2030 AGENDA FOR SUSTAINABLE DEVELOPMENT

POLICY RECOMMENDATIONS FOR THE G20

T20 Japan Task Force on
2030 Agenda for Sustainable Development

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Policy Recommendations for the G20

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2030 Agenda for Sustainable Development
Policy Recommendations for the G20

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Foreword

This publication is the outcome of a collaborative effort by researchers, policymakers, and practitioners across the globe, who have been deeply engaged in the Think 20 (T20) Japan process in 2019, and who have a strong commitment to transforming our world through sustainable development.

T20 is the research and policy advice network for the Group of Twenty (G20) nations. Under the Japanese G20 Presidency, ten Task Forces have been organized to support the G20 leaders by discussing and producing policy recommendations. The Task Force on "The 2030 Agenda for Sustainable Development" is one of these.

First of all, I would like to express my sincere appreciation to the Co-Chairs of the T20 Japan Task Force "The 2030 Agenda for Sustainable Development": Gabriel Leung (The University of Hong Kong), Nobuko Kayashima (JICA), Homi Kharas (Brookings Institution), Sachin Chaturvedi (RIS), Margo Thomas (Women's Economic Imperative), and Gala Díaz Langou (CIPPEC). They have led the process of formulating Policy Briefs in their areas of expertise in close consultation with various experts. I would also like to thank all of the Task Force members for their hard work and dedication.

We, the Task Force members, highly appreciate the intellectual leadership of Naoyuki Yoshino (Dean, ADBI), as well as the excellent coordination and support from the T20 Policy Research Team led by Katsuyuki Meguro, Mari Sawada, and So-heon Lee (ADBI), at the various stages of the Policy Brief preparation and dissemination activities.

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took time to comment on selected Policy Briefs to improve their content and policy relevance.

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Finally, we would like to thank many other engagement groups, especially Women 20 (W20), Business 20 (B20), and Civil Society 20 (C20), for their wonderful collaboration and synergetic efforts towards achieving the common purpose.

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Introduction and Summary

The Sustainable Development Goals (SDGs) aim to realize a world 'that leaves no one behind' by 2030. This is an ambitious agenda, but provides a powerful aspiration for building a better future for all through global partnerships.

Four years have already passed since the adoption of the SDGs by all 193 United Nations (UN) member states in September 2015. However, as the existing studies indicate, not a single country is on track to achieve all of the SDGs by 2030. Bold and transformative steps are urgently needed to accelerate the implementation of the 2030 Agenda by taking a human-centered approach that contributes to building a sustainable health system for all, and promotes education in development and women's economic empowerment (WEE). It is also critically important to scale up business impact on inclusive and sustainable development, and establish a global framework for mobilizing and catalyzing capital and facilitating technology cooperation, based on the principles of access, equity, and inclusion, for developing countries. These are the central messages of our policy recommendations, emerging from the collaborative work of the T20 Japan Task Force on the 2030 Agenda for Sustainable Development.

2019 is a highly important year for Japan. The country hosts both the Group of Twenty (G20) Osaka Summit and the Seventh Tokyo International Conference on African Development (TICAD 7). There will also be the High-level Political Forum on Sustainable Development (HLPF) in September 2019, under the auspices of the United Nations General Assembly (the so-called "UN SDG Summit"), to follow-up and review the progress of the 2030 Agenda for Sustainable Development.

Since the SDGs were adopted in 2015, G20 has sought effective means of implementing the 17 goals using various frameworks and fora, as well as the G20 Development Working Group (DWG). These include

the G20 and Low Income Developing Countries Framework (2015) and the 2015 Antalya Development Roadmap (2015), the G20 Action Plan on the 2030 Agenda for Sustainable Development (2016), the Hamburg Update of the G20 Action Plan on the 2030 Agenda (2017), and the Buenos Aires Update of the G20 Action Plan on the 2030 Agenda (2018). Currently, the G20 under Japanese Presidency in 2019 is working through the DWG to undertake the review of the G20 Action Plan on the 2030 Agenda.

In view of the vital importance of providing policy inputs to the progress of the SDGs at this critical juncture, a Task Force on the 2030 Agenda for Sustainable Development has been established within T20. In alignment with the Japanese government's priorities for its G20 Presidency and considering the impact of the achievements of the recent G20 Summits on the 2030 Agenda, we have chosen the following six topics to make policy recommendations for G20. We believe that these topics are critically important for advancing SDG implementation:

- Universal Health Coverage (UHC);
- Education in development;
- Sustainable finance for development;
- The role of the private sector in achieving the SDGs;
- Technology cooperation; and
- Gender.

We consider these topics a balanced mix, and highly relevant in the light of: (i) giving special attention to "human security" and the human-centered approach, as well as the areas where Japan has accumulated knowledge and expertise (i.e., universal health coverage, and education in development); (ii) combining sector-specific topics with cross-cutting topics (i.e., sustainable finance, the role of the private sector, technology cooperation, gender); (iii) maintaining the continuity of the past T20 discussions, while addressing new topics (i.e., universal health coverage, the role of the private sector, technology cooperation); and (iv) ensuring complementarity with the other Task

Forces such as Climate Change and Environment, the Future of Work and Education for the Digital Age, and the Economic Effects of Infrastructure and its Financing.

A total of eleven Policy Briefs have been formulated covering these six areas, as compiled in this book. The direction of the six topics is summarized as follows (see the Annex for key recommendations).

In health, our Task Force has focused on UHC. This is the first time that T20 has discussed this as the major topic. Health has been discussed at the G20 Summit since 2017, and during the last two years the main focus was on the preparedness and response to health crises (such as the Ebola outbreak and antimicrobial resistance (AMR)) and health systems strengthening.. This year, our Policy Brief addresses the role of G20 in building sustainable health systems for all, and deliberates on the next steps toward a new globalism for UHC. In doing so, we have given due consideration to the discussions at the Health Working Group (Sherpa Track) and the Finance Track.

Education has been discussed intensively at past T20s, and recent years have seen growing interest in the topic of the Future of Work and Education for the Digital Age (which is closely related to the 4th industrial revolution). While this topic continues to be discussed at the other Task Force (Task Force 7), we have highlighted education in development as an enabler to achieve the SDGs. Five Policy Briefs have been compiled, which call for transforming education system to provide all children with quality education. They address non-cognitive "socioemotional skills," early childhood development/education and care (ECD/ECEC), science, technology, engineering and mathematics (STEM), girl's education, professional development, and so on.

On finance and governance, developing countries face challenges in using cross-border capital flows to fund investments in sustainable development. International financial institutions have a key role to

play in minimizing risks to developing economies while ensuring more efficient allocation of public and private capital. This year, our Policy Brief recommends concrete measures how to drive capital at scale towards sustainable development, ensure improved allocation of development finance, and establish and encourage commitment to, funding approaches for global public goods.

The role of the private sector is a new topic at T20, and our Policy Brief addresses the need to redefine the purpose of business and how to scale up their impact on the SDGs. It analyzes the challenges which restrain corporates from making full-fledged contributions to SDG acceleration and provides specific policy recommendations. These include: (i) encouraging corporates to embed the SDGs into their core business strategies and operations; (ii) reshaping the economic system around the common good; (iii) creating a "sustainable ecosystem" for shaping a beneficial environment for all stakeholders; and (iv) upgrading the enterprises and policy/regulatory capabilities of developing countries to maximize the potential benefits of their participation in Global Value Chains.

Technology cooperation is also a new topic. Global technology regimes and international organizations have played a significant role in facilitating Science, Technology and Innovation (STI) cooperation to cater to diverse needs in the areas of development and sustainability. Nevertheless, the existing technology transfer models remain inadequate to meet the needs of developing countries. Our Policy Brief examines the significance of Science and Technology (S&T) and availability of innovation-driven solutions, to address sustainability challenges. It also highlights the role of the G20 in supporting the best practices adopted for technology cooperation, building the technological and financial capacities of developing countries, and facilitating intellectual property regimes for fostering STI partnerships.

