system, led to the evolution of conventions on the rights of the child, women's rights, cultural rights, etc. In 2000, the Millennium Developments heralded a new vision for the century. Fifteen years later, Agenda 2030 and the Sustainable Development Goals (SDGs) were agreed unanimously in the UN General Assembly, again in conjunction with non-state entities. These developments are a reminder that despite the myriad differences that exist between states, the multilateral space enables them to find common ground, fostering responsible governance globally. The committed ways in which civil society stake-

holders working locally, nationally, and internationally have pioneered and persisted in drawing attention to challenges and solutions in every field is a testament to the universality of humanity's hopes and aspirations for a life of dignity, equality, and justice across generations, geography, and cultures (Sikkink, 2017). It is also a testament to people's desire and interest in contributing positively to their societies and globally. Yet across every sector and agenda, a similar critique is evident: elite capture, top-down approaches that are, at best, inadequate, and at worst, harmful, and the pervasive syndrome of 'business as usual' fueling inertia, prevents the potential for innovation to be fulfilled.

Scientists and civil society stakeholders have criticized the 2030 Agenda for not challenging the powerful entities including states, international financial institutions, transnational corporations, and even international NGOs that produce and reproduce inequalities in income, wealth, and power at national and global levels, causing the very problems that the SDGs are trying to solve (Esquivel and Sweetman, 2016; Krieg & Toivanen, 2021). Christine Struckmann (2018) argues that the agency of local communities, especially those in the Global South and the indigenous peoples worldwide is inadequately acknowledged. Peace and security practitioners demonstrate how effective innovations in mediation and peace process design, mandated by countless laws and policies, are nonetheless ignored, or implemented in haphazard ways. The cost of such ad hocery and apathy is profound, as the outcomes of the failed negotiations regarding Afghanistan, Sudan, and other conflicts attest (Naraghi Anderlini, 2024).

In each arena when the powerful abrogate their responsibilities to fulfill the commitments to which they pledge, their less visible, less resourced counterparts in civil society take on those responsibilities. While they may not have the political and economic clout, they are propelled by their deep roots and care for their communities.

TIME TO TAKE SOCIAL INNOVATORS ON BOARD

The spectrum of social innovators, working locally, and connecting globally blossomed in the 1990s after the Cold War, and at the time when neoliberalism was ramping up. On the one hand, they arose to fill the voids created by privatization, and structural adjustment policies that reduced state support for socio-economic wellbeing and community security. On the other hand, they are also the embodiment of democracy and civic and political freedom in practice. Whether seeking to reform national security policies as in South Africa in the 1990s (Naraghi Anderlini, 2004), or address climate change, "We, the Peoples of these

»“We, the Peoples of these United Nations” drive human rights, security, sustainability, peace, pluralism, and justice forward as a powerful force.«

United Nations” emerged as a powerful force for driving forward the agenda of human rights and security, sustainability, peace, pluralism, and justice. From the outset, they had their challenges including the inertia of bureaucracies, the blockages from vested interest groups, and the unnecessary mistrust that exists between

»The G20’s challenge: leading by example through profound collaboration with civil society to envision a more equal, peaceful world.«

state and civil society. Additionally, the separation of these stakeholders into silos reproducing a neoliberal logic has meant that instead of working in concert, based on the comparative advantages and solutions of each, there is a limited exchange, many duplications, and at worst competition that have thwarted the potential transformation that could be harnessed.

Now with the foundational cracks in multilateralism and the rising threats to good governance against the backdrop of environmental threats and persistent wars, we have a choice: to feed the pessimism and inertia, with each sector blaming the other, or to come together, across differences to find shared solutions, and in

doing so to leave a legacy of positive peace and dignity for future generations, as previous ones sought to leave for us.

In 2023, despite the tensions, more than 50 UN member states, recognizing the need for positive change, the United Nations General Assembly united to adopt resolution A/RES/77/281 on “Promoting the Social and Solidarity Economy for Sustainable Development.” The resolution acknowledges the importance of recognizing and fully enabling social innovators - across all civil society sectors - to be included in all planning and decision-making about the SDGs and the broader vision of fostering peace, development, security, and rights for the people and the planet. As a UNGA resolution, it can build on the progress made through UN Security Council resolutions that call for similar recognition and inclusivity of civil society (e.g. SCR 1325 & 2250). It offers the G20 a unique opportunity to role model recognition of social innovators and cultivate thriving ecosystems for shared actions.

HOW TO DO THAT?

Nature has always found effective solutions to crises. Below we draw on three concepts evident in nature to inspire and enable global governance and multilateralism to be fit for purpose for the 21st century.

a) Evolution not revolution enables nature to thrive:

Many forces at the extremes of the political spectrum seek the demise of multilateralism, while others are cynical about the need for it. Instead of enabling the demise of multilateralism, the G20 should emphasize its evolution by embracing the innova-

tions and commitment to good governance that has come from civil society. From local community organizations that respond to crises or take on the challenge of literacy and health, to global networks that mobilize around peacebuilding and climate change, the independence, diversity, and vibrant nature of civil society organizations and committed women and men, should be celebrated. Dissenters and protesters, rabble-rousers, or policy wonks are key to solving our global challenges and should be recognized as allies, not adversaries. Given that increasingly the expertise and depth of knowledge about issues reside with such stakeholders, it is efficient and essential to evolve state-based institutions to enable robust, respectful, and equal engagement and cooperation with civic actors.

b) Fostering a diverse ecosystem by scaling, not relying on top-down solutions:

Nature, like any society, thrives when there is a diverse, balanced ecosystem of mutual interdependence. Top-down solutions, even if useful, are neither effective nor sufficient, if they are not rooted in local contexts. Responses to the COVID-19 pandemic were a case in point. The World Health Organization (WHO) was essential for enabling the sharing of information, dissemination of guidance, and distribution of masks and vaccines. But its call to ‘wash hands with soap and water’ was of limited value in countries and communities where either clean water or soap was nonexistent or too expensive, or where the public mistrusted the state, or governments were unable to reach communities. These voids were filled by locally rooted

community organizations. For example, in remote areas of Pakistan, and war-affected parts of Cameroon, Nigeria, Somalia, and Iraq, local women-led peace-building organizations that were already trusted and had access to their communities became the first responders. They, in turn, were connected globally through online forums convened by the International Civil Society Action Network (ICAN), to exchange information. For two years, the group shared recipes to produce alcohol and plant-based hand sanitizers, strategies for engaging local authorities and businesses to collect and distribute food for the neediest, tackling the surge of domestic violence, and other aspects of the pandemic experience. (Naraghi Anderlini 2020).

In effect, each entity from the WHO to national and local governments, international NGOs, and local community organizations and businesses played a role. None alone was sufficient. Rather, it was the collective presence and contribution to the societal ecosystem that ensured people could cope and survive.

c) Symbiosis not Amensalism (harmful interaction):

The third inspiration from nature comes from the process of symbiosis. It is the biological term referring to the close and often long-term interaction between two different species, where both organisms benefit from the relationship. Its opposite, amensalism refers to asymmetric interactions where one species is destroyed by the other. Given we live in the most pluralistic and interconnected era of human civilization, the current march towards increased competition and militarization will lead us to devastating ends.

We cannot afford a geopolitical environment riven by competition, oppression, or binary and false notions of ‘us or them’. As climate-related crises and the wars in Ukraine and Gaza have shown, events in one part of the world impact others in unprecedented ways.

Symbiosis enables co-creation. It is the pathway to finding solutions, drawing on the strengths that each sector brings, anchored in cultural context while embracing universal aspirations and values. To fulfill the potential, however, new models of co-operation between diverse stakeholders are required – be it scientists and community leaders, policymakers and artists, business entrepreneurs, and civil society activists – to combine the strengths of scientific inquiry, local knowledge, and presence, with political decision-making. This approach has been powerfully expressed by the activist of the disabled community: Nothing about us without us (Charlton, 2000).

THE RATIONALE FOR G20: PROMOTE THE SOCIAL AND SOLIDARITY ECONOMY FOR SUSTAINABLE DEVELOPMENT

The first step towards emulating these lessons is to recognize the social innovators who are currently active at the frontlines of problem-solving. Despite differences in sector or discipline, their approaches are often similar: a focus on positive social change; a commitment to interdisciplinary co-creation, collaboration, and innovation; and an appreciation of the importance of interconnectivity on the personal, relational, institutional, and cultural realms (Lederach, 2007) to foster transformative change.

Even though they prioritize social impact over profit maximization globally they contribute to about 7% of GDP nationally and up to 12% of employment in some countries. In Europe, there are 2.8 million social economy organizations, employing 13.6 million people (Schwab, 2022), and in Africa, there are millions of active social entrepreneurs. They are invaluable to national governments in achieving their SDG 2030 targets.

Too often, however, despite their contributions, they are either overlooked or siloed and divided. As a result, they are marginalized and often under-resourced. In some contexts, they are also threatened as their solutions to societal challenges may critique existing practices, challenging the status quo and the interests of the powerful (ICAN 2020).

The UNGA resolution provides an umbrella for the recognition of such actors. The G20 could use the resolution as an effective framework and tool to:

- Enable structured collaboration with social innovators on the implementation of SDGs across all sectors;
- Encourage the private sector to engage and support civil society-based social innovators;
- Call on international financial institutions and development banks to support social innovators, including through existing and new financial instruments;
- Empower education systems to incorporate a social entrepreneur spirit into curricula to build the next generation that can think creatively and become solution-oriented towards developmental issues; and
- Co-create with civil society, time-bound, value-based benchmarks for implementation and impact.

This paper illustrates the potential for G20 nations to spearhead societal ecosystemic approaches that acknowledge the invaluable contributions of all stakeholders—be they local, national, or international; governmental or non-governmental; civil society or private sector. By embracing such inclusive and cooperative models and championing the UNGA’s Social and Solidarity Economy resolution the G20 can catalyze transformative change, paving the way for a more hopeful and collaborative future, where the collective well-being of humanity and the planet are safeguarded.

As a standalone document, the UNGA resolution is not new. However, it is an important evolution in unifying existing praxis and policies across the UN and member states. It is also a key reminder that while nations may gauge their “wealth” based on natural resources, the greatest asset of any nation is its people, whose potential for creativity and desire and ability to contribute to their societies is often thwarted. The challenge for the G20 is whether as a collective of the world’s wealthiest nations, they can lead by example by engaging in profound collaboration with “We the peoples” – i.e., their civil society social innovators to envision and co-create a more equal, peaceful world for all.

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Multilateralism As A Domestic Policy Tool

Opinion piece

Author:



Markus Engels
Secretary General,
Global Solutions Initiative

Institution:



The Global Solutions Initiative (GSI) works towards a global economic system that benefits people and planet. Rooted in research, GSI brings together policy, academia, civil society, and the private sector to generate insights for better global governance. Founded in 2017, the Berlin-based independent, non-profit organization annually convenes the Global Solutions Summit, which serves as a steppingstone to the G20 and G7 Summits. GSI is led by Dennis J. Snower, Markus Engels, and Christian Kastrop.

International governance structures are changing rapidly. Due to geopolitical and geo-economic changes since the end of the bipolar system, the post-1945 order is increasingly losing its legitimacy and assertiveness. For example, the UN Security Council, which bears the main responsibility of maintaining world peace and international security, is often blocked by the veto powers – as it was during the Cold War due to blockades by the superpowers of the time. While the year 2015, with its powerful Paris Climate Agreement and the agreements on the SDGs – both of which enjoy almost universal recognition – almost seem like a celebratory moment for multilateralism in retrospect, the international discussions on Russia's attack on Ukraine and Israel's response to the Hamas attack show increasing levels of dissent. Double standards and the unequal advantage of the international order in favor of the West are being criticized more and more openly. International law, climate morality, and global values are only ever discussed when this is to the advantage of the West, while there is too little focus on long-standing wars, health care for poorer regions, fair global governance structures, and a trade system that overcomes poverty. While the Indonesian G20 presidency in 2022 still managed to include a condemnation of Russian aggression in the Leaders' Declaration, the 2023 Delhi Declaration already contained much weaker wording (G20, n.d.; G20 India, 2023).

The years 2023/24 saw an expansion of the BRICS alliance:¹ in addition to Brazil, Russia, India, China South Africa, Egypt, Ethiopia, Iran, and the United Arab Emirates were included in the alliance now

known as BRICS+. The G20, which has placed a greater focus on the perspective of the Global South through the successive presidencies of Indonesia, India, Brazil, and South Africa, has also invited the African Union to become a permanent member with the aim of improving its global representation.