Gender is an important cross-cutting issue, and past T20 meetings discussed intensively the issue of gender economic equity by

organizing a dedicated Task Force. This year, two Policy Briefs have been produced within the T20 Japan SDGs Task Force, to highlight: (i) a gendered perspective of changing demographics and their implications for labor, financial and digital equity; and (ii) governance frameworks for promoting women's economic empowerment. The latter is new and focuses on the governance frameworks for the public and private sectors and their respective mechanisms for monitoring and measuring the impact of gender economic equity progress. In doing so, we have collaborated with the Women 20 (W20) to ensure alignment with the W20 areas of focus.

Tremendous efforts have been made across these six topics to share respective perspectives and promote mutual learning in the process of formulating the Policy Briefs. This has greatly enriched the activities of the Task Force on the 2030 Agenda for Sustainable Development in T20 Japan 2019.

Lastly, 2019 marks the fourth year since the adoption of the SDGs by world leaders, and the UN SDG Summit will be held in September. This provides a very important opportunity to reinvigorate international commitment to the 2030 Agenda, to showcase areas of global progress, and to raise awareness of the importance of the SDGs globally. Given the significant impact the G20 countries could have on global economic and social progress, I sincerely hope that the policy recommendations formulated by our Task Force will serve as useful intellectual contributions to the G20 Osaka Summit, as well as to the subsequent policy fora including the UN SDG Summit.

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Annex

Key Recommendations, Specific Actions, and Policy Briefs (Task Force 1: The 2030 Agenda for Sustainable Development)[1]

Summary of Challenge / Goal
The Sustainable Development Goals (SDGs) aim to realize a world 'that leaves no one behind' by 2030. Bold and transformative steps are urgently needed to accelerate the implementation of the 2030 Agenda by taking a human-centered approach that contributes to building a sustainable health system for all, and promotes education in development and women's economic empowerment (WEE). It is also critically important to scale up business impact on inclusive and sustainable development, and establish a global framework for mobilizing and catalyzing capital and facilitating technology cooperation, based on the principles of access, equity, and inclusion for developing countries.
Key Recommendation 1: Lead tractable changes and global solidarity towards Universal Health Coverage (UHC).
Specific Actions
• Re-orient domestic financing and development assistance to strengthen primary health care systems. • Establish a reliable information system on migrants to ensure parity of health and social security benefits between migrant and local workers. • Share country experiences of innovative financing successes. • Support the establishment of reliable domestic financing mechanisms for self-sufficiency, and ensure that resources are used for cost-effective best buys. • Establish a G20 working group on harnessing and regulating health technologies at the global level. • Establish a globally-shared, locally-contextualized mechanism of technical support for UHC. • Harmonize health development assistance to avoid duplication and fill gaps.
Referenced Policy Brief

[1] This is an input from "The 2030 Agenda for Sustainable Development" Task Force to the T20 Communique. The Communique was compiled from this input.

• Gerald Bloom, Yasushi Katsuma, Krishna D Rao, Saeda Makimoto, Gabriel Leung, "Deliberate next steps toward a new globalism for Universal Health Coverage (UHC)."
Key Recommendation 2: Transform education system to provide all children with quality education, leaving no one behind.
Specific Actions
• Share good practices among G20 countries and align policy interventions with the local context in which educational transformations take place, and review and reform curricula across all levels of education to align these with all 17 SDGs. • Prioritize the promotion of research and practice in education systems that foster non-cognitive "socioemotional skills" to transform traditional schooling systems. • Strengthen G20-level commitment to ensuring access to locally and culturally appropriate early childhood development, education and care (ECD/ECEC) of high quality for all children from birth, and forge international consensus on government responsibility for developing, resourcing, and governing a "whole-systems" approach to ECD/ECEC policies. • Establish baseline data and targeted interventions to benefit the most marginalized girls and boys to achieve gender equality in education. • Agree on immediate policy measures within G20 countries to promote STEM education particularly in basic level mathematics and science, and change the nature of STEM education in a way that cultivates the curiosity and motivation of children.
Referenced Policy Briefs
• Shinichiro Tanaka, Shimpei Taguchi, Kazuhiro Yoshida, Alejandra Cardini, Nobuko Kayashima, Hiromichi Morishita, "Transforming Education towards Equitable Quality Education to Achieve the SDGs." • Mathias Urban, Alejandra Cardini, Jennifer Guevara, Lynette Okengo, Rita Flórez Romero, "Early Childhood Development Education and Care: The Future is What We Build Today." • Natasha Ridge, Susan Kippels, Alejandra Cardini, Joannes Paulus Yimbesalu, "Developing National Agendas in Order to Achieve Gender Equality in Education (SDG 4)." • David Istance, Anthony Mackay, Rebecca Winthrop, "Measuring Transformational Pedagogies Across G20 Countries to Achieve Breakthrough Learning: The Case for Collaboration." • Javier González D., Dante Castillo C., Claudia Costin, Alejandra Cardini, "Teacher Professional Skills: Key Strategies to Advance in Better Learning Opportunities in Latin America."

Key Recommendation 3: Drive capital at scale towards sustainable development, ensuring improved allocation of development finance.
Specific Actions
• Share the good experiences derived from expanding sustainable finance, especially by large institutional investors and national and international development banks in G20 member countries, and pursue actions to promote private financing for social good. • Support developing countries in the creation of sector-specific platforms to generate coherent and high-quality project proposals linked to national development plans, in partnership with MDBs and UN agencies. • Take a systematic approach to aid replenishment negotiations (expected in 2019/2020) based on a set of core principles, and also encourage the greater use of innovative finance mechanisms.
Referenced Policy Brief
• Homi Kharas, Sachin Chaturvedi, Mustafizur Rahman, Imme Scholz, "Sustainable Financing for Development."
Key Recommendation 4: Redefine the purpose of business and create a "sustainable ecosystem" for shaping beneficial environments for all stakeholders, while giving attention to the industrial and social upgrading of developing countries.
Specific Actions
• Urge the private sector to embed sustainability into their core business strategies and operations and link corporate reporting to the SDGs by using common framework and standards. Also, promote joint business actions for social good by utilizing major international events as showcases. • Reshape the economic system around a common purpose by promoting ESG investment, as well as sustainable procurement in the public sector. • Promote "Quality FDI" to developing countries and support their industrial and social upgrading so that they can benefit from Global Value Chain participation and avoid the risk of inappropriate supply chain management by FDI.
Referenced Policy Brief
• Izumi Ohno, Kenichi Konya, Hiroaki Shiga, Franklin Murillo, Estefania Charvet, "Scaling Up Business Impact on the SDGs."
Key Recommendation 5: Create alternative mechanisms for STI cooperation, building the technological and financial capabilities of developing countries.

Specific Actions
• Establish a comprehensive technology facilitation mechanism, including technology banks to facilitate and incentivize technology transfer to developing countries and LDCs. • Develop a global action plan to promote open access to data and S&T information and to adopt new regulation models of innovation for global public goods. • Integrate STI cooperation into strategies for the achievement of the SDGs and promote good practices in this area among G20 countries.
Referenced Policy Brief
• Sachin Chaturvedi, Mustafizur Rahman, Krishna Ravi Srinivas, "Leveraging Science, Technology and Innovation for Implementing the 2030 Agenda."
Key Recommendation 6: Prioritize concrete actions that promote women's economic empowerment.
Specific Actions
• Remove systemic legal and social barriers in the labor market that disproportionately limit women's labor force participation and countries' potential to deal with the demographic transition, especially by adopting policies that recognize, reduce, redistribute and represent unpaid care and domestic work and by presenting mid-term reports on the 2014 Brisbane commitment on "25 by 25." • Improve WEE data availability, analysis and quality in the public and private sectors, recognizing that data inputs are essential for quality policy design, benchmarking and measuring progress on implementation, and accountability. • Mainstream gender in public policy making and require private and third sector entities to adopt and report on gendered policies and outcomes.
Referenced Policy Brief
• Florencia Caro Sachetti, Gala Díaz Langou, Fernando Filgueira, Margo Thomas, Sarah Gammage, Carolyn Currie, Margarita Beneke de Sanfeliú, Abigail Hunt, Reiko Hayashi, "A Gendered Perspective on Changing Demographics: Implications for Labour, Financial and Digital Equity." • Margo Thomas, Eleanor Carey, Dinah Bennett, Jaclyn Berfond, Boris Branisa, Yolanda Gibb, Colette Henry, Eun Kyung Kim, Gala Díaz Langou, Karen Miller, Mari Miura, Nicola Patterson, Smita Premchander, Linda Scott, "Women's Economic Empowerment: Strengthening Public and Private Sector Impact through Accountability and Measurement."