»The G20 has placed a greater focus on the perspective of the Global South.«

Change is afoot in the global order. Central powers seem to be able to use this dynamic to better incorporate their interests and perspectives into the international discourse (Lippert & Mair, 2024). However, this raises several questions that are relevant for finding solutions on a global scale:

- What impact does the pluralization of alliances have on the expectations of the post-1945 order? The creation of the UN system was linked to attempts “to maintain international peace and security, and to that end: to take effective collective measures for the prevention and removal of threats to the peace, and for the suppression of acts of aggression or other breaches of the peace, and to bring about by peaceful means, and in conformity with the principles of justice and international law, adjustment or settlement of international disputes or situations which might lead to a breach of the peace”

(United Nations, 1945 art. 1 para. 1).

The aim of this order was therefore to create global governance, combined with a universal set of values and powerful international organizations.

- Does it still make sense in the twenty-first century to strive for value-based multilateralism or are the global risks now so serious and visible in everyday life that focusing on solving these problems takes priority over discussions about values? Or is it the case that things are interrelated and influence each other, for example, that combating climate change is only possible with the realization of women's rights and better education?
- Does the pluralization of multinational actors change the role of non-state actors? Do associations and clubs, parties and religious communities, trade unions and engagement groups that are well networked internationally gain more weight because they can directly influence national decision-making? Of course, this also applies to the field of culture.²

»While global governance still has little scope for intervention, the national toolbox for enforcing the law is more fully developed.«

- Are we therefore increasingly seeing attempts by external actors to influence national discourse? Such tendencies can be clearly seen not only on social media but also through fake news, the influencing of national elections,³ and digital attacks on information technology.

There is no doubt that the separation of foreign and domestic policy makes less and less sense when it is also obvious that climate change, the loss of biodiversity, the spread of viruses and infections, and the advancing digitalization and artificial intelligence are invasive for the lives of all people.

However, if the pervasiveness of global effects is becoming increasingly visible at local and regional levels, we must not stop at merely using incentives, framework conditions, and voluntary commitments to avert the dangers to humanity and the planet. While global governance still has little scope for intervention, the national toolbox for enforcing the law is more fully developed. It is precisely in this sense that "global domestic policy" has been discussed for decades.

Laws and regulations are needed for community building and organization. We need compensation under civil law as well as criminal consequences for misconduct. If states and the private sector enter commitments to reduce CO₂ emissions, for example, or if these are legally binding, violations of the law must also have international legal consequences. The legal conditions for this can be improved, for example by expanding the mandate of the International Criminal Court, i.e., extending it to fields of human interests.

Such a demand remains meritless as long as the possibilities for enforcement are extremely limited. It is like the reform of the UN Security Council - especially around permanent members with veto rights - against which there are hardly any convincing counterarguments, but which would have to be decided by those who would lose influence due to the reform. The result: more than poor so far.

However, the current planetary risks have taken on a new dimension:

- Can parents and grandparents continue to do business as usual and thus seriously endanger the lives of their children and grandchildren?
- Can companies permanently risk their business models being impaired by, for example, climate change and the threat of drastic regulation? Should they not instead support a solution that accounts for the interests of society as a whole and stakeholders that enables a long-term course that can be modified, rather than disruptive changes with an unknown outcome?
- Must members of government expect not only to be classified in the historical record as irresponsible cynics if they implement the indisputably necessary measures but also to be held legally responsible?

In my opinion, these questions are justified, but they do not remove the need to develop instruments that are suitable for meeting the major challenges.

»Laws and regulations are needed for community building and organization.«

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¹ A reformed UN lies at the center of a shared BRICS vision of a restructured global political, economic, and financial architecture that reflects the contemporary world and is more equitable, balanced and representative. BRICS has stated its inclusive and representative vision for reform in the Joint Statement on Strengthening and Reforming the Multilateral System, adopted in 2021. Other BRICS security mechanisms provide for dialogue and sharing of best practice in the areas of counterterrorism, cyber-security, transnational organized crime, anti-drug, and anti-corruption cooperation. See BRICS (2023).

² The US Republicans’ fear that singer Taylor Swift could intervene in the election campaign is one example.

³ See Vertigo Releasing (2023, May 25). Reality | Official U.K. Trailer. <https://www.youtube.com/watch?v=pZKeY3Tw6SI>

Economic Transformation in International Development Cooperation

Strategic Pillars, Critical Enablers

Opinion piece

Author:



Manuel Kuhm
Technical Advisor, GIZ GmbH

Co-authors:

Ramiro Albrieu, Red Sur
Diego Carracedo, SD Strategies
Guillermo Cejudo, CIDE
Paramita Datta Dey, NIUA
Gilbert Doumit, Beyond Group
Paramita Dutta, UNRISD
Jorge Gómez-Paredes, SDSN Andes
Pamla Gopaul, AUDA-NEPAD
Gitika Goswami, IFAD
Florian Güldner, GIZ GmbH
Katja Hujo, UNRISD
Daniel Kehr, GIZ GmbH
Dr. Isabell Kempf, UNESCO Institute for Lifelong Learning
Ashok Khosla, The Khosla Foundation
Holger Kuhle, GIZ GmbH
Andrés Lallane, RIEH
Fiona Löwe, KfW
Alexander Ochs, SD Strategies
Stella Pfund, GIZ GmbH
Serwah Prempeh, APRI
Thomas Pogge, Yale University

Institution:



As a service provider for international cooperation for sustainable development and education, GIZ is committed to a future worth living worldwide. In this context, GIZ has over 50 years of experience in a wide variety of areas, including economic development and employment promotion, energy, and the environment, as well as peace and security. GIZ works in demand around the globe – from the German government to European Union institutions, the United Nations, the private sector, and governments of other countries.

Keywords:

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Nathalie Roy, Universitat de Barcelona
Maja Rotter, GIZ GmbH
Dr. Sabyasachi Saha, RIS
Heerad Sabeti, Fourth Sector Group
Karin Wedig, GIZ GmbH
Juliane Werr, GIZ GmbH
Maria van Veldhuizen, SD Strategies
Stuart Worsley, Green Economy Coalition

In 2022, we leveraged a momentum and called the readers of the Global Solutions Journal to action on the need for economic transformation in international development cooperation (ET4D, 2022). In this regard, transformation refers to deep changes in predominant systems and related paradigms towards economies that put the common good first and allow economic, social, and ecological prosperity to grow together and not apart (recoupling), thus asking for carbon neutrality and socially just societies.¹ Our call to action was answered through the foundation of an international community of like-minded experts, practitioners, researchers, and other stakeholders interested in advancing the practice of transformation – **the Economic Transformation for Development (ET4D) Community of Practice**.

Over the last two years, the ET4D Community of Practice has met on a regular basis, while jointly defining and working on three interrelated strategic pillars through a co-creative policy formulation process. This article summarizes critical enablers and policy recommendations under each of the strategic pillars which emerged during our joint discussions and proposes a way forward for realizing the potential of economic transformation in international development cooperation during the Decade of Action's remaining years.

1. GLOBAL ECO-SOCIAL CONTRACT:

The current multiple crises the global community is facing, such as increasing inequalities, biodiversity loss and the effects of climate change, post-pandemic recovery, as well as conflicts and decreasing levels of trust in governments are symptoms of broken social contracts. For

»Our call to action was answered through the foundation of an international community – the Economic Transformation for Development (ET4D) Community of Practice.«

collectively addressing pressing environmental and social challenges on a global scale, nations, communities, and individuals need a shared commitment to and renewed legitimacy of public institutions for guiding collective behavior towards sustainable development, ecological stewardship, and social justice – a new eco-social contract² is required.

What are its Main Principles and Features?

The main principles of a new eco-social contract are social justice,³ sustainability, and inclusion. In this regard, **social justice** refers to ensuring equity and fair outcomes in societies, which requires implementing redistributive measures and ensuring equal opportunities for all, regardless of income level and social identity markers such as ethnicity or gender. Furthermore, social justice requires rectifying histori-

cal injustices rooted in discriminatory and continued colonial (economic) practices and beliefs, while ensuring human rights for all. For example, recognizing and redistributing unpaid care work promotes gender equality, as men and women are encouraged to equally participate in caring for others, while society recognizes the value of care and helps to redistribute

»Ecofeminism in Kenya challenges patriarchal domination in the management and preservation of natural resources, while the socio-bioeconomy in Brazil promotes job creation and the conservation of the Amazon rainforest.«

care work through greater investments in related services and support schemes. **Sustainability** speaks to climate mitigation and the conservation of nature and biodiversity and is a condition for meeting current economic, social, and ecological

needs without compromising the opportunities of future generations. For example, the circular economy ensures that waste is captured as a productive resource through maximizing the life cycles of materials and products with inputs that can be (at best infinitely) re-purposed in future production processes, thus decoupling well-being and material usage over the long term. Additionally, just transition strategies, social and solidarity economies, and market regulation or incentives that curb pollution, excessive resource consumption, and emissions are equally conducive for re-embedding our economies into ecological and social norms. Lastly, **inclusion** speaks to the process of making marginalized voices heard and including them in sustainable economic practices and policy-making, thus effectively empowering vulnerable communities and excluded social groups. In this regard, citizens with so-called “low” socio-economic status would have better access to participatory policy dialogues, more market power and be able to benefit from access to social protection and services, as well as to healthy and sustainable lifestyles, so that well-being, social cohesion, and democracies are strengthened. For example, indigenous peoples continue to be excluded from economic activities and global decision-making but are disproportionately affected by climate change and environmental degradation induced through extractive economic practices.

How Can All People be Involved In Its Design?

The legitimacy of a new eco-social contract ultimately depends on the involvement of a diverse range of stakeholders in its design which are deemed represen-

tative of local, national, and global communities. In this process, no voice should be left unheard, and no community left behind. This requires a change in governance structures at all levels through challenging existing power imbalances so that the needs of all stakeholders can be addressed. Such shifts in power dynamics will pave the way for the necessary legitimacy for (economic) transformation at a global scale. Additionally, activist groups and civil society organizations already occupying the space of climate advocacy and social justice claims need to play a pivotal role in the design process of a new eco-social contract as well.

Under our first pillar, we would like to bring the following selected policy recommendations to the attention of the global community:

- Create a dedicated program space or platform for testing and refining promising ideas (e.g., universal social protection floors, just transition strategies, green industrial policies, integrated care systems, common good matrix for companies, ecological human rights) related to a new eco-social contract. Such a program will provide a supportive environment for experimentation and innovation, enabling the identification and scaling-up of effective strategies and solutions. Development agencies could become facilitating agents of change in this space.
- Advocate for the reform of global governance institutions, more specifically the G20 and its engagement groups, to foster inclusivity, participation, and transparency. This advocacy aims to ensure that decision-making processes at the global level align with the

principles of new eco-social contracts, amplifying the voices of previously marginalized stakeholders and promoting economic, social, and environmental justice.

2. SHARED GREEN DEAL:

Green deals typically focus on transitioning towards low- or zero-carbon economies, enhancing energy efficiency, and promoting the use of green technologies aiming at decoupling wellbeing and resource usage over the mid-to-long term. However, the international proliferation of “green deals”, such as China’s integration of ambitious emission-reduction targets in its five-year plans, the European Green Deal, as well as the United States’ Inflation Reduction Act, might imply a risk of becoming competitive strategies for the sole purpose of promoting economic benefits nationally or regionally without considering their hidden costs and social effects on other communities, nations, and regions of the world. Thus, momentum seems to be emerging for harmonizing these strategies more strongly while protecting the interests of low and middle-income countries simultaneously – a shared green deal is required.

How can the Benefits and Costs of the Green Transition be Shared Equally?

Currently, the benefits and costs of the green transition are not yet shared equally because green deals operate in silos and are ignorant of unintended spillover effects. The establishment of a multiple knowledge system that combines scientific, practical, and local/traditional knowledge, and facilitates the identification of common ground and conflicts between

green deals can help in paving the way towards a more just distribution of benefits and costs. The following three priorities for producing more knowledge and evidence through such systems can be defined. First, new **socially viable and just transformation pathways** from carbon-intensive to low-carbon economies need to be identified for countries which will continue to play a role in the provision of raw materials and fossil fuels, as well as manufacturing of carbon-intensive products and services. Second, **mechanisms for a fair distribution of green technologies** will have to be developed to mitigate the risk of a dependent relationship in which low-carbon technologies are solely owned by middle to high-income countries (“technology gap”). Third, more **investments in renewable energy infrastructure** are needed and should guarantee resilient access to affordable energy for all. Lastly, there remains a reasonable degree of **uncertainty over the positive effects of carbon-related trade measures**, such as the Carbon Border Adjustment Mechanism (CBAM), especially for low-income countries.

Under our second pillar, we would like to bring the following selected policy recommendations to the attention of the global community:

- Propose the creation of an Ecological Impact Fund (EIF) which invites innovators to exchange their monopoly privileges on green technologies in low-income countries for financial impact rewards based on actual emission reductions achieved, thus creating an artificial market for green innovations. Under this fund, synergetic cooperation between complementary green innovations could be explored as well, which

might induce a system of “profit sharing” between companies from allocated financial impact rewards.

- Focus on the hidden environmental costs and social effects of current economic practices in high-income countries (i.e., spillover effects and carbon leakage) which affect other communities and nations in their green transition pathways. Through holistically assessing the socio-ecological impacts of green deals, it can be guaranteed that local development needs are not jeopardized by harmful economic practices elsewhere.

3. INVESTING IN LOCAL ENGAGEMENT:

Transformation, integrating the principles of social justice, sustainability, and inclusion in economic activities, already happens through countless local initiatives across different communities worldwide. Alternatives to an extractive, carbon-intensive economy, environmental degradation, and social injustice do exist and are being promoted by local engagement and activism. For example, ecofeminism in Kenya challenges patriarchal domination in the management and preservation of natural resources, while the socio-bio-economy in Brazil promotes job creation and the conservation of the Amazon rainforest. Many more such initiatives already exist worldwide. However, the allocation of financial resources from donors does not seem to be efficient and directed enough to sufficiently empower local governments and businesses, civil society organizations, and other social groups that generate scalable initiatives, knowledge, and evidence on economic transformation. It can be said that development finance and

technical cooperation still tend to have “blind spots” for locally emerging solutions while procuring outputs that were planned top-down in ways that are mostly detached from local realities – more investment in local engagement is required.

How Can Development Cooperation Invest More Locally?

Reducing procurement rationales and bureaucracy will not be enough to ensure that investments reach local engagement sufficiently. Instead, the whole process of resource distribution needs to start on local terms: investment decisions and the allocation of international funds should reflect local development priorities defined through **ongoing participatory action and policy dialogue at all levels**, rather than being allocated to specific economic sectors or geographic areas based on “outside” interests – as a member of our community expressed: *“everybody needs trees, but local people should decide which ones.”*

As a result, economic transformation would not be imposed top-down, but rather co-created by local actors who understand and share the same goals and values as the targeted community. Therefore, it becomes crucial to address institutionalized inequality and exclusion in decision-making about development finance at all levels. This will ultimately lead to more local ownership and intrinsic motivation needed for transformative change. More broadly, international cooperation needs to shift from a focus on bilateral interaction and linear knowledge transfer to **networks of multiple interactions (or multilateralism)** with an emphasis on triangular cooperation models and transformation partnerships, thereby enhancing mutual learning

»Everybody needs trees, but local people should decide which ones.«

between actors and mutual accountability.

Under our third pillar, we would like to bring the following selected policy recommendations to the attention of the global community:

- Rethink the conditionalities and modes of development finance through common taxonomies and a fair distribution of risk. Concessional finance is not suitable for absorbing sufficient risk; thus, donors should focus on the provision of grants and shared funds for local investment in transformative initiatives based on joint accountability mechanisms.
- Pilot efforts to re-distribute financial resources locally through careful consideration of evidence and robust comparisons of the effectiveness of private capital, philanthropy, and Official Development Assistance (ODA) across initiatives focusing on economic transformation as brought forward by local communities and stakeholders.
- Advocate for changes in planning processes of technical cooperation which induce more iterative and adaptive commissioning procedures, as well as systematic screenings for locally emerging solutions that could be invested in, for example by applying the Positive Deviance (PD) approach.

A Way Forward for Economic Transformation

Realizing the potential of economic transformation during the Decade of Action's remaining years will not be an easy task, especially during times of social fragmentation and contested global governance. However, our ET4D Community of Practice demonstrates that there is strong interest in advancing the knowledge of and practice of economic transformation and that the global community can come together to turn abstract ideas into practical recommendations. We propose the following way forward for economic transformation in international development cooperation:

- The current consecutive G20 presidencies of Indonesia (2022), India (2023), Brazil (2024), and South Africa (2025) represent a unique opportunity for “starting the process on local terms.” These G20 presidencies should leverage the momentum for making previously marginalized voices on economic transformation heard at all levels and strengthening the role of countries in the “Global South” within the G20.
- Global stocktaking on progress regarding the Sustainable Development Goals (SDGs) is already happening across the globe also as part of this year's high-level 2030 Agenda conference, the so-called Summit of the Future (2024). It aims to create an action-oriented outcome document called the Pact for the Future. We advocate for economic transformation, realized through new eco-social contracts, a shared green deal, and investing in local engagement, to be an integral part of this action-oriented outcome document.

- Leveraging the potential of economic transformation needs more partnerships and communities built on mutual trust and respect, in which stakeholders can speak openly and with a strong sense of being heard. Thus, we recommend more communities of practice on economic transformation to be formed within the global community and hope to engage with many more in the future.

We, the ET4D Community of Practice, will do our part and continue our advocacy work within the G20.

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¹ See also in German “Sozial-ökologische Wirtschaftstransformation.”

² Eco-social contracts are forged at national levels but need to be supported by an enabling global governance system fit-for-purpose (“global eco-social contract”).

³ Including “environmental and climate justice.”

AI for Global Governance

Using Predictive Machine Learning to Improve the Efficiency of G7 and G20 Summits

Research paper

Authors:



Jessica Rapson
Senior Researcher, G20
Research Group



John Kirton
Director, G20 Research
Group

Institution:



The G20 Research Group is a global network of scholars, students, and professionals in the academic, research, business, non-governmental, and other communities who follow the work of the G20 leaders, finance ministers central bank governors, and other G20 institutions. It is directed by Trinity College at the University of Toronto, also the home of the G7 Research Group. Our mission is to serve as the world's leading independent source of information and analysis on the G20.

Keywords:

artificial intelligence, G7, G20, commitments, global governance

ABSTRACT

G7 and G20 summits play crucial roles in tackling global challenges. However, historical data show that only 62% and 54% of commitments made by their leaders have been fully met, respectively. In the face of new global challenges, it is imperative for G7 and G20 institutions to increase their effectiveness through stronger multilateralism, achieved by improving the success rate of implementing their summit commitments. This article explores the potential for predictive artificial intelligence to improve G7 and G20 effectiveness. A predictive model was trained using historical compliance rates for each member, G7 and G20 ministerial meeting patterns, economic conditions, and commitment attributes. With a predictive accuracy rate of over 80%, the tool can enhance the impact of the G7 and G20 by identifying commitments with a high risk of failure, enabling G7 and G20 members to strategically allocate resources to better meet commitments.

INTRODUCTION

The call for effective global governance is intensifying, yet the available resources and mechanisms are not keeping pace, resulting in a substantial performance gap. None of the 17 Sustainable Development Goals (SDGs) is currently on track for achievement by their impending 2030 deadline. Climate change looms as an existential threat, and the rapid advances in artificial intelligence (AI) pose both unknown dangers and promises of benefits for SDG-related issues and beyond. Consequently, the world looks to premier global summit institutions, namely the G7 major democratic powers and the G20 sys-

temically significant states, to bridge this gap before it becomes irreversible.

A significant critique of G7 and G20 summit governance revolves around the observed failure of their members to fulfill the collective commitments made during summits, potentially undermining the institutions' overall effectiveness (Kokotsis, 2017). Understanding the extent of members' compliance with these commitments and, more importantly, identifying strategies to enhance compliance is crucial for effectively addressing the issues that these institutions aim to tackle (Kirton & Larionova, 2018).

G7 AND G20 SUMMIT COMMITMENTS

Summit commitments are measurable promises made by summit members to undertake future action to meet, move toward, or adjust to reach a welfare target. For each G7 and G20 summit, the G7 Research Group (based at the University of Toronto) and G20 Research Groups (led by teams from the University of Toronto and the Russian Academy of National Economy and Public Administration [RANEPA]), have identified commitments from official documents issued by leaders at the summit. From these, a subset of priority commitments is selected, representing central priorities and over-

»... only 62% and 54% of commitments made by [G7 and G20] leaders have been fully met, respectively«

»... leveraging available data to predict future compliance offers a practical approach for directing resources«

all achievements of the summit, including the built-in and innovative agendas. Analysts then assess the members' compliance with these priority commitments based on a standardized method outlined in the compliance coding manual (Global Governance Program, 2019).

Since 1996, the G7 Research Group has produced compliance reports on the progress made by each G7 member in meeting the G7 summit's priority commitments, publishing an interim compliance report to assess progress at the halfway point between summits. Similarly, the G20 Research Group and RANEPa have produced interim and final compliance reports on the progress made by each G20 member in meeting priority commitments at each G20 summit since the first in 2008. Altogether, this work has produced several decades worth of data on compliance with G7 and G20 commitments for all members.

Using this data, past findings suggest that seven key instruments exhibit noteworthy impacts on compliance rates (Rapson & Kirton, 2020). These instruments include the total number of commitments generated at the summit, the quantity of official documents released, the specification of a particular deadline in the commitment, the hosting of a ministerial

meeting on the same subject, the binding level of the commitment, the mention of developing countries and the number of commitments on the same subject.

Among these instruments, hosting a ministerial meeting on the same subject during the year the summit takes place and the binding level of the commitment exhibit the most plausible causal relationship with compliance. Same-subject ministerial meetings, focusing on specific subjects relevant to the commitment, such as macroeconomic policy, may enhance information exchange and policy coordination. Meanwhile, using more highly binding language in commitments could foster a shared sense of urgency for collective and coordinated actions (Slaughter, 2004; Larionova, Rakhmangulov & Shelepov, 2018).

Increasing G7 and G20 summit effectiveness by capitalizing on patterns associated with higher compliance probabilities poses challenges, as performance is largely influenced by external factors. Instead, it may be more useful to leverage available data to predict future compliance – offering a practical approach for directing resources to members at higher risk of failing to meet their politically obligatory commitments.

PREDICTING COMPLIANCE

The robust data available on the historical compliance with G7 and G20 commitments provides a unique opportunity to predict members' 'compliance with future commitments, thus enabling summit attention to focus on highly important commitments that are at risk of not being fully or adequately met. The G7 and G20 Compliance Simulators have been developed with this precise objective. Accessible online at no

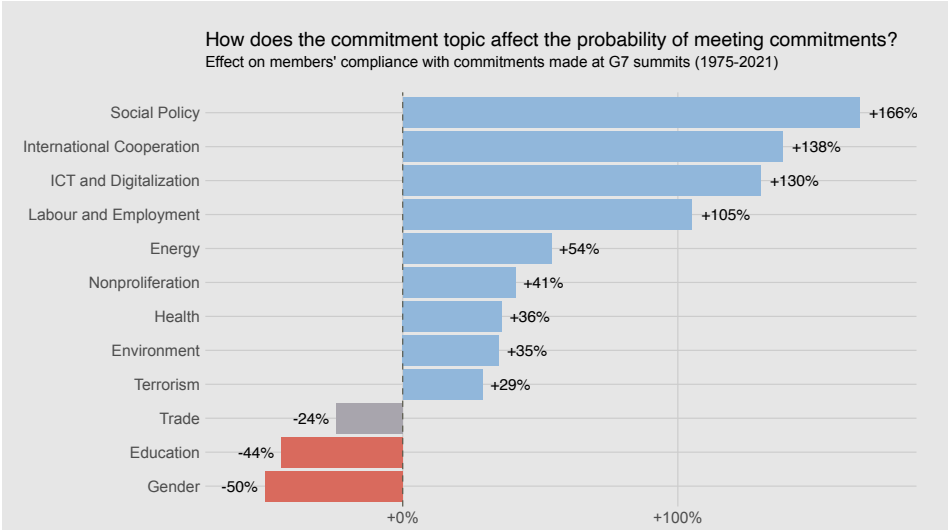
cost, interested parties can input relevant information about each commitment to pinpoint members who may require support in meeting their G7 or G20 obligations (G7 Compliance Simulator 2023; G20 Compliance Simulator 2023).

Constructing this model involved amalgamating a diverse array of data sources, encompassing historical compliance rates, details about G7 and G20 ministerial meetings (including their timing and subjects), G7 and G20 members' affiliations with international organizations, economic conditions, the focus of summit commitments, the host country of the summit and specific attributes of the commitments themselves – such as the strength of the language, mention of monetary commitments and specified timelines for compliance. The core dataset used for training the model comprised 5,994 assessments of past G7 compliance patterns and 7,940

assessments of past G20 compliance patterns conducted by the G7 and G20 Research Groups.