2030 AGENDA FOR SUSTAINABLE DEVELOPMENT

Deliberate Next Steps toward a New Globalism for Universal Health Coverage (UHC)

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Abstract

Much effort has been expended on promoting universal health coverage (UHC). We focus on four areas that, on current trajectories, are unlikely to achieve sufficient progress to meet Sustainable Development Goal (SDG) 3.8. These are also issues for which G20 can provide significant traction. The principle of "leaving no one behind" is central to UHC. Migrants and migrant health workers are too often overlooked, as is genuine support for primary health care at the community level. Prioritizing reliable domestic financing requires enlightened leadership and deliberate dialogue between finance and health ministries. Harnessing, and regulating, innovation for a future where multi-omics, immuno-biology, artificial intelligence, social communications and health care converge against threats from climate change, humanitarian crises and emerging and antimicrobial resistant infections requires judicious planning. Finally, mutual learning and harmonized aid amongst countries remain unfulfilled priorities of good governance.

Challenge

1. Leaving no one behind

Substantial inequities in access to care continue to persist within as well as between countries. Vulnerable populations face a higher burden of morbidity and premature mortality due to easily preventable and treatable causes. Their limited access to affordable and quality essential services, as well as underinvestment in primary health care systems, is a major impediment to achieving UHC. Such inequities also threaten human security [1].

Access to health care is an important concern for all vulnerable groups, such as the poor, older people, women, children, minorities and

migrants. Some of these have been the focus of ongoing national and global efforts for redress. However, global migration, especially related to migrant workers poses unique and so far neglected challenges to UHC progress. There is a significant increase in the global movement of people due to economic, political, conflict, and environmental reasons. Protecting the health of migrants is challenging for both high and low income countries. Information systems on migrants are weak. Migrant workers often work in difficult and dangerous environments and have limited entitlement to health care in the host country or when they return home. Further, the migration of health care workers often depletes the ability of resource poor countries to provide health services to all citizens.

2. Prioritizing reliable domestic financing and cost-effective best buys

Social, economic and institutional transformations require innovative financing to sustain the provision of adequate health care domestically in all countries. Additionally, health development assistance should be re-designed to support countries to transition toward reliable self-sufficiency. Implementing either or both remains a vexed challenge.

3. Harnessing innovation and access to technology and medicine judiciously

Technological innovations in health care (pharmaceuticals, diagnostics, devices etc.) and in information and communication technologies have the potential to substantially accelerate progress towards UHC. Markets, on their own, are unlikely to produce innovations that increase access at scale and on a sustainable basis. There is also a risk of undesirable outcomes, such as the emergence of antimicrobial resistance, rapid increases in health care costs and the exclusion of some people from access to medical care.

4. Supporting common monitoring mechanisms, mutual learning platforms, and coordinated international cooperation for UHC

Common methods that would make cross-country data on UHC monitoring directly comparable are unevenly deployed, mostly due to variable technical competence and non-standardized approaches in data collection.

While countries take different paths towards UHC, there are common lessons. However, they have not been effectively shared.

Individual G20 members already provide technical and financial support to global partners and other countries, albeit in an uncoordinated, inefficient and non-transparent manner.

Proposal

1. Leaving no one behind

1-1: Strong primary health care for health equity

Strong primary health care (PHC) systems are effective in reducing inequities of access, through the core principles of first-contact, continuous, comprehensive, and coordinated care [2–4]. Following the Alma Ata Declaration that was recently reaffirmed in Astana, PHC, with its reliance on community health workers, basic curative health interventions, and focus on preventive and promotive care and empowerment of individuals and communities, is a proven means of advancing UHC.

Strengthening PHC systems to reduce inequities requires action on many fronts but two issues are particularly important for governments. First, domestic financing and development aid should emphasize investments in essential services that can be provided locally at the

community level and by basic health workers. Making essential medicines universally affordable and available is critical. The emergence of HIV/AIDS and resurgence of tuberculosis and malaria have focused global funding towards the control of these emergencies. While major progress has been achieved, this was often accomplished by building parallel financing and delivery systems [5]. G20 and development partners should bring about a renewed focus on PHC systems by making comprehensive care central to activities, with particular attention to marginalized groups. This includes bringing a PHC systems strengthening focus to global disease control programs. In particular, G20 should promote better measurement of PHC systems performance and support and expand ongoing efforts such as the Primary Health Care Performance Initiative (PHCPI – https://improvingphc.org).

Second, population aging and the growing burden of non-communicable diseases (NCD) pose new challenges to country health systems. The global population aged 60 years or over was estimated at 962 million in 2017 and, is expected to double by 2050 [6]. Two-thirds of the world's older persons currently live in low- and middle-income regions [6]. The preoccupation with infectious diseases and reproductive conditions has shaped the organization of PHC systems in many countries. Older people, however, are more likely to suffer from NCDs that require sustained care. The development assistance policy of G20 members should encourage investments in re-orienting PHC systems to integrate packages of cost-effective promotive, preventive and curative NCD interventions, such as those identified in the Disease Control Priorities, which can be delivered through population-based, community, health center and hospital platforms [7].

1-2: Health of migrants and health care worker migration

There were 258 million migrants in 2017, representing 3.4% of the world's population [8] (Figure 1 (a)). People leave their homes to

relocate within or across national borders due to economic, political, and conflict-related reasons. While the health of all migrant groups is equally important, the right of migrant workers to health care in destination countries is much debated.

Crossing national borders to work is one of the key motivations behind global migration. According to International Labour Organization (ILO), there were 164 million (64% of all migrants) migrant workers globally in 2017 [9] (Figure 1 (b)). While the United Nations General Assembly recently endorsed the Global Compact for Safe, Orderly and Regular Migration supporting the right of migrants to health care and encouraging countries to incorporate their health needs into policies, there remains too little attention given to the health implications associated with migration [10].

G20 members, many of which are important players in global migration [11], should spearhead inter-governmental action to establish reliable information systems on migrants. This includes having an agreed set of standardized, publicly available migration indicators that source and destination countries collect [12]. Further, it is important that routine national statistical systems also include and identify migrant populations. This can help governments understand the scale of migration, develop evidence-based policies, and to know the extent to which refugees and labor migrants are able to access health and other social services [8,12].

The productivity of migrant workers is tied to their health. Therefore it benefits the host country to invest in their health [13]. In addition, the documented migrant labor workforce contributes to the host economies through taxation. Many migrant workers often perform jobs that have poor work environments thus placing them at higher health risk while they may not have access to care due to government policy, lack of citizenship, or clarity on legal status [14]. Some destination countries extend health care coverage to migrant workers, their

families in the home country, and offer portability of health benefits when migrant workers return home [15].

First, migrant workers should be offered similar access to health and social security benefits in the country where they work as local workers [10,16]. Second, health benefits of migrant workers should, to the extent possible, be coordinated by both source and destination countries through mechanisms such as bilateral social security agreements [14]. Third, G20 members should explore the potential of extending health benefits to the families of migrant workers and making health benefits portable such that such benefits will become available to migrant workers after they return to their home country.

The migration of health care workers from resource-poor to high-income countries can constrain the ability of source countries to benefit from their investments in health professional education (Figure 1(c), 1(d)). At the same time, these workers are an important resource for both source and destination country health systems. In return, migration offers health care workers opportunities for better compensation and professional development. In 2010, World Health Organization (WHO) adopted the Global Code of Practice on the International Recruitment of Health Personnel to encourage ethical and fair hiring [17].

G20 action is necessary for systematically measuring health workforce mobility [17]. Additionally, G20 is uniquely placed to facilitate a shared understanding of the complex web of inter-relationships, at the country and global levels, between workforce migration, health workforce needs, workforce planning and production. Such an understanding requires engagement with multiple sectors – education, health and labor ministries within national governments, international recruitment stakeholders, health professional groups, and UN agencies including WHO and ILO.