By compiling each G7 member's historical performance across these individual commitments, a binomial regression model was constructed to analyze the impact of various summit and commitment characteristics. The findings revealed several key features associated with increased compliance probabilities. These included references to democracy or human rights, pre-G7 ministerial meetings, the establishment of official G7 bodies in relevant issue areas, and summit hosting. Notably, the host country's influence on compliance levels varied, with higher compliance observed when the United Kingdom hosts the summit and lower compliance when France and Canada took the helm. Additionally, significant variations in compliance probabilities were identified

Figure 1: Effect of commitment topic on G7 member compliance



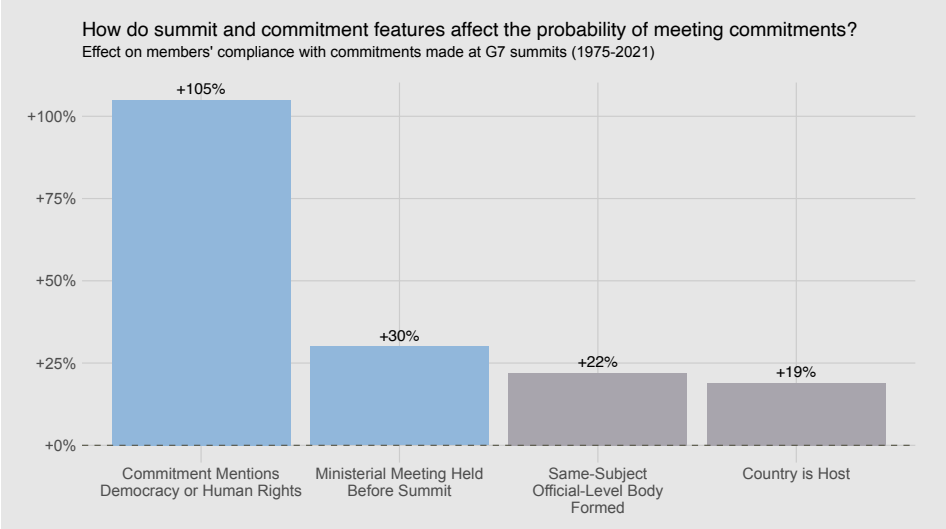


Figure 2: Effect of summit characteristics on G7 member compliance

among G7 members, with the European Union and the United Kingdom displaying higher likelihoods of fulfilling commitments compared to France, Japan, and Italy. Compliance probabilities varied according to the commitment’s subject area of focus. Commitments related to social policy, international cooperation, information and communications technology (ICT) and digitalization, labor and employment, and energy exhibited higher likelihoods of fulfillment. Conversely, commitments about education and gender were less likely to be achieved.

Similar results were found for the G20. A binomial regression model revealed that several key characteristics of summits and commitments, such as meetings of G20 ministers and references to other G20 summits, were associated with a significant increase in the probability of a given member complying with a specific G20

commitment. However, commitments that mention specific dates or monetary values are associated with a significantly lower probability of being complied with. There was also variation in the probability of compliance among G20 members. Australia, the United Kingdom, Japan, and Canada were more likely to meet commitments, and Italy, Indonesia, and Saudi Arabia were less likely to do so. Finally, compliance probability varied by the commitment’s area of focus. Commitments related to macroeconomic policy were more than twice as likely to be achieved, the highest of any commitment issue area. Compliance was also more likely for commitments regarding labor and employment, financial regulation, terrorism, and international taxation. Compliance was less likely for commitments regarding international cooperation, crime and corruption, and gender.

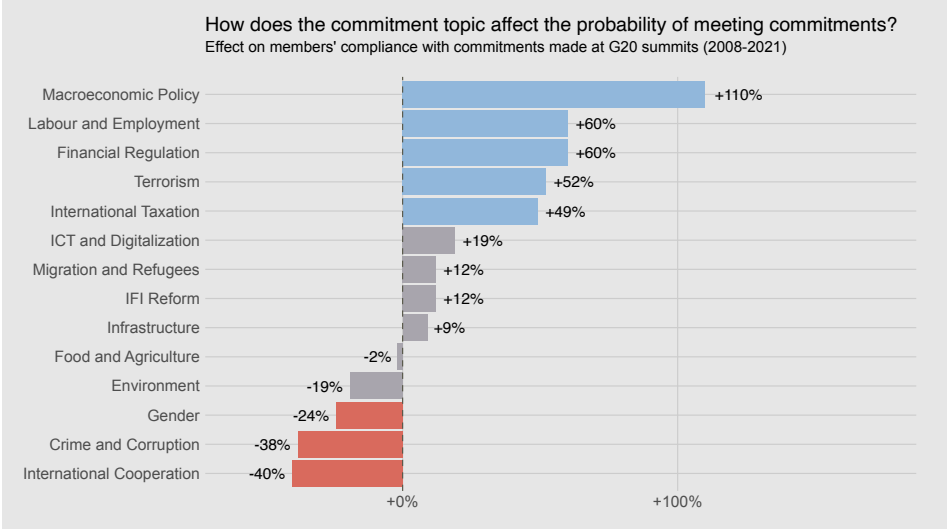


Figure 3: Effect of commitment topic on G20 member compliance

Despite identifying numerous significant variables, the overall explanatory power of the model remains modest. When considering all summit characteristics, economic conditions, and commitment features collectively, only 7.3% of the variance in G7 compliance and 8.3% of the variance in G20 compliance could be explained (McFadden’s pseudo R²). This suggests that a considerable portion of G7 and G20 compliance may be influenced by unknown factors or may be purely random.

Nevertheless, prospects for enhancing summit effectiveness exist. Although the model’s explanatory power is limited, it can be used to predict future compliance. A binomial logistic regression model accurately predicts compliance in a holdout set with 67% accuracy, and a random forest classifier model demonstrates 88% and 86% accuracy in predicting compliance with G7 and G20 summit commitments, re-

spectively. Though not flawless, the latter model performs significantly better than chance, enabling the detection of potential compliance issues using the simulation tool as commitments are made, directing scarce resources effectively.

The forecasting model is based on a random forest binary classifier, integrating 500 trees with eight variables select-

»... the G7 and G20 Compliance Simulators can enhance the impact of the G7 and G20 by identifying high-risk commitments early«

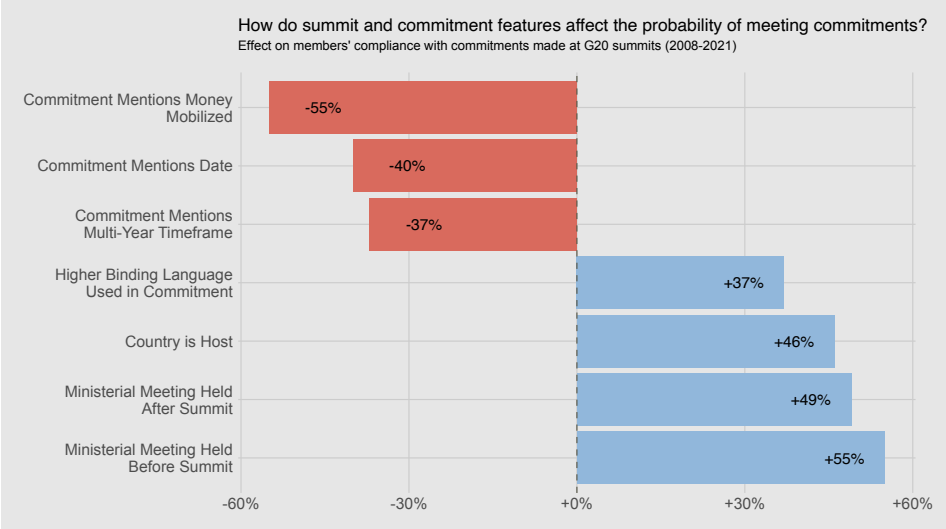


Figure 4: Effect of summit characteristics on G20 member compliance

ed at each split. The binary classification nature of the model enables it to predict whether a member is likely to comply with a given commitment. When evaluated on a holdout dataset, both the G7 and G20 models were over 80% accurate in predicting compliance. This is quite impressive, as many factors that influence compliance are likely idiosyncratic political and logistical factors that are not accounted for in the data as they are difficult to quantify.

To enhance user-friendliness and accessibility, the predictive AI tool has been developed as an online web application. This application allows users to input specific features of a commitment made during a G7 or G20 summit and receive predictions regarding the likelihood of each member fulfilling that commitment. Users can also experiment with different settings, such as holding relevant G7 or G20 ministerial meetings, to explore how

these adjustments might enhance the probability of members' compliance.

Enhancing G7 and G20 effectiveness by leveraging patterns associated with higher compliance probabilities remains challenging due to external factors influencing performance. However, leveraging available data to predict future compliance offers a practical approach for directing resources to members at higher risk of failing to meet their obligations, ultimately improving the overall ability to achieve multilateral goals.

IMPLEMENTING THE COMPLIANCE PREDICTOR

In the preparations for and during the G7 and G20 summits, leaders are often faced with making complex decisions in a limited timeframe. Predictive AI can offer real-time decision support by continuously analyzing the evolving dynamics of discus-

	Issue Area	Predicted Probability of Compliance	Most At-Risk Members
Commitment			
We resolve to work with the private sector to create inclusive, sustainable, and resilient global value chains, and support developing countries to move up the value chain	Trade	30-40%	Indonesia Mexico Turkey
We resolve to work with the private sector to facilitate investments including Foreign Direct Investments (FDIs) towards sustainable business models	Trade	30-40%	Indonesia Mexico Turkey
We resolve to work with the private sector to promote the ease and reduce the cost of doing business	Trade	30-40%	Indonesia Mexico Turkey
We will support policies that enable trade and investment to serve as an engine of growth and prosperity for all	Trade	30-40%	Indonesia Mexico Turkey
[We] ... renew our commitment to ensure a level-playing field and fair competition by discouraging protectionism and market distorting practices, to foster a favourable trade and investment environment for all	Trade	30-40%	Indonesia Mexico Turkey
We commit to work constructively to ensure positive outcomes at the WTO's [World Trade Organization's] Thirteenth Ministerial Conference	Trade	30-40%	Indonesia Mexico Turkey
[We] ... welcome the High-Level Principles on Digitalization of Trade Documents and ... will make efforts to encourage implementation	Trade	30-40%	Indonesia Mexico Turkey
[We] ensure that trade and environment policies should be mutually supportive, consistent with WTO and multilateral environmental agreements	Trade	30-40%	Indonesia Mexico Turkey
We reaffirm the Sendai Framework for Disaster Risk Reduction (SFDRR) and recognize the need for accelerating its full implementation	Infrastructure Climate change	30-40%	China Indonesia Mexico
Continue to support augmentation of capabilities of all countries, including emerging economies, in particular developing countries, LDCs [least-developed countries] and SIDS [small island developing states], for promoting disaster and climate resilience of infrastructure systems	Infrastructure Climate change	30-40%	China Indonesia Mexico
Promote mutual learning of recovery experiences applying all the principles of Sendai Framework	Infrastructure Climate change	30-40%	China Indonesia Mexico

Commitment	Issue Area	Predicted Probability of Compliance	Most At-Risk Members
[We] remain committed to conducting discussions with a view to having a fully and well-functioning dispute settlement system accessible to all members by 2024	International cooperation	40-50%	China Indonesia Turkey
[We commit to] strengthen the voice of developing countries in global decision making	International cooperation	40-50%	Indonesia Turkey United States
We will unite in our endeavour to address the adverse impact of the war on the global economy	International cooperation	40-50%	China Indonesia Turkey
We reiterate the need to pursue WTO reform to improve all its functions through an inclusive member-driven process	International cooperation	40-50%	Indonesia Turkey United States
As Leaders of G20, the premier global forum for international economic cooperation, we resolve to act in concrete ways through partnerships	International cooperation	40-50%	Indonesia Japan United States
[We commit to] better integrate the perspectives of developing countries, including LDCs, LLDCs [least of the less developed countries], and SIDS, into future G20 agenda	International cooperation	40-50%	Indonesia Japan United States
We will continue to integrate the perspectives of the developing countries into the G20 agendas	International cooperation	40-50%	Indonesia Japan United States
We commit to halve the digital gender gap by 2030	Gender ICT and digitalization	40-50%	Indonesia Mexico Turkey
[We] will pursue and encourage efforts to triple renewable energy capacity globally through existing targets and policies ... in line with national circumstances by 2030	Energy Climate change	40-50%	Brazil Indonesia Turkey

Table 1: Top 20 At-Risk Commitments Made at the G20 2023 New Delhi Summit

sions and commitments made. By predicting the likelihood of commitment fulfillment for each member, these institutions can allocate resources where they will be most effective in achieving desired global goals. Members with a higher probability of non-compliance can receive targeted support to address potential obstacles to implementation. Conversely, members with a strong track record of compliance can be encouraged to share best practices and offer support to others who comply less well.

By using the G7 and G20 Compliance Simulators, summit organizers can immediately assess which commitments they make are most at risk of failing to be met and which members are most likely to fail to meet them. This means that they can, in real-time, while leaders are still gathered, devote additional discussion and efforts to finding strategies to meet these commitments.

Table 1 shows the 20 commitments made at the G20’s 2023 New Delhi Summit that were predicted to have the lowest average compliance rates for members. The commitments primarily relate to trade, infrastructure, climate change, and international cooperation– although one gender and one energy-related commitment also appear on the list. The G20 members most at risk of failing to meet these commitments are also listed. Data such as this can be very useful for summit organizers. For example, the New Delhi Summit’s commitment to implement the Sendai Framework for Disaster Risk Reduction is one of the most at-risk commitments. In particular, Indonesia is predicted to be unlikely to meet this commitment. This information may be relevant to leaders as Indonesia

»When evaluated on a holdout dataset, both the G7 and G20 models were over 80% accurate in predicting compliance«

is one of the countries most at risk from natural disasters (World Bank 2021). If Indonesia is unable to implement the Sendai Framework due to a tractable reason such as a lack of government funding or local expertise, it may provide an opportunity for other G20 leaders to provide support.

It is important to remember that these predictions are not a negative assessment of the members who are at risk of failing to meet their commitments. The assessments are based on historical patterns in following through with commitments made at G7 and G20 summits. Indeed, it may even benefit members with historically low track records of compliance to be highlighted as being at risk since it may motivate the transfer of resources to benefit them.

Predictive AI tools such as the G7 and G20 Compliance Simulators can enhance the impact of the G7 and G20 by identifying high-risk commitments early using real-time prediction of commitment outcomes during summits and enabling strategic resource allocation to areas with low predicted probabilities of success. Equipped with predictive AI, plurilateral and multilateral institutions can be better poised to strategically address global challenges.

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Multilateralism, Systems Thinking, Education

The Dilemmas of Higher Education and the Case for a Meta-University

Opinion piece

Author:



Thomas Schneider
Chief Executive, Association
of Pacific Rim Universities

Institution:



The Association of Pacific Rim Universities (APRU) is a consortium of leading research universities around the Pacific Ocean that fosters dialogue and cooperation in education, research, and public policy across one of the world's largest macroregions.

Keywords:
higher education, multilateralism, global solutions

THE TRANSFORMATION OF HIGHER EDUCATION

The past 20 years have witnessed a significant transformation of universities to embrace corporate social responsibility and sustainable development, both in response to accelerated global change and public critique of the relevance of universities (for recent overviews, see Tauginienė and Pučėtaitė 2021; Filho, Lange Salvia and Brandli, 2021). The rise of significant transnational efforts in these areas signals a new historical phase and a new kind of global university engagement. This tendency, spurred significantly by the declaration of the Sustainable Development Goals framework by the United Nations in 2015, has been mirrored by the establishment of a new type of specialized university alliances, such as the *Talloires Network of Engaged Universities*¹ (est. 2011). Such networks prioritize social and environmental issues in contrast with the traditional core areas of research, education, and academic mobility.

A competing concept to that of a network was introduced in 2007 by former MIT President Charles Vest who coined the term “meta-university” for distributed and decentralized networks of universities (Vest, 2007). These meta-universities would share scholarship in physical and virtual spaces to increase access, affordability, and learning effectiveness both for personal development and for societal impact. Providing wider access to quality education is the prevailing objective of current regional versions of the meta-university in India,² Africa,³ and Europe.⁴

Farber, Melton, and Alger (2020) describe the meta-university differently through the lens of a ‘value net’, picturing

»The past 20 years witnessed a significant transformation of universities to embrace corporate social responsibility and sustainable development.«

market relationships between the center of a network (such as the meta-university) and other stakeholders. Beyond expanded access to education, the meta-university would also be a catalyst for new systems thinking, whereby different perspectives are integrated into a higher, general level of understanding of complex systems. In a recent assessment of the meta-university concept with an equal focus on access to education and the solution of global problems, Costanza, Kubiszewski, Kompas, and Sutton (2021) posit that “building a global collaborative consortium of universities and other educational institutions can move this agenda forward”. Strikingly, neither paper mentions any of the existing university consortia as models, precursors, or approximations of meta-universities. Using the example of the *Association of Pacific Rim Universities* (APRU), a large consortium of leading research universities in the Asia-Pacific, this article will demonstrate that this alliance presents the key characteristics of a meta-university that facilitates both education and systems thinking through a multilateral

»The Association of Pacific Rim Universities (APRU) embodies a meta-university facilitating education and systems thinking through a multi-lateral value net.«

value net. I will then look at the solutions (value propositions) such a meta-university offers to the 'three dilemmas' and the 'emerging challenges' recently outlined by Simon Marginson (2024).

THE TRANSFORMATION OF A UNIVERSITY ALLIANCE

The Association of Pacific Rim Universities (APRU) was established in 1997 to be a platform of dialogue and collaboration that could bypass geopolitical tensions. With currently 62 member universities across 19 economies of the Asia-Pacific, APRU's geographic remit is virtually congruent with that of the Asia-Pacific Economic Cooperation (APEC). In unison with the globe, the realities of this vast, disparate space have dramatically changed since 1997. Within this quarter-century, the world population has increased from less than 6 billion people to 8 billion. In the same period, global life expectancy has increased from 65.42 years to 73.16 years. Due to a massive rise in urbanization, 57% of the global population now lives in cities. The

massive footprint that humans have been leaving on the planet, not the least through climate change, has made researchers consider a new era of Earth's history, the Anthropocene. Between 1997 and 2023, global carbon emissions have increased from 24.4 to 37.55 billion metric tons annually. During the same period, the decline of wildlife populations has been more than 20%. The Fourth Industrial Revolution and more recently, Industry 5.0, have been changing lives at a pace unprecedented in human history. Computing power, new technologies, and artificial intelligence are transforming the ecosystems in which we live and work, from food production and manufacturing to medicine, education, the workplace, and our personal lives. The omnipresence of mobile phones has changed human interaction; it has also given political and social movements a new dimension of visibility and mobilization. Wars over territorial, cultural, and religious claims and the massive displacement of people fleeing conflicts are a global reality; regional tensions in the Asia-Pacific could readily translate into armed conflicts here, too. Financial and health crises have left a mark on the planet and the Asia-Pacific region more specifically.

Increasingly since a strategy shift in 2012, APRU adopted corporate social responsibility and sustainable development, with a growing emphasis on tackling the grand challenges of the Asia-Pacific through research-informed program hubs on Multi-Hazards, Global Health, Biodiversity, Sustainability, Population Ageing, the Digital Economy, and Food Security. Policy-related programs to increase the representation of women in academic leadership positions (Asia-Pa-

cific Women in Leadership initiative) and to give a voice to indigenous communities (Indigenous Knowledge initiative) were added, and student engagement options were multiplied. In 2023, another strategic assessment of APRU was initiated to enhance the alliance's value proposition in a massively transformed global context – leading the debate about the university of the future; enhancing student engagement and success across the network; aiming at broader and more tangible impact in tackling the big challenges of the Asia-Pacific; mobilizing underutilized resources in pursuit of APRU's objectives.

APRU AS A META-UNIVERSITY

The Association of Pacific Rim Universities can be reconceptualized as a meta-university for the Pacific, with precise attributes supporting this status:

1. APRU offers a comprehensive range of programs informed by a large range of academic disciplines, including Health Sciences, Natural Sciences, Social Sciences, and Cultural Studies. They dovetail with most of the United Nations Sustainable Development Goals.

2. The combined research power of APRU's 62 members translates to 12% of the global scholarly output. Taken as a group, APRU is the 3rd largest contributor of research in the world following China and the US. While this is not research carried out by APRU itself, we convene hundreds of researchers and facilitate wide-ranging research collaboration.

3. APRU does not confer degrees, but several of its projects can be taken for credit or seek accreditation through APRU member universities, and we actively expand such offerings.

4. APRU creates student engagement through multiple formats in its thematic program hubs as well as its Virtual Student Exchange, involving thousands of students and enriching their experience – from student leadership to experiential learning and research.

»Multilateralism is APRU's strongest operational asset to deflect bilateral geopolitical discord.«

5. APRU nurtures online internationalization and global immersion through its Virtual Student Exchange and other virtual and hybrid programs and activities.

6. APRU's programs create positive societal impact, enhance resilience, and build capacity, including regarding DEI and minorities, through many of its key programs and activities. These initiatives exercise much leverage across our vast geographic network.

7. A *University of the Future* task force identifies shared challenges and develops solutions across the network, such as the utilization of generative AI tools across its member institutions.

8. APRU adopts a multilateral, systems thinking approach to its activities, integrating education, research, and policy about and within the Asia-Pacific. The challenges of this wider macro-region called APRU into existence and make a meta-university

model plausible for APRU: a higher education network with university attributes and global reach beyond the capacity of its members. Through the lens of a recent article by Simon Marginson (2024), I will reflect further on its value proposition.

THREE DILEMMAS AND THREE EMERGING CHALLENGES, AND THE VALUE OF THE META-UNIVERSITY

A 2024 contribution by Simon Marginson reassesses the role of universities vis-à-vis “three dilemmas” of Higher Education: *Is equality of opportunity impossible? Is higher education cultural or economic? Is higher education national or global?* He also singles out three “emerging challenges” that are not just emerging: *Social justice and equality at a global level; Political instability; and the Climate-Nature Emergency* (Marginson 2024).

For the first dilemma, Marginson diagnoses the failure of higher education to achieve social equalization, exacerbated by the massification of university education: the starting positions of students continue to determine their later lives. He concludes that universities must “strive for practical equality at every stage” but equally refocus research on “sectors that more directly determine social equality – such as wages and pay scales, and government tax and spend.” Marginson’s second dilemma emphasizes that while cultural formation through personal immersion in knowledge has traditionally been the backbone of higher education, neo-liberalism has come to prioritize employability and the economic value of education. Marginson demands to counter this tendency, advocating for continued cultural formation and student engage-

ment in it. The third dilemma highlights the recent political shift from the ideal of global education, based on free mobility of people and knowledge, to a protectionist, national education, where the “securitization of research places in jeopardy the collective science system”. Marginson demands that universities counter this shift and continue to operate globally, “separately from the states that fund and regulate them”.

These demands are more easily made than executed by public and private universities operating locally in a complex, rapidly transforming political and socio-economic environment. In turn, the Association of Pacific Rim Universities as a transnational network is founded precisely on the premises that are at the heart of Marginson’s diagnosis. Multilateralism is APRU’s strongest operational asset to deflect bilateral geopolitical discord; all annually c. 40 programs and events include participants from across APRU’s 19 economies. We have upheld and strengthened the free mobility of people and knowledge on all levels. As an alliance of the leading research institutions of the Asia-Pacific, producing 1/8 of global annual research and harnessing some of the largest global repositories of knowledge, the primacy of cultural knowledge and cultural formation of our students is deeply engrained across the network. At the same time, we acknowledge that employability has become a key issue of higher education; it is a predominant concern for students and will undeniably be a determinant of the future development of universities and their efforts for relevance (Cheng, Adekola, Albia, and Cai, 2021). Within APRU, employability informs some of our initiatives,

although as a major factor of institutional adaptation, it is largely in the purview of our member universities. Social equalization within the different local contexts is beyond APRU’s capacity, even though multiple of our projects provide leverage to students, early career researchers, young professionals, and minorities, including those from the less privileged parts of our network in the global South. In his concluding section, Marginson demands to “lift social justice and equality beyond the national and into the Global”, where “rights of equality are also rights of diversity”, and to advance this goal in higher education even ahead of states”, e.g., as he suggests, by taking stock of knowledge in all languages. Diversity, both in terms of ethnicity or personal orientation, and the diversity of knowledge, is part and parcel of APRU’s mission.

Marginson further points to the need to overcome political instability by educating students to become “reflexive persons capable of social action”, which is arguably a key component already of the mission of today’s universities and at the same time, a key aspect of APRU’s Global Citizenship and Undergraduate Leadership programs. Large resources across APRU’s 62 campuses, in conjunction with the local infrastructure, are already applied to address what Marginson identifies as the biggest emerging challenge, the global Climate-Nature Emergency, where he perceives the state as the only feasible point of emergency coordination. Marginson ends by hoping for a near future that would see “the transformation of higher education to contribute to state-led mitigation, disaster relief, and the reconstruction of social systems”.