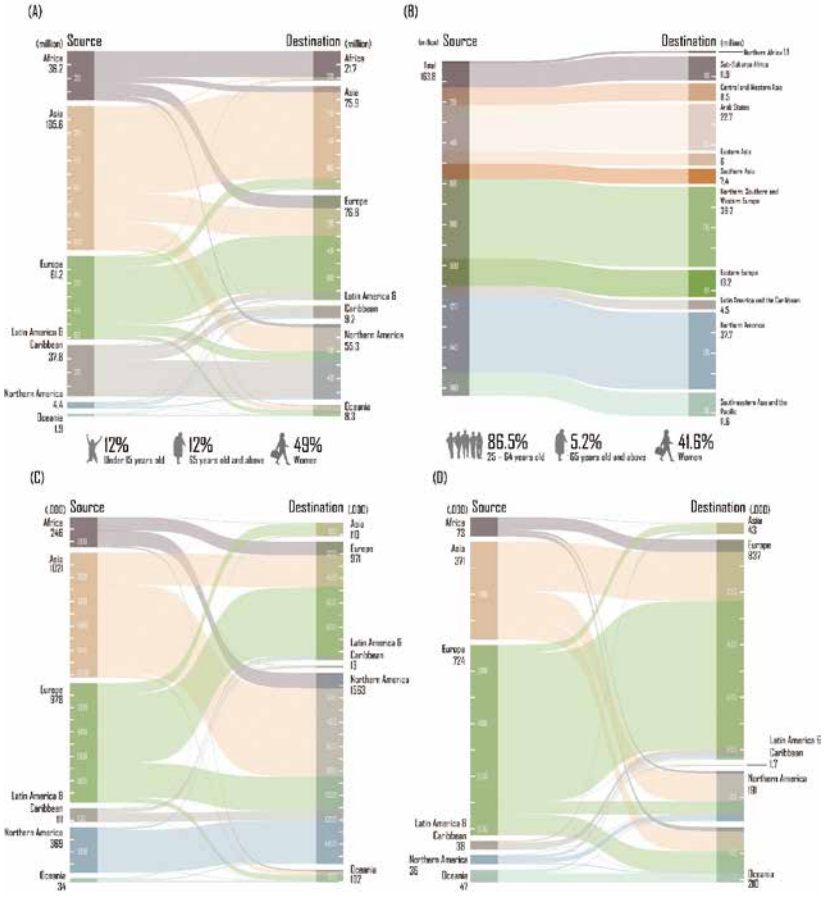

Figure 1 (a) Total migration by source and destination region as estimated by UNDESA (2017); (b) Total labor migration by destination region as estimated by ILO (2017); (c) Total foreign-trained doctors in destination region of the OECD (2012-2016); (d) Total foreign-trained nurses in destination region in the OECD (2012-2016)

2. Prioritizing reliable domestic financing and cost-effective best buys

Health systems will increasingly need to adapt to rapid and interconnected changes, with a major impact on the demand for health

services and the capacity to pay for them. Population aging, the growing burden of complex, chronic non-communicable diseases, developments in medical technologies and the multiplicity of communication channels are driving increasing expectations for medical care. This is happening, in many countries, at a time of fiscal stagnation linked to population aging and changes in the labor market in favor of the informal economy. Countries are at risk of a variety of shocks related to climate change, economic transitions, pandemics, amongst other threats. These can affect both the demand for health services and the resources available to pay for them. The patterns of inequality and of population groups at risk of being left behind are also changing. Access to health services can make an important contribution to the ability of individuals and societies to adjust to change. Also, recent experiences with humanitarian crises such as the Ebola outbreaks have demonstrated how the lack of effective and trusted health services increases the risk of major shocks.

Many G20 countries are implementing innovative approaches for coping with rapidly increasing demand and/or challenges associated with fiscal stagnation [18–21]. Whereas mobilizing domestic resources to reliably finance needed health care is crucial, fiscal discipline in resource allocation and spending is equally critical to ensure long-term sustainability. One example is Japan, where close collaboration between the Ministries of Health and Finance, through periodic social insurance fee schedule review, have enabled it to control overall expenditure while meeting the health needs of a rapidly ageing population [22]. We recommend that the G20 support systematic studies of their own country experiences with health finance and establish mechanisms for mutual learning about what works, how and why, involving ministries of finance in addition to health.

G20 members have mechanisms to ensure that their less-developed subnational regions receive appropriate financial support for health services. Some also provide health development assistance to

low-income countries. We call on G20 to continue providing financial support for countries and regions with very limited capacity to sustainably finance effective health services. The form this support takes needs to take into account big changes in economic development. A number of countries and regions are experiencing increases in average income, especially in rapidly growing urban areas and in resource-rich localities. Their governments face special challenges in establishing effective and reliable mechanisms for financing health services that meet the needs of all. We call on G20 to reallocate its health development assistance gradually to areas with the greatest need, while providing support to other areas to become self-sufficient. This will involve providing opportunities for mutual learning about effective strategies for health finance, support for strengthening health financing institutions and tapering of support to avoid sudden shocks. We also call on them to establish coordination mechanisms to ensure that assistance contributes to the establishment of long-term, sustainable health financing solutions.

Increased health finance needs to be complemented by measures to ensure that resources are used well. One important area for intervention is on access to effective and appropriate drugs. This requires measures to reduce their cost to patients and ensure that their quality is good and they are used well. This is especially important for antimicrobial drugs because of the health consequences of treatment failure and the risk of antimicrobial resistance. Commitments by G20 to invest in antimicrobial drug discovery must be complemented by measures to increase access to treatment and improve management and stewardship of such drugs [23–26]. Low-income communities require financial support to purchase and distribute these drugs, as is already the case with the treatment of tuberculosis, malaria and HIV/AIDS. Measures to reduce the cost of drugs should be complemented by actions to ensure appropriate use, such as the introduction of treatment guidelines, agreements by pharmaceutical companies to end incentives that encourage a high volume of sales and public

information campaigns (Figure 2). Also, the development of affordable and good quality point-of-care diagnostics can encourage rational use. G20 should support the incorporation of these measures into national action plans as well as development cooperation plans for addressing the challenge of infectious diseases and making progress towards UHC.

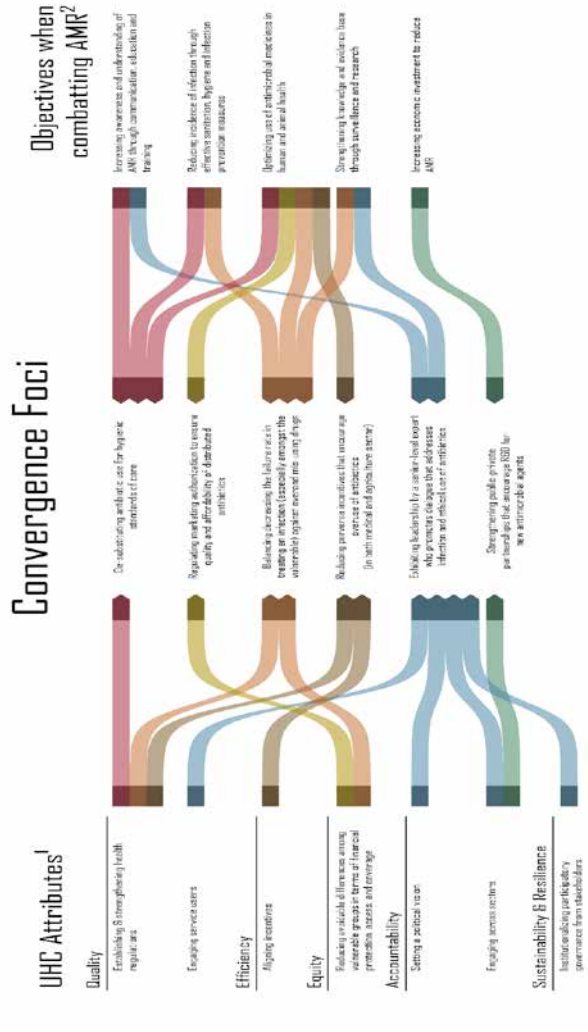

Figure 2 Examples of how the UHC agenda and AMR global action plan converge

3. Harnessing innovation and access to technology judiciously

Technological innovations hold enormous promise as contributors to rapid progress towards UHC, especially in low and middle-income countries. This will involve new forms of collaboration between public and private sectors. Governments can make important contributions by creating an environment that encourages research and development, supporting measures to ensure equitable access to technologies and medicines and creating regulations to protect the public against unintended harms. UHC2030 (www.uhc2030.org) has established a private sector constituency to support public-private partnerships for meeting health care needs at scale. G20 should encourage and support this.