»APRU’s value is to leverage the collective research, resources and impact of its institutions towards educational and planetary challenges.«

Quite arguably, and certainly, with regional differences, APRU’s campuses collectively are already making this contribution. APRU functions as a transnational connector and catalyst for its 2 million students and 200,000 professors, as well as a wider value net for NGOs, governments, intergovernmental agencies, and industry. It serves as an overarching facilitator for the multilateral exchange and diversity of knowledge in the Asia-Pacific, through a wide range of annual programs, events, and activities. The ultimate value proposition of APRU as a meta-university is to leverage the vast collective research power, the extensive resources in education and culture, and the profound socio-economic impact of its member institutions towards educational dilemmas and planetary challenges.

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Principles for Collective Progress

Opinion piece

Author:



Dennis J. Snower
President, Global
Solutions Initiative

Institution:



The Global Solutions Initiative (GSI) works towards a global economic system that benefits people and planet. Rooted in research, GSI brings together policy, academia, civil society, and the private sector to generate insights for better global governance. Founded in 2017, the Berlin-based independent, non-profit organization annually convenes the Global Solutions Summit, which serves as a steppingstone to the G20 and G7 Summits. GSI is led by Dennis J. Snower, Markus Engels, and Christian Kastrop.

Keywords:

prosperity, recoupling, sustainability, economic paradigm change, multilateralism

Economic prosperity has become decoupled from social and environmental prosperity. Current economic systems often oblige business leaders to seek profit at the expense of social and environmental prosperity. Current political systems often oblige politicians to pursue the national interest at the expense of the global public interest. Current socio-economic systems often induce consumers to gratify consumerism at the expense of longer-term meaning and fulfillment. Current digital platforms often manipulate digital citizens by exploiting their psychological and cognitive weaknesses. It is a small wonder that economic activities frequently are not beneficial to our societies and disrespectful to our natural world.

In the face of such systemic failure, we should not feel encouraged by examples of successful green businesses and investors that are decarbonizing their portfolios, isolated green initiatives by governments and international organizations, or uncoordinated green civil society projects. Without the appropriate collective action, the clean activities of the few will fall short of countervailing the damage done by the inaction of the many.

This problem cannot be addressed through incremental changes of policy or business strategy. Adjusting some rules while leaving the broader system intact ignores the root problem, namely, that the inherent incentive structure of current economic systems is misaligned with human and environmental flourishing. To recouple economic prosperity with social and environmental prosperity, the operating system of our economies needs to change. Such systemic change can be achieved only when the conditions within

which businesses, governments and civil societies operate are such that it becomes their private interest to promote social and environmental prosperity. What are the “principles of collective progress” for achieving this new economic paradigm?

»To recouple economic prosperity with social and environmental prosperity, the operating system of our economics needs to change.«

Though systemic change always seems overwhelmingly difficult at present, it has repeatedly been achieved in the course of human evolutionary history. Systemic change occurred when hunter-gatherer bands gave way to clans and tribes, when agricultural collectives turned into cities, when medieval city-states gave way to modern nation-states, when family businesses turned into multinational corporations. Systemic change occurred when slavery was abolished, and forms of democracy were embraced around the world.

Through millennia of trial and error, principles of collective progress have become known, at least implicitly, through countless successful experiments in tackling collective challenges. The problem is not that we don't know what to do. Rath-

»Our current system is not designed to address many of the challenges that extend beyond our current national and social borders.«

er, the problem is that our current institutions are not designed to do it. As the world economy has become increasingly globalized, financialized, commercialized, and digitized, the world's global challenges have proliferated – from climate change and biodiversity loss to cyberthreats and financial instabilities. Our current system is not designed to address many of the challenges that extend beyond our current national and social borders.

Consequently, it is important to make principles of collective progress explicit and thereby indicate the systemic change required to put these principles into practice. The principles are meant to provide a foundation for reconceiving multilateralism in the 21st century.

The problem of climate change illustrates how these principles are both obvious and unachievable under the current system; it thereby provides a basis for conceiving a new system that makes the obvious achievable.

It is convenient to summarize the principles of collective progress under four

headings: shared purpose (S), agentic governance (A), redirection of gain (G), and environmental sustainability (E). Together, these principles provide a SAGE approach to economic policy. The principles are sage in two senses: they embody sound, farsighted judgment and they represent wisdom accumulated over ages of collective action.

SHARED PURPOSE (S)

The first principle is that the magnitude of our collective goal must correspond to the magnitude of the collective challenge. If the challenge is stopping global warming, then the collective goal must be global since greenhouse gases emitted anywhere affect people everywhere. Achieving a global goal requires achieving a shared sense of identity regarding this goal. When it comes to climate change, we need to view ourselves as part of humanity, striving to protect our planet. For this purpose, politicians must come to accept a moral responsibility to mobilize not only the national common purpose, but the global common purpose to stop global warming.

This certainly does *not* mean that national identities should dissolve in a global identity, but merely that we should recognize that we are all in the same boat when we formulate our global climate goal. Different countries can pursue different pathways to this common goal, corresponding to their different economic, political, and social conditions, but the common goal must be set with all of humanity in mind.

The moral obligation to stop global warming must come to be recognized at a global level not just by politicians, but also by businesspeople and civilians, sim-

ilarly to the way we have come to consider the abolition of slavery a universal moral value. This moral obligation is meant to generate a sense of human solidarity in response to a global challenge, along with a sense of human agency in addressing the challenge.

AGENTIC GOVERNANCE (A)

Agentic governance is about creating opportunities for group members to participate in decision-making processes. The underlying principle is that those who are affected by the collective action should have a role in formulating the rules for that collective action. The aim is to create a fair and inclusive decision-making process.

This principle supports the various forms of participatory democracy, allowing citizens active involvement in shaping the policies that affect them. This means that power needs to be distributed so that local communities can make decisions that directly impact their lives. These decisions need to be framed consistently with higher-level decisions that ensure consistency of local decisions to achieve higher-level collective goals. When individuals actively contribute to shaping policies that affect them, they have a sense of agency, and a sense of solidarity often emerges as they work collectively toward common goals.

Since small social groups are the basic building blocks of human collaboration but many collective challenges involve collaboration at larger scales, it is necessary to observe the principle of subsidiarity. This principle suggests that decisions should be made at the most local or decentralized level possible, only moving to higher levels of authority when lower levels cannot adequately address the issue.

Decentralized decision-making empowers local entities by giving them a direct role in shaping policies that impact their community. This enhances the sense of agency and self-determination. Communities working together to address their unique challenges also gain a sense of solidarity through shared responsibility.

In addition, it is necessary to establish incentives and operating conditions that promote collaborative relations among local groups. The participation of citizens in the formulation of their local rules should be mirrored in the participation of local groups in the formulation of higher-level rules.

The resulting governance system is meant to be procedurally fair, including the following elements:

- **Impartiality:** Impartial decision-making involves treating all individuals or groups without favoritism or bias, considering only relevant factors. In a hiring process, for example, impartiality ensures that candidates are evaluated solely on their qualifications and skills, irrespective of personal connections.
- **Transparency and Accountability:** Transparent decision-making processes provide clear information about the criteria used and the reasoning behind decisions, promoting accountability. Such processes contribute to a sense of solidarity based on shared values and principles. Accountability mechanisms empower individuals by providing avenues for holding decision-makers responsible. To ensure that transparency leads to accountability, it is important to differentiate between individual transparency (focusing on failures of individuals, such as isolated cases of

corruption) and institutional transparency (addressing systemic flaws), since these relate to individual and institutional accountability. “Opaque transparency,” involving the dissemination of information that does not uncover how institutions make decisions and how they evaluate their impacts, may not lead to institutional accountability.

- **Inclusivity:** Inclusive decision-making involves considering and incorporating diverse perspectives, ensuring representation and participation from various stakeholders. Inclusive decision-making fosters a sense of belonging and shared ownership of decisions, leading to increased solidarity among participants. When individuals perceive that their perspectives are valued, they are more likely to collaborate cohesively. Inclusivity empowers individuals by providing them with a sense of agency and influence in shaping outcomes. This empowerment contributes to a stronger commitment to shared goals.
- **Consistency:** Consistent decision-making ensures that similar cases or individuals are treated similarly, avoiding arbitrary distinctions. In a legal system, for example, consistency means applying the same laws and standards to all individuals, regardless of their background or status.

REDIRECTION OF GAIN (G)

In the existing economic system, the legal duties of company directors are not aligned with the promotion of environmental sustainability or social prosperity. Their duty to promote the success of the company frequently runs counter to the preservation of the environment and

flourishing communities. Climate change poses enormous risks for businesses that are currently not adequately measured or reported by currently accepted standards.

To make the pursuit of profit consistent with the interests of people and planet, business incentives and business operating conditions need to be reformed with the aim of ensuring that profit cannot be earned at the expense of environmental sustainability and social cohesion. Business incentives are influenced by taxes and subsidies, as well as incentive schemes for public-private partnerships and co-investing. Business conditions can be shaped by such factors as (i.) environmental standards, (ii.) fiduciary and legal responsibilities of business owners, and boards of executive and non-executive directors; (iii.) government regulations, (iv.) constraints on companies' specifications of their corporate purpose and governance frameworks, and (iv.) government procurement contract conditions that are consonant with the shared climate goals.

Analogously, consumption needs to be redirected so that the benefits of consumption do not come at the expense of social and environmental prosperity. This can also be done by reforming the incentives and operating conditions that consumers face.

Since climate change is a problem shared by the global community of nations, international climate action should be aimed at a shared set of climate goals. These shared goals are to be pursued transparently and accountably through differentiated pathways that reflect the distinctive social, political, economic, and environmental conditions in different countries. In order to be legitimate, international climate action must be both

environmentally sustainable and socially acceptable.

The pathways to achievement of internationally shared climate goals can take a variety of forms, such as prioritization of a transition to renewable energy sources; energy efficiency measures across sectors; sustainable agricultural practices; carbon pricing mechanisms; nature-based solutions; etc. Domestically implemented measures should avoid harmful effects on other countries and, in recognition of the uncertainties surrounding climate change, the precautionary principle should be encouraged.

ENVIRONMENTAL SUSTAINABILITY (E)

The final principle for collective progress is that all economic policies must be environmentally sustainable. This means that economic policies must promote the internalization of environmental costs, encourage innovation in clean technologies, and incentivize sustainable practices.

This principle will generally involve some combination of carbon pricing, subsidies for renewable energy, green infrastructure investments, circular economy policies (to promote the reuse, recycling, and repurposing of resources), environmental regulations (governing air and water quality, waste management, and land use), payments for ecosystem services (such as carbon sequestration, water purification, and biodiversity conservation) as well as education and awareness programs.

IMPLEMENTING A SAGE APPROACH TO ECONOMIC POLICY

It is not surprising that these principles of collective progress correspond to the

»**Climate policies must be accompanied by fast and fair conflict resolution mechanisms, with the help of trusted, impartial mediators.**«

elements of the SAGE dashboard for the measurement of prosperity, where S is “Solidarity,” A is “Agency,” G is “Gain,” and E is “Environmental Sustainability.” The empirical measures of this dashboard are described in Lima de Miranda and Snower (2020, 2022). The broad conceptual analysis and policy implications are summarized in Snower (In-Press). Solidarity stands for measures of social embeddedness, necessary for pursuing shared purpose. Agency represents measures of personal and collective empowerment, associated with agentic governance. Gain stands for material living standards, contained in profit, wage and rent incomes, which are to be redirected to promote the recoupling of economic prosperity with social and environmental prosperity. Finally, Environmental sustainability is the objective underlying environmental responsibility.

The implementation of this approach requires the following “policy enablers”:

- **Consistent measurement:** The climate impact of government, business, and

»Communities working together to address their unique challenges also gain a sense of solidarity through shared responsibility.«

civil decisions needs to be measured consistently. Furthermore, the social impact of climate action – particularly with regard to social solidarity and empowerment – needs to be measured consistently as well.

- **Consistent reporting, monitoring, and analysis:** Consistent measurement should provide a basis for consistent reporting of the climate impact of government, business, and civil decisions, as well as consistent monitoring of these decisions. Furthermore, the analysis of climate impacts should be consistent across stakeholder groups and in line with the latest scientific insights.
- **Graduated rewards and sanctions:** Based on consistent monitoring, graduated rewards for helpful decisions and graduated sanctions for unhelpful ones should be imposed. Climate action cannot be based solely on voluntary contributions by governments, businesses and civil actors, since voluntary schemes are inevitably vulnerable to free riding.

- **Protective policy wall:** The graduated rewards and sanctions should create a protective policy wall, ensuring those who adhere to the agreed climate action do not suffer a competitive disadvantage relative to the free riders. The underlying international policy framework is meant to provide a level playing field for business competition in pursuit of profit and eliminate undesirable arbitrage opportunities (such as carbon leakage).
- **Conflict resolution:** Climate policies must be accompanied by fast and fair conflict resolution mechanisms, with the help of trusted, impartial mediators.
- **Financial and technical support:** Such support from developed countries is required to address the underinvestment in the transition to a low-carbon economy, climate resilience, and protection of nature. Institutional structures are required to mobilize financing of climate action, bringing together the key stakeholders.