One important area of innovation is in information and communications technologies, which have the potential to enable countries to leapfrog previous ways of increasing access to health information and care and accelerating progress towards UHC [27,28]. Bilateral development agencies and international philanthropies have invested in a number of successful pilots and some large companies are investing heavily in the development of digital health services, but the impact on access to health services has been limited [29–31]. The factors listed below suggest that this is likely to change [32]:

- rapid falls in the cost of smart phones and access to the internet and in the development of low-cost diagnostic technologies,
- the development of smartphone applications that link information on symptoms and diagnostic indicators to advice on treatment,
- the emergence of business models that enable information platforms to link to suppliers of goods, such as drugs, at scale

and

- the creation of platforms that maintain secure personal health records and enable people to link to different types of health care provider.

Government action is needed to ensure that digital health and other information-based technologies contribute to UHC, rather than to meeting the needs of a privileged minority, to expanding markets for suppliers of drugs or diagnostic devices, or to generate data for commercial use. Governments can work with development agencies to accelerate progress by shifting investment from pilots to routinized efforts supporting the provision of bundled services to meet needs, the development of new types of partnership between the health, technology and communications sectors and the creation of business models that combine markets and public finance. This will require investment in building the capacity of government agencies to provide effective stewardship for digital health (Figure 3) [33].

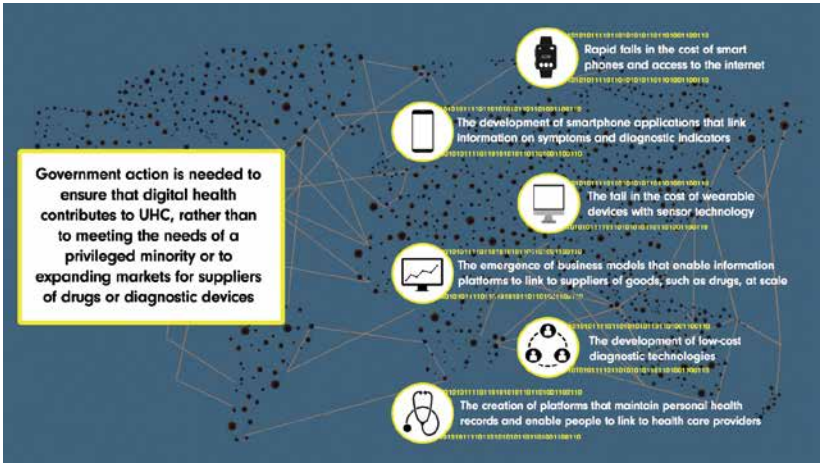

Figure 3 Harnessing technology in pursuit of UHC

The increasing importance of digital health is creating new regulatory challenges [28],[32]. How can new health platforms be influenced to prioritize the needs of the public, rather than commercial interests? To what extent should online medical advice be regulated and should algorithms be produced and made available as public goods? Who should own the data from users of digital health services and who should modify treatment algorithms on the basis of these data? How can issues of personal privacy be taken into account? What are the implications of the development of these platforms for the regulation of health care professionals?

Digital health technologies are potentially disruptive: leading to the creation of new kinds of partnership between organizations in the health, knowledge and telecommunications sectors; altering the relationships between individuals, their families and usual providers of health care and creating new kinds of distance services within countries and across borders. Recent experience has shown that incremental changes can lead to a tipping point and subsequent transformation of an entire sector. In some cases it has led to the rapid growth of large and very powerful corporations. This is a possibility in the health sector, which could greatly influence future development. It is important that governments put a regulatory framework in place before that point is reached. We recommend that G20 establish a working group involving all relevant ministries to work with their supranational interlocutors, as well as private industry, to review opportunities and challenges associated with the rapid development of digital health services and the deployment of disruptive technologies. This group could identify areas for collaboration in accelerating progress towards UHC and for establishing regulatory standards for digital health services and systems. It could also identify the appropriate global agency to support ongoing work on this issue.

4. Supporting common monitoring mechanisms, mutual learning platforms, and coordinated international cooperation for UHC

G20 should support, amongst others, the Group of Friends of UHC and Global Health in strengthening global and regional governance mechanisms for UHC, working with UN member states at the upcoming UN High-level Meeting on UHC in September 2019.

4-1. Common UHC monitoring mechanisms

The 17 SDGs comprise 169 targets, and in turn for each target, one or more indicators are defined to monitor progress in the run up to 2030. The global indicator framework for the SDGs and their targets were adopted in July 2017 [34] and further refined in March 2018 [35].

Target 3.8 of SDG 3 directly concerns UHC for which two specific indicators monitor progress in coverage of essential health services and financial protection. The methodology and country data requirements of these indicators are already defined [36]. The annual UN High-level Political Forum on Sustainable Development has a central role in the follow-up and review of progress towards the SDGs, receiving voluntary national reviews form member states.

Current priority is for a common operational protocol that should be shared between countries, especially those in resource-limited settings so that all member states could produce directly comparable statistics. A globally-shared mechanism of technical support, sufficiently contextualized to allow for between-country differences in data availability, including data disaggregation to capture equity perspectives, amongst other variabilities, should be established to provide assistance in monitoring and evaluation of progress towards UHC. In addition to formally tracking progress through the SDG indicators, on-the-ground practical experience sharing and monitoring would be important for operational improvement. G20, bilaterally or multilaterally through international organizations such as the WHO, should help other countries strengthen national capacities, introduce

new facilitative technologies, improve health information systems, better analyze and use data for improving resource allocation and operational management, and enhance multistakeholder policy dialogue. Accordingly, G20 should provide direct and in-kind support to academic institutions in their own countries to further develop a global technical support network.

4-2. Mutual learning platforms for UHC both at global and regional levels

Actioning the UHC agenda at the country level is vexed with difficult decisions. Policymakers must decide which services to expand, whom to include as beneficiaries or service providers, and how to shift from out-of-pocket payment towards prepayment, and in what order, with a commitment to fairness and consideration of social needs and political realities. These policies and their implementation should be developed based on evidence and social values with public participation, being accountable to the people [36].

Mutual learning between policymakers as well as health and finance program managers and sharing of country experiences will promote progress. As there are multiple paths towards UHC, empirical lessons and good practices of G20 members in particular should be documented with robust research evidence and widely and effectively shared with those who are responsible for implementing UHC in their respective countries.

We already have a number of such platforms, such as UHC2030's UHC Knowledge Hub and the Joint Learning Network, which can be further strengthened to foster mutual learning at the global level in a coordinated manner. In addition, regional platforms, such as the Regional Observatories on Health Systems and Policies, Technical Advisory Groups on UHC or equivalent at WHO Regional Offices, or ASEAN+3 UHC Network etc., should be enhanced to provide more

timely and contextualized advice. G20 members should proactively contribute to these mutual learning platforms for UHC both at global and regional levels, also encouraging their academic institutions, think tanks and civil society organizations to participate.

4-3. Coordination of international cooperation for sustainable UHC

While G20 members provide most of the available development assistance to low- and middle-income countries, increasingly greater emphasis is placed on mobilizing domestic resources within developing countries in achieving the SDGs. The UHC2030 statement on sustainability and transition from external funding sets out key principles of sustainability and transition and encourages all countries and health partners to invest in health in ways that will explicitly sustain equitable coverage of essential health services, beyond the duration of external financing [37]. G20 members should work together to help facilitate this financing transition in developing countries, while harmonizing their contributions in providing technical assistance at the country level, avoiding duplications and filling gaps.

Recent G20 meetings have agreed on a coordinated global preparedness and response to health risks and on making connections and encouraging partnerships between international stakeholders and national governments, including those from non-G20 countries, for the mutual benefit of all and in order to align activities and avoid duplication of efforts [38]. Similarly, development partners, including G20 members, should consider harmonizing aid for progress towards UHC within the existing health sector aid coordination mechanism at the country level (Figure 4). While acknowledging that there may well be a role for direct bilateral aid, G20 members should consider information sharing on and harmonizing development assistance for UHC. The annual G20 Health Working Group meeting could serve as an initial platform for such coordination [39].

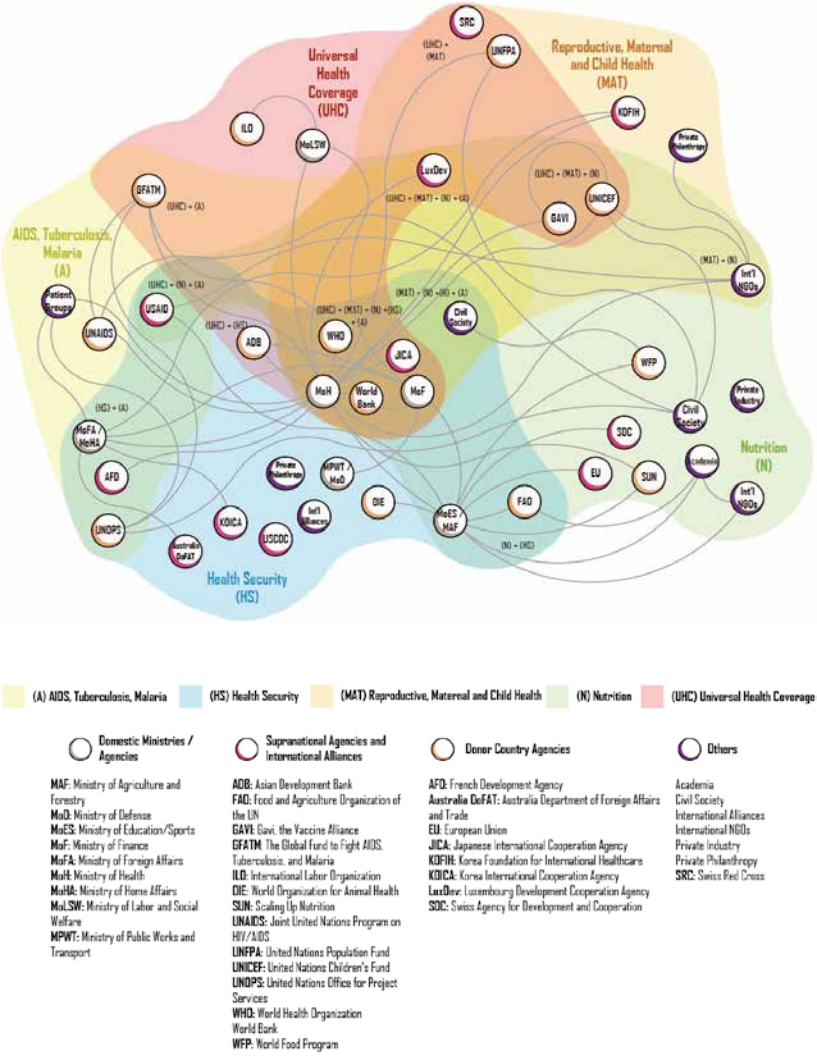

Figure 4 Congestion and gaps in a complex web of global health development aid in a typical recipient country

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Appendix

Acknowledgments

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2030 AGENDA FOR SUSTAINABLE DEVELOPMENT

Transforming Education towards Equitable Quality Education to Achieve the SDGs

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March 31, 2019

Abstract

Schooling systems face some limitations in providing quality education for all. The gap between the dominant and the marginalized in access to education is getting wider, and accessing education does not guarantee real learning. Furthermore, in this rapidly changing world, delivering quality education does not only mean raising cognitive knowledge but also equipping learners with socioemotional skills. Many researchers find the development of socioemotional skills requires care in early childhood development. STEM education is also vital, considering that SDGs will never be achieved without taking full advantage of advanced technology.

Challenge

In the era of the MDGs (Millennium Development Goals), we saw significant progress in access to education. Globally, gross enrolment rates were 89% at the primary level and 66% at the lower secondary level respectively in 2015 (UNESCO UIS). However, there are still 264 million primary and secondary age children and youth not in school (UNESCO GEM2017). In addition, UNHCR (2016) reports that 3.7 million out of six million refugee children are out-of-school.

Furthermore, even if children attend school, their learning is far from satisfactory. Many children cannot read a simple sentence or manipulate simple calculations in mathematics even after some years of schooling (learning crisis[1]). Thus, in the present era of SDGs (Sustainable Development Goals), immediate action is needed to raise

[1] The "leaning crisis" gained global attention in the course of developing the SDGs, and now it has become the most dominant agenda (UNESCO 2014, World Bank 2018, UNICEF 2018).

the quality of education, while reaching all those children in difficult situations.

The era of SDGs also marks a rapid transformation in society, politics and economy accelerated by new technologies and globalization. However, the common vision of education policy remains mostly unchanged: education must provide the opportunity for all people to gain the knowledge and skills that are necessary for them to have a quality life and become responsible citizens, and to actively participate in and contribute to society. The changing nature of society necessitates changes in what education delivers and how this is done, where global citizenship, interpersonal relationships, and respect for the natural environment become more valuable.[2] Schooling systems should support "skills" being expanded from a traditional cognitive perspective (acquisition and use of academic skills) to the inclusion of non-cognitive "socioemotional skills."

Socioemotional skills can be gradually developed from early childhood, thus attention to early childhood development (ECD) has recently increased. Nevertheless, only 42% of children in low-income countries have access to some sort of organized learning one year before the official primary entry age, while this reaches 93% in high-income countries (UNESCO GEM2018). Quite often, ECD is an opportunity limited to richer families to prepare their children for primary school as a part of basic education. That is, ECD is not regarded as an opportunity for all young children to acquire the necessary skills including socioemotional skills.

Advanced technology is imperative for achieving the SDGs. The quality of STEM (Science, Technology, Engineering and Mathematics) education, however, differs greatly among and within countries, as

[2] OECD (2018a) and OECD. (2018b).

evidenced in international comparative studies such as PISA and TIMSS. This means that fewer children in low-income countries get a chance to become an engineer, a scientist, or a doctor. Thus, the advancement of technologies may not benefit people worldwide equitably.

G20 educational policy-makers are challenged to transform our schooling systems. Leaving these challenges unresolved poses a risk for current and future generations, as they will find complex difficulties in realizing and enjoying sustainable development.

Proposal

In this policy brief four possible transformations are proposed. First, we will discuss the remaining issues relating to access to education and the growing concern over its quality. Second, to further enhance the quality of education, the proposal to strengthen non-cognitive skills, especially socioemotional skills, is explored. Third, based on the fact that socioemotional skills need attention in the early years, a way to establish a quality ECD system is proposed. Lastly, this brief proposes to strengthen STEM education to utilize technology as a mean of achieving SDGs.

1. Reach the excluded and provide quality learning that is aligned to their life needs

Global enrolment indicators are generally improving. However, the number of out-of-school children worldwide has not been decreasing in recent years, and it is estimated there are still 264 million children out of school (UNESCO GEM2017). In emergencies such as conflicts and natural disasters, educational provision is crucial but often resources are too restrained to prioritize such events. For instance, in Syria, the access rate to primary and lower secondary education was 94% in 2009, but due to conflict, this has declined to 60%, leaving 2.1

million children and adolescents without access to education. In the case of natural disasters, Nepal experienced a series of earthquakes in 2015 and its schooling system was devastated, leaving 34,500 of 55,000 classrooms assessed as unsafe for use, endangering over a million children (UNESCO GEM2015).

Furthermore, there are several groups of children who are marginalized due to their gender, ethnicity, and/or disabilities. Public education systems are most often designed to meet the needs of the most dominant group in society, generally the ethnic majority in a particular country. UNICEF (2015) found that children from marginalized social groups are two to three times more likely to be out of school in Bolivia, Ecuador, India, and the Lao People's Democratic Republic. In addition, children with disabilities are less likely to enroll in school than their peers without disabilities. There is a study that shows that a child with a disability is more than 50% less likely to attend school than their able peers in Malawi (UNICEF 2015).