The aim of the SAGE principles of collective progress is to identify rules and institutions of the current economic system that decouple economic progress from social and environmental progress and to provide general guidelines for future rules and institutions promoting a system devoted to holistic flourishing in the socio-economic and environmental domains.

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Back to Cooperation

An Urgent Global Need

Opinion piece

Author:



Pedro Villagra-Delgado
Member, Argentine Council
for International Relations
(CARI)

Institution:



The Argentine Council for International Relations – CARI is a civil society, partisan-free, non-profit organization, with a long-standing track record that has made it a flagship institution in the field of international relations in Argentina. CARI's proposal consists in deeply studying the main global challenges and the road that Argentina must take to face them. CARI produces reliable papers, supplies updated information, conducts pluralistic debates, and provides a forum of discussion.

Keywords:
G20, UN, international institutions

During last year, the trend away from seeking cooperation between the main actors of the international system has mostly continued, although there were some welcome signs of seeking to reduce confrontation.

The choice of the last years for antagonism instead of paths to cooperation has been taking its toll not only on those major countries directly engaged in the deepening of these differences, but also on their allies and, worse still, on those members of the international community that are not interested in these confrontational ways which negatively affect development, trade, protection of the global commons and the environment and the well-being of peoples around the world.

This trend started around 2010 had been accelerating. Although there are talks or contacts between the main actors to create avenues for understanding and dialogue, negativity had been deepening overall and pushing for a segmentation of the world into silos or blocks of countries undoing to a large extent the globalization process that emerged after the end of the Cold War. This new integrated world for trade, investment, communications, and a lower level of risk of military confrontation between the most powerful countries, although with inequality, and uneven distribution of income both between and within countries, had created prosperity, facilitated freedom of communications, receded the risk of a global war and strengthened opportunities for engaging with the rest of the World.

This trend of confrontation was compounded since 2022 by actual war in Europe and violent conflict elsewhere. One of the main actors of the international sys-

»**Multilateral organizations can play a role in finding common ground rather than divergence.**«

tem and permanent member of the United Nations Security Council is at war with one of its neighbors, having invaded it in violation of the UN Charter rules which, as a privileged member of the organization has a special duty to uphold. That war is already more than two years into its deadly development and reactions as to how to deal with it indicate that further escalation is on the cards for the near future. There are no signals of will to search for a solution based on respect for the sovereignty and integrity of Ukraine as well as the legitimate security concerns of all parties involved. That war at the heart of Europe is having ripple effects on the functioning, or rather the lack thereof, of the multilateral security system foreseen in the UN Charter, as well as on other bodies of the UN itself and of other organizations and mechanisms created for managing international relations in all areas beyond international peace and security.

That war has been followed by the violent conflict happening in Gaza as a consequence of the massacre and hostage-taking carried out by Hamas on civilians in Israel. That conflict is producing a huge number of civilian casualties, and making it even more difficult to achieve the goal of having Israel and a Palestinian State

living side by side in peace and with its people enjoying well-being, justice, and development.

These two conflicts have made a difficult global situation arising from increased confrontation between the main actors significantly worse. They are also a call of attention that political will to find solutions and more engagement of all actors of the international community is needed, particularly from those who can promote and engage in actions to find compromises that produce solutions for overcoming their differences and a renewed increase in cooperation in all fields for the benefit of the whole international community.

»A varied geometry of international relations should be the rule, not the exception.«

Groups of countries will always have their shared values, systemic affinities, historical commonalities, and other elements that will draw them closer than others. That should not impede maintaining fruitful and peaceful exchanges with countries with different values and interests. That is fundamental for having a world in peace.

Cooperation is the key concept to allowing exchanges that can be beneficial for all and facilitate development, equality, peace, and well-being. A varied geometry of international relations should be the rule, not the exception and that should

lead to more inclusive and effective regional and international cooperation, as well as better global security.

WHERE TO LOOK FOR SOLUTIONS

Confrontational trends, except those to protect universal values, are harmful to all and therefore concern us all.

Countries with global interests and presence should play an active role in helping find ways to foster better dialogue which should include all the main actors and pushing for compromises that would benefit all. We should all strengthen multilateral organizations and mechanisms that allow those who think differently to work together for the common good. Those multilateral organizations, both of a universal nature like the UN and its specialized agencies or regional or subregional ones can play a crucial role in this process of finding common ground rather than new paths for divergence.

Global international organizations need to be reformed to be more effective. The UN should continue being the preeminent body in everything related to international peace and security and strengthened, respected, and provided with the means to achieve its purposes and principles laid down in the Charter. The UN needs to better adapt to today's world, including the Security Council with its crucial role in maintaining international peace and security. It needs to be made more efficient and empowered to act swiftly in cases of crisis. Its reform should seek a better systemic functioning that could really defuse conflicts, rather than just look at adding new permanent members.

The IMF and World Bank should significantly change to better reflect today's

economic realities and actual needs in real figures and to increase legitimacy and effectiveness, including its quotas system. WTO should incorporate digital trade into its rules and make its dispute resolution system effective again, limiting the right of powerful States to block their functioning. The need for reforming WTO to improve its functioning agreed upon at the G20 Summit Declaration of Buenos Aires in December 2018 has not yet been acted upon.

G20, G7, BRICS AND BEYOND

Informal mechanisms created to solve global issues not dealing with military and strategic matters such as G20, G7, and BRICS could and should also play a key role in creating conditions where difficult matters can be addressed.

Members of these mechanisms are key actors in the international arena and the very nature of their meetings allows for dialogue and agreements at the highest level. These mechanisms with thematic meetings involving high officials in each area, including ministerial meetings, converge in Summits where the leaders meet, discuss, and decide on the most important matters.

G7 is the most homogeneous as its members are all part of the most advanced Western economies and share values, ideas, and systems of governance, as well as strategic and military commitments, thus it focuses mainly on their objectives and interests.

BRICS gather the most important emerging economies, some already truly and fully "emerged", but do not necessarily share systemic commonalities in terms of the form of government, values, and ideas as to how their societies should

be nor on how the world at large should be organized, but they share the challenges and opportunities of emerging economies and the rightful objective of playing a more significant role in the organization of the international community and the development of its rules. BRICS members have all had a tradition of independence from all centers of power and it is therefore not clear that they will just be doing the bid of any of the other members if that runs counter to their perceived national interests. It is also important to underline that BRICS members are not in a strategic or military alliance with other members of the group and that represents a big difference with G7. The objective of BRICS is to coordinate macroeconomic policies to represent the interests and positions of these new major international actors. However, although BRICS and G7 represent different visions those need not be antagonistic with each other and dialogue exists and compromises should be sought.

G20 is an informal mechanism that includes key relevant actors of the international community that have different

»Today we have the instruments and institutions to peacefully deal with the challenge created by the emergence of new actors.«

views and levels of development. It seeks to find common approaches to solve financial and economic problems affecting the whole system, irrespective of their different views, and, since elevated to the Summit level, extends those objectives to addressing some key global political, social, and systemic issues, in search of common solutions.

Until recently, all G7 and BRICS members were also members of the G20. Now there will be a few new members of BRICS who are not G20 members.

»A global strategic dispute would break the international system.«

Its objective and composition make the G20 an excellent tool for facing the current confrontation between the main economic actors. Strengthening its 2008 goal of setting a dialogue at the highest level amongst the leaders is still its best asset. If used well it could and should be the most relevant instrument and efficient tool for addressing tensions and returning the world to sustainable and equitable growth. Even if it is not evident that those are still the goals of some of the main actors of the system, the rest of the membership – all representing significant economic and political weight in the international arena – could play a key role in promoting dialogue and reasonable outcomes which could benefit the global economy and also advance a common agenda in crucial mat-

ters dealing with financial stability, climate change, protection of the environment, energy transitions, trade, infrastructure, education, the future of work, global health issues, sustainable food production, etc., all critical to the whole world. Strategic and international security issues should be better left to the UN, although contacts at the leaders' level at the G20 meetings could help find agreements also there.

The key drivers at the critical moment at which G20 was created were cooperation, multilateral credit institutions reform, and political goodwill. The current confrontation between the system's largest actors suggests that we are back at a point where those key drivers are again essential to avert the present antagonism leading the world into a crisis that could go beyond financial and economic disputes and drift into a global strategic dispute which could break the international system and cause severe damage to trade, investment and cooperation flows and lead to the formation of blocks which will disrupt links between countries not belonging to either one or another.

A WAY FORWARD

A cooperative path forward should be promoted instead of moving towards a deeper and continuous confrontation and the creation of blocks of nations. We had those during the Cold War and that was not good. We should refocus on a virtuous cycle rather than digging into differences that do not benefit the global system or peace or prosperity. A silo mentality where countries would be able to trade, relate or develop new technologies, achieve scientific breakthroughs in every field only or mostly with those who think similarly or are close

by, geographically or ideologically, would be disadvantageous for the world at large. Most likely such an outcome would represent a big setback for all, particularly to developing countries.

Previous G20 presidencies have endeavored to build bridges to avoid further confrontation. The current Brazilian Presidency in 2024 and that of South Africa in 2025 offer a good opportunity to promote dialogue that could recreate the conditions for this common search for solutions to the array of problems, some of them existential, that the international community faces. Being ambitiously optimistic, the fact that the US will have the G20 Presidency following Brazil and South Africa could lead to substantial agreements for returning the mechanism to its goal of finding workable consensus worked out in the next two years, hammered them down by 2026 and a new era of cooperation emerging.

At the same time, these agreements could also have the effect of revitalizing international organizations, including the UN and its whole system, as well as the specialized agencies, strengthening true multilateralism and allowing for the effective participation of all members of the international community, as the UN Charter foresees. In this context it must be noted that both the UN and most of the agencies of the system, including the IMF and the World Bank, regularly participate in the work of the G20 and its heads do so at G20 Summits.

All this will require political will by the main actors of the system not to go further in the deepening of their systemic rivalries which can lead to strategic conflict, as well as to other actors that do not want to fol-

low that negative path actively engaging in promoting a change of course by the main actors and demanding from them to respond to the need of creating the conditions for peace, stability and international cooperation worldwide. UN rules should be respected and UN objectives pursued in trying to solve geopolitical and strategic rivalries.

These goals could seem utopian in a world where national interests are the top priority for each country, but precisely because of that it should be clear that this road to increased confrontation runs counter to the national interest of the so-called Global South and therefore its members should actively promote a change towards peace, stability and renewed cooperation.

The growth new actors have had over centuries led to conflict with the established powers. But in the past, we did not have the instruments and institutions to peacefully deal with the challenge created by the emergence of new actors as we have today. Managing those competing aims in a way that could be beneficial not only for those actors in competition but also for the rest of the international community is today an obligation and a responsibility of all countries, allowing for growth to be better shared and by the creation of a peaceful climate of prosperity which could lift all boats.

The opinions expressed in this article correspond to its author and are his sole responsibility.

China Can Play a Greater Role in Mediating Major International Conflicts

Opinion piece

Author:



Henry Huiyao Wang
Founder and President,
Center for China and
Globalization (CCG)

Institution:

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CENTER FOR CHINA & GLOBALIZATION

The Center for China and Globalization (CCG) is a leading Chinese non-governmental think tank in Beijing. It ranked 64th of the top think tanks worldwide and has been granted Special Consultative Status by UN. It has home branches in several cities, and over 100 full-time researchers and staff engaged in research on globalization, global governance, international economy and trade, international relations and global migration.

Keywords:

Russia-Ukraine war, Israel-Palestine crisis, China

In the turbulent landscape of global affairs, conflicts such as the ongoing Russia-Ukraine crisis and the perennial strife between Israel and Palestine serve as stark reminders of the human cost and geopolitical repercussions of unresolved disputes. As the world reflects on the devastating toll of these conflicts, it is increasingly evident that concerted efforts toward peace and stability are imperative. In this context, as a major power, China has emerged as an advocate for peaceful resolutions to international conflicts, actively engaging in diplomatic efforts that promote global harmony.

The Russia-Ukraine conflict is now entering its third year and has left a trail of devastation on both sides. Ukrainian President Zelensky's announcement that 31,000 Ukrainian soldiers have been killed underscores the grim reality of the conflict's human toll.