To tackle these challenges any possible policy intervention should be aligned with its context (where the educational transformations take place). There is no panacea that can be applied to all contexts. This is particularly true when remedial policies are meant for children in difficult circumstances or marginalized situations. The reasons why children do not attend school are usually quite contextually or individually unique. **G20 governments should fully examine their own contexts, look for good practices around the world and are encouraged to adjust their policy intervention, in a way that allows authorized discretion to front-line practitioners (teachers and local education officers, etc.), addressing the unique and diversified needs and life of the learners.**

To tailor policy interventions in order to reach to the excluded and marginalized children in an education system, advanced technologies can play a significant role. For instance, UNICEF, collaborating with

Microsoft, is developing what they call a "learning passport," a digital platform that will facilitate learning opportunities for children and young people affected by conflicts and natural disasters. In Bangladesh, a Japanese NPO[3] has introduced video recorded lessons and provides them to rural parts of the country. This supports students in rural area in access to high quality lessons, opening a way for those students to enter top national universities in Bangladesh. In addition, utilizing advanced technologies invites more private sectors to join hands. There are also many private companies trying to utilize new technologies to provide quality education to the rural part of developing countries. **G20 governments should encourage, support, and invest in such private, governmental, and non-governmental innovations to accelerate the process to achieve SDG4 – the provision of inclusive and equitable quality education for all.**

Issues of out-of-school children are often concerned with social, cultural, and political backgrounds, as seen in the cases of girls' education and education for refugees. This is why all stakeholders should be involved in each step of policy intervention: planning, implementation, and evaluation. For instance, the Japan International Cooperation Agency (JICA) is implementing the project "school for all" that facilitates the involvement of parents in school management in many Sub-Saharan African countries. With parental involvement, schools start to use their budgets more wisely and effectively and teachers' absenteeism decreases. Further, by having community members facilitate supplementary classes after formal school hours, students' cognitive knowledge, reading and calculation skills are drastically improved. As seen in this good practice, the involvement of stakeholders as outsiders of traditional schooling systems can catalyze educational transformation. This in turn will have positive effects on the community as a whole. As such, **G20 governments**

[3] e-Education

should reform school governance in a way to invite and involve local communities on board, and turn them from silent bystanders into proactive collaborators who jointly pursue SDG4 achievement together with schools.

2. ***Education systems need to nurture non-cognitive skills (socioemotional skills), in addition to traditional cognitive skills such as literacy and numeracy***

It is widely recognized that not only cognitive skills such as literacy and numeracy as well as also non-cognitive skills, or socioemotional skills, matter for children's success in the future. For instance, OECD has pointed out that socioemotional skills have "a strong impact on social outcomes and the subjective well-being" of children, and also "cognitive and social and emotional skills cross-fertilize" (OECD 2015b). In addition, the report mentions three important drivers of lifetime outcomes of children, namely perseverance, sociability, and self-esteem. These skills are, in fact, among the key factors that will determine children's future success.

G20 governments should consider how to foster the socioemotional skills of their youth in their respective contexts, and to transform the education system to this end. Actually, in many countries, national curricula already mention something about fostering socioemotional skills. The real challenge is how to implement the policies.

Thus, G20 governments should ally with global partners to look for good practices around the world and make such information broadly available. **Caution must be stressed however, due to the fact that socioemotional skills must function in very different social and cultural contexts. With this in mind, policy borrowing should entail a careful adaptation process to local contexts.**

Fostering socioemotional skills through education system is quite a

new area of interest, and not much has been spoken and demonstrated in a "scientific" way. As such **G20 governments should promote research on education systems and practices that foster socioemotional skills. Areas of research may include which non-cognitive areas we should focus on at school and how effectively we can foster such skills while responding to the changing nature of societies.**

We should note that SDG4.7 mentions skills and attitudes needed to promote sustainable development, such as the awareness of global citizenship and the appreciation of cultural diversity. **G20 government should promote education for sustainable development (ESD) and Global Citizenship Education (GCED) practices, because fostering socioemotional skills through education powerfully contributes to achieving SDG4.7, which has the fundamental role of achieving the entire set of SDGs by building the capacity of people.**

3. Include vulnerable groups in quality ECD.

ECD is undoubtedly important for children's success in the subsequent schooling system and in their future life. Nevertheless, why does access to ECD stay low at about 40% (UNESCO, GEM2018) in developing countries? This is because ECD is still seen as a kind of luxury. G20 governments should consider transforming ECD from a private luxury for richer people to an enabler for all children, including vulnerable and marginalized groups. Strong foundations are necessary for all learning and skills development, both cognitive and non-cognitive, in addition to motivation to learn. All of these skills and attitudes should be imparted at early ages (WDR 2018).

Considering these situations, **G20 governments should first consider policy interventions to promote ECD for vulnerable groups.** As underscored by Urban et al. (2018) in the policy brief developed for T20 Argentina in 2018, early childhood development, education and

care programs are one of the most effective policy tools governments can employ to impact both individual and collective (national) well-being and educational achievement. Providing incentives to socio-economically vulnerable groups to send their children to ECD services is one of the possible policy interventions. By so doing, repeating early grades, and dropping out of primary school can be reduced, because these children are usually a high-risk group in terms of dropout due to insufficient preparedness for schooling.

The foregoing discussion on access to education and the quality of education remains valid in the discussions on ECD. The quality of ECD is influenced by its context, and thus greatly varies. There should be, however, guiding principles for the quality of ECD. One of the most prominent guiding principles is to recognize the value of the interaction among children and between children and teachers. Children learn through interaction how to communicate with others, how to give a hand to others, how to mitigate conflicts, and so on, and also learn through their interactions with teachers what their society values, and what is right and wrong. Therefore, the quality of ECD is highly associated with the abilities of teachers to create such opportunities for interaction. In Japan, this concept is called "learning through interaction/play" and is exercised in many kindergartens, which is carefully guided by the curriculum, and the significance of play within ECD has been advocated by international organizations worldwide (OECD 2015a). Thus, **G20 governments should examine how this concept of "learning through interaction/play" may apply in each country's context and consider increasing the quality of ECD in addition to access to ECD for all.**

ECD deals with young children between the ages of zero to six, and especially between four and six. We should be aware that ECD has multi dimensions including care, welfare, and education. These should not be treated separately and policy interventions should be designed to generate synergies across them. For instance, in 2018,

WHO, UNICEF, the World Bank, and many other international organizations developed a Nurturing Care Framework for ECD, which states the importance of a whole-of-government and whole-of-society approach that looks for mutually accountable partnerships between relevant sectors – health, nutrition, education, social welfare, child protection, and environmental health. Following this movement, **G20 governments should consider combining various ECD interventions to produce synergies among those interventions.**

4. Further accelerate STEM education to transform the world into Society 5.0

We live in what we call Society 4.0, where IoT (the Internet of Things) has just started to change industrial structure and automation is being realized by AI and big data analysis. However, we still have not fully integrated IoT into our society and not fully utilized it in a way that it makes all of our lives better, more equitable, and sustainable, leaving no one behind. Thus, further transformation is needed to establish a more sustainable society by creating a system which integrates cyberspace into physical space (the real world) in a way that human well-being is put at the heart of the transformation. To realize this next generation of society, the importance of STEM education is growing, because it lays the foundation for all the innovation.

To advance STEM at the level of higher education, a solid background is needed, and thus mathematics and science education at preceding stages of education is imperative and should get much more attention as evidenced in many developing countries. For instance, there remain many developing countries where many of the students in upper primary school or even in middle school still use their fingers to manipulate very simple math calculations, or do not have a correct understanding of the meaning of measurement units. Therefore, G20 governments should immediately make policy interventions for STEM particularly in basic level mathematics and science.

In addition, creativity, reasoning skills, and logical thinking are also imperative for success in STEM, and thus **G20 governments should also foster those skills by changing the nature of mathematics and science education in a way that cultivates the curiosity of children, motivates them toward choosing STEM subjects, and allows them to explore the many possibilities in this field.** Many reports mention this fact but they often do not suggest actual ways to change classroom practices. One good way, for instance in mathematics, is to challenge children to think more deeply by giving them provocative questions, and in science to introduce experiments/experimental learning, which show children actual objects instead of pictures on the wall. This means that we have to change classroom practices by changing teaching practices.