¹According to the United Nations Human Rights Monitoring Mission in Ukraine, over 10,000 civilians, including hundreds of children, have perished, with thousands more suffering injuries.² Similarly, significant casualties have been reported among Russian forces, with hundreds of thousands either killed or wounded.³

Meanwhile, the ongoing strife between Israel and Palestine continues to exact a heavy toll on civilian lives, particularly in the besieged enclave of Gaza. With over 22,000 fatalities and tens of thousands injured, the conflict has inflicted immeasurable suffering on the population, representing a significant loss of life in proportion to Gaza's pre-war population.⁴

In the midst of these crises, China has positioned itself as a proactive advocate for peace and stability on the international

»As the only third party not directly or indirectly involved in the Ukraine conflict, China has remained objective and impartial.«

stage. Foreign Minister Wang Yi's address at the 60th Munich Security Conference underscored China's commitment to serve as a stabilizing force in global affairs.⁵ China's proactive engagement is evidenced by its multifaceted diplomatic initiatives, including its twelve-point peace proposal for the Russia-Ukraine conflict and its instrumental role in facilitating the restoration of diplomatic relations between Saudi Arabia and Iran. Moreover, China has consistently championed constructive and responsible actions by influential nations, particularly in safeguarding critical maritime routes such as Red Sea shipping lanes.

Despite these efforts, these and other conflicts continue to destabilize the international order. It is imperative that we consider truly actionable recommendations aimed at mitigating tensions and fostering peaceful resolutions. The following are immediate, practical actions that we believe would have a real impact on resolving existing conflicts and promoting peace:

The first of these is a Peace Conference for Ukraine. As the only third party not directly or indirectly involved in the Ukraine conflict, China has remained objective and impartial on the issue of

Ukraine, advocating for peace and dialogue. President Xi Jinping has personally had in-depth conversations with leaders from multiple countries including Russia and Ukraine. China has proposed a twelve-point peace plan, emphasizing the importance of respecting national sovereignty and territorial integrity, and upholding the United Nations Charter. China has stated that a nuclear war cannot be waged in Ukraine and that nuclear facilities should not be bombed. All these efforts have been aimed at paving the way for a ceasefire and dialogue.

We believe that a comprehensive peace conference should be convened, inviting all relevant stakeholders, including Russia, and welcoming mediation efforts from countries such as Turkey and Switzerland. In previous meetings, Russia has not been invited to participate as Ukraine insists on the complete withdrawal of all Russian troops from its territory, the restoration of borders to their pre-1991 Soviet era configuration, and the establishment of mechanisms to hold Moscow accountable. However, genuine peace talks cannot occur without Russia's involvement.

The upcoming 10th China and Globalization Forum, organized by CCG and scheduled for May, offers a timely and flexible platform that would be conducive to analyzing the complexities surrounding the Ukraine issue. Its focus on fostering dialogue and exploring global issues gives policymakers, academics, and experts from around the world a unique opportunity to come together and engage in constructive discussions regarding the various aspects of the situation in Ukraine. The insightful analysis, exchange of perspectives, and exploration of potential

solutions that come out of the discussions during the forum could ultimately pave the way for informed and collaborative efforts toward peace and stability in the region.

Second, a High-Level International Conference for Israel and Palestine should be convened. Currently, Israel has ignored warnings and condemnations from the international community, not only refusing to exchange hostages with Hamas but also reiterating its threats to attack the southern Gaza City of Rafah. Humanitarian supplies provided by the international community to the Gaza Strip need to enter through the Rafah crossing connected to Egypt. If the area falls victim to airstrikes and ground attacks or ultimately is controlled by the Israeli military, it will be extremely difficult for international humanitarian aid to reach the hands of civilians in Gaza. Even the United States has expressed opposition to the current situation with the US State Department announcing sanctions against three individuals and two entities in Israel. While these sanctions may seem mild, they represent the first public condemnation by the United States of Israel's violence towards Palestinians.

China hopes to find a comprehensive, equitable, and lasting solution to the Palestinian issue. More immediately, it hopes to facilitate an immediate ceasefire to prevent further escalation or loss of control. It opposes actions that harm civilians or violate international law and calls for the protection of civilians and humanitarian assistance to prevent an even more severe humanitarian disaster. China supports the prompt convening of a more authoritative, extensive, and effective international conference to promote

the resumption of Israeli-Palestinian talks, including the development of a specific timetable and roadmap. China insists that the United Nations should take the lead in organizing high-level talks involving the permanent members of the Security Council, alongside Palestinian and Israeli representatives. China's proactive stance on the Israeli-Palestinian conflict has been exemplified by its presidency of the Security Council last November, which culminated in the passage of Resolution 2712 and underscores its potential to advance peace efforts in the region.

Third, China can serve as a guarantor of a Russia-Ukraine ceasefire. On June 17, 2023, during a meeting with a delegation from Africa in Saint Petersburg, Russian President Putin presented a draft of the Istanbul Agreement, which was outlined in March 2022 in Istanbul, aimed at resolving the Ukraine issue. The draft designated China, the United States, the United Kingdom, Turkey, France, and Belarus as "guarantor countries" of the agreement. Given its amicable relations and strategic partnerships with both Russia and Ukraine, China is well-positioned to serve as a guarantor of a ceasefire agreement, thereby facilitating diplomatic negotiations and peace-building efforts.

Fourth, UN Peacekeeping Forces should be rapidly deployed to Ukraine and Palestine, ensuring that peacekeeping operations adhere to international law and norms, having obtained proper authorization and clear mandates. The deployment and activities of peacekeeping forces must be decided by the United Nations Security Council or General Assembly and require the consent of relevant parties. A key benefit to this is that UN peacekeeping actions

can only proceed after the consent of all parties involved in the conflict, to prevent UN peacekeeping forces from becoming a new party to the conflict. China's continued commitment to UN peacekeeping operations positions it as a valuable contributor to efforts aimed at maintaining peace and stability in conflict-affected regions.

Fifth, China can support reconstruction efforts in Ukraine and Gaza. Having endured the ravages of war and suffering immense destruction, Ukraine will be in urgent need of reconstruction. Leveraging its expertise as a major infrastructure builder, China can play a pivotal role in post-conflict reconstruction efforts, thereby fostering socio-economic development and stability in the conflict-affected areas. Ukraine could facilitate this by ending sanctions on the China Railway Construction Corporation (CRCC), which was implemented because of the company's cooperation with Russia. It should also retract its statements that it would "not use Chinese high-speed rail" technology post-war. It should instead welcome Chinese infrastructure companies to participate in the reconstruction of Ukraine. In the Gaza Strip, China has provided emergency humanitarian aid such as food and medicine and announced it will provide hundreds of

»A High-Level International Conference for Israel and Palestine should be convened.«

millions of dollars in aid to the Gaza Strip for the purpose of rebuilding infrastructure and providing relief. This funding will help restore the normal economic order of the Gaza Strip and improve the living conditions of its people.

Sixth is the implementation of a Two-State Solution for Israel-Palestine. Looking ahead, a two-state solution remains the most viable path forward for the region. The ongoing status quo and long-standing history of conflict in the region since 1947 means that the primary challenge lies in facilitating and implementing a feasible resolution. This should manifest itself in the creation of a Palestinian state that can foster harmonious coexistence between Israel and Arab nations. China, ranked as the third most favored mediator among Palestinians according to an Arab News YouGov poll, behind Russia and the EU, has the potential to play a core role in this process.⁶

Seventh, the international community should support Ukraine's accession to the EU without NATO membership. If Ukraine successfully joins the European Union, it will benefit from the free movement of goods within the EU market, freedom of investment, and more convenient trade conditions. This would bring about more economic development opportunities for Ukraine and enhance the country's economic standing. However, joining NATO would provoke continued strong opposition from Russia, which sees NATO membership as a challenge to Russia's security interests and could lead to increased tension between the two countries.

Eighth, cooperation among major powers and middle powers should be enhanced. In the pursuit of global peace

and stability, collaboration among major powers such as China, the United States, and Europe, alongside middle powers like Turkey, Japan, South Korea, Australia, and BRICS nations, is essential. By leveraging multilateral platforms such as the United Nations, these countries can collectively address major international conflicts through dialogue and diplomacy. China is in a unique position to engage extensively with all parties, promoting openness and inclusivity over isolation and exclusivity, as well as negotiation and cooperation over confrontation and antagonism. China could proactively lead a call for multilateralism and the exploration of win-win outcomes while working to prevent scenarios that result in losses for individual countries and the international community.

Finally, as frictions in commerce and technology mount between major powers – as seen in export control, sanctions, punitive tariffs, and investment restrictions – China, the US, and the EU have a growing interest in containing the situation. Further, spillovers from these challenges pose a growing threat to the supply chain and end users in the global south. It would be feasible to place a guardrail mechanism for telecom equipment vendors, social media as well as AI companies in front of a gathering of various authorities, to address sensitivities and controversies.

In conclusion, in finding solutions to the daunting challenges posed by ongoing conflicts, we feel that China's proactive approach to peacemaking offers a beacon of hope for global peace and stability. By leveraging its diplomatic influence, fostering dialogue among conflicting parties, and advocating for constructive engage-

ment, China can play a pivotal role in easing tensions and fostering lasting peace in regions marred by strife and suffering. As the world grapples with the consequences of conflict, concerted efforts toward peacemaking and mediation are imperative, and China stands ready to contribute to these noble endeavors.

The opinions expressed in this article correspond to its author and are his sole responsibility.

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The Global Solutions Initiative

The Global Solutions Initiative (GSI) works towards a global economic system that benefits people and planet. Rooted in research, GSI brings together policy, academia, civil society, and the private sector to generate insights for better global governance. Founded in 2017, the Berlin-based independent, non-profit organization annually convenes the Global Solutions Summit, which serves as a steppingstone to the G20 and G7 Summits. GSI is led by Dennis J. Snower, Markus Engels, and Christian Kastrop.

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The Global Solutions Summit is the world's premier forum for transforming research into policy for the G7, G20 and beyond. It advances global economic, environmental, and social prosperity by connecting thought leaders and decisionmakers, visionaries and pragmatists from policy, academia, civil society, and the private sector. Held annually in Berlin, this year's conference takes place May 6-7, 2024.

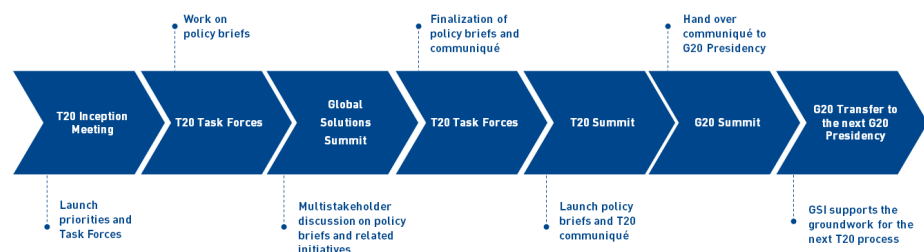
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The T20 is a G20 engagement group that brings together think tanks and research centers from G20 members and guest countries and organizations.

Think tanks can contribute to the T20 in various formats, such as participating in the T20 conferences and meetings, proposing and organizing side events, submitting policy briefs, and joining the task force activities.

Following the principles of inclusiveness, representativeness, and effectiveness, T20 Brazil seeks to engage many national and foreign think tanks, promote balanced regional representation, and have a broader impact on the G20 official policy processes (Finance and Sherpa tracks).

T20 Brazil fosters stronger links with other engagement groups. This collaborative approach ensures that the recommendations and policy options produced as part of the T20 Brazil discussions reflect a comprehensive understanding of the issues at stake. Such comprehensive understanding enjoys stronger support and legitimacy, further enhancing the T20's influence.

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More information at: <https://www.t20brasil.org/>

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More information at www.think7.org

Publications by the Global Solutions Initiative

EMPOWERING DIGITAL CITIZENS REPORT (GIDE)

The *Empowering Digital Citizens report* by Dennis J. Snower and Paul D. Twomey was launched at the Global Solutions Summit in Berlin on March 28, 2022. The product of two years of work by the GIDE community, it lays out practical policy to innovate markets so that consumers can control, & benefit from, who accesses and uses their data: digital citizenship.

More information at <https://www.global-solutions-initiative.org/programs/digital-empowerment/empowering-digital-citizens-report/>

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More information at www.global-solutions-initiative.org/g20-insights-homepage

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More information at www.global-solutions-initiative.org/publications/journal

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President: Dennis J. Snower

Secretary General: Markus Engels

Represented by Managing Partner:

Christian Kastrop and Managing Director:

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www.global-solutions-initiative.org

contact@global-solutions-initiative.org

Peer Review

Mahmoud Elassy, Silva Levonian,

Leslie Mills, Siddarth Padmanabhan,

Amara Phillips, Yamunna Rao,

Rémy Alexandre Weber

Project Management

Paxia Ksatryo, supported by Mahmoud

Elassy and Leslie Mills

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