There also seems to be a preconception that STEM is for male students. However, we should encourage girls as well as boys to pursue STEM subjects, and there are several good practical policies in place around the world to achieve this (UNESCO 2017). In the UK at the secondary school level, the program called "Discover!" is an informal learning intervention designed to stimulate the imagination and interest of girls. It offers participants the chance to act as scientists and encourages them to explore new career opportunities. In Ghana (UNESCO 2017), the first Science, Technology and Mathematics Education (STME) Clinic was established by the Ghanaian Education Service in 1987 to help improve girls' enrolment and achievement in related subjects in secondary and higher education institutions. These clinics help to get rid of the negative perceptions girls might have about women scientists by having them as role models. Learning from those good practices, **G20 governments should encourage girls' education in STEM around the world.**

Endnotes

Human beings are born to be learners: to know the unknown, and to

be able to do the unable-to-do are our natural joys. Education is a basic human need and a right. It facilitates the enhancement of human security and human capital too. To truly realize such universal values of education, we should transform how it is delivered, so that we can stop the social exclusion that begins with exclusion from education. Our shared mission among politicians, education policy makers, and practitioners, including international partners, is to allow no exclusions and to invite everyone to the quality learning.

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2030 AGENDA FOR SUSTAINABLE DEVELOPMENT

Early Childhood Development Education and Care: The Future is What We Build Today

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Abstract

Early Childhood Development, Education and Care (ECD/ECEC) has become a priority for governments and international bodies. ECD/ECEC is explicitly included in the Sustainable Development Goals (SDG4, 4.2), underlining the global consensus. In 2018, G20 acknowledged the key role of ECD and, in their Leaders' Declaration, announced a G20 ECD initiative. Access to high quality early childhood development, education and care programmes is unequal between and within countries, which remains a major cause for concern. However, in the context of local and global sustainability a new focus on the purpose of ECD/ECEC should become a complementing priority of the G20 process.

Challenge

Early Childhood Development, Education and Care (ECD/ECEC) has become a policy priority for governments and international bodies. There is a broad consensus between policy makers, ECD/ECEC professionals, scholars, and advocates on the importance of ECD/ECEC as effective means to ensure individual and collective well-being and achievement, and to addressing wider societal issues including social cohesion, equality and inclusion, and persistent inter-generational cycles of poverty. Having ECD/ECEC explicitly included in the Sustainable Development Goals (SDG4, target 4.2)[1] underlines the global consensus. Moreover, the G20 acknowledges the key role of

[1] ECD/ECEC is included in Goal 4: "Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all"; specifically mentioned in target 4.2: "By 2030, ensure that all girls and boys have access to quality early childhood development, care and pre-primary education so that they are ready for primary education."

ECD and in their 2018 Leaders' Declaration announce a G20 ECD initiative[2].

At global and local levels, an emerging 'systemic turn' (Urban) has brought about broad consensus that policy frameworks should address early childhood from a holistic perspective. Examples include the integrated policy framework 'De Cero a Siempre' in Colombia and the Irish 'whole-of-government strategy for babies, young children and their families'. Adopting whole-systems approaches to developing ECD/ECEC policy and practice ('Competent Systems') is key to providing quality ECD/ECEC for all children (Okengo, 2011; Urban, Vandenbroeck, Van Laere, Lazzari, & Peeters, 2011, 2012)

The ECD/ECEC policy brief adopted by T20 in 2018, *It Takes More Than a Village. Effective Early Childhood Development, Education and Care Services Require Competent Systems* (Urban, Cardini, & Flórez Romero, 2018), outlines concrete policy recommendations that should be taken by G20 governments collectively and individually.

However, there has been little attention to questions of purpose and content of ECD/ECEC in the context of sustainability. 'Yesterday's solutions' continue to be supported by policy makers and donors alike:

- Focus on deficiencies rather than capabilities of children, families and communities

- Focus on (externally) predetermined models and outcomes, rather than culturally and locally appropriate approaches

[2] The T20 Communique handed to former G20 leaders includes ECD/ECEC as a priority in its proposal 4, based on the promotion of equal opportunities for quality education.

- Focus on decontextualized and 'borrowed' education practices and approaches (e.g. Reggio, Montessori, HighScope, Project Zero etc.) rather than culturally appropriate and locally developed sustainable solutions

- Focus on narrowly defined 'early learning' curricula (literacy / numeracy), extending from countries in the global north to the global south; backed up and promoted by the democratically unaccountable 'soft power' of international organisations including OECD, and increasingly extended to and imposed on countries in the global south, e.g. Africa

- Focus on narrow and unsustainable notions of 'development' – at individual, collective, country and global levels – that originate in supremacist and colonialist thinking

- Naïve extrapolation of today's socio-economic contexts into the future, including the taken for granted assumption that, for instance, 'digital', and AI, are both the main challenges and the solution to development and education.

Proposal

ECD/ECEC for Sustainable Development

Background and context

Undeniably, every child has the right to access to, and meaningfully participate in, high quality early childhood development, education and care programmes. Pre-primary education is, in fact, considered an important part of a holistic and robust educational system (United Nations, 2017, p. 24). Participation in 'pre-primary or primary

education in the year prior to the official entrance age to primary school' (ibid) has increased to around 9 out of 10 children in Europe, Latin America, the Caribbean and North America; the rate in the least developed countries remains much lower (4 out of 10).

However, effective early childhood ECD/ECEC does not start one year before compulsory school age. Children learn and make significant experiences from birth, long before they enter schooling. Early learning is embedded in children's holistic development that comprises physical, emotional, cognitive, social, cultural and spiritual aspects from birth.

In fact, ECD/ECEC practices, despite being of global concern, are inevitably local (Urban, 2014). Caring for, teaching and upbringing young children comprises physical, emotional, cognitive, social, cultural and spiritual aspects from birth (Cardini, Díaz Langou, Guevara, & De Achával, 2017). This means ECD/ECEC needs to be shaped through democratic debate of all stakeholders within countries, and at all levels of government (Urban, 2008, 2009).

Countries in both the global north and south are increasingly adopting policy frameworks that address early childhood from a holistic perspective. Examples include the integrated policy framework 'De Cero a Siempre' in Colombia (Instituto Colombiano de Bienestar Familiar, 2015; Republic of Colombia, 2013) and the Irish 'whole-of-government strategy for babies, young children and their families' (Department for Children and Youth Affairs, 2018). Adopting whole-systems approaches to developing ECD/ECEC policy and practice ('Competent Systems') is key to providing quality ECD/ECEC for all children (Okengo, 2011; Urban, Vandenbroeck, Van Laere, Lazzari, & Peeters, 2011, 2012).

Based on the policy brief, *It Takes More Than a Village. Effective Early Childhood Development, Education and Care Services Require Competent*

Systems (Urban, Cardini, & Flórez Romero, 2018), policy recommendations adopted by the T20 summit 2018 spell out concrete actions to be considered by G20 governments at three interconnected levels:

- *At national level*, make systemic approaches sustainable by providing leadership, resources and support
- *At G20 (international) level*, initiate and support cross-country learning with and from forward-looking systemic ECD/ECEC initiatives in countries in the global south and north
- *At the level of monitoring, evaluation, and research*, adopt whole-systems approaches, and all-stakeholder participation (including participation of children, families and communities)

The majority of the initiatives have focused on increasing access to, and participation in, ECD/ECEC programmes (as spelled out in SDG4). In most regions there have been increases in access to ECEC/ECD programmes (UNESCO, 2014) Worldwide, half of all three to six-year-olds have access to ECD/ECEC programmes (World Bank, 2017).

However, access to high quality early childhood development, education and care programmes remains unequal. In the global South, just one in five children have access to ECD/ECEC (World Bank, 2017). Furthermore, younger children from low-income families and children in rural communities have significantly less access to ECD/ECEC programmes compared to their peers in more affluent and urban areas (Cardini, Díaz, Guevara y De Achával, 2018).

Increased access and enrolment figures alone are not a sufficient measure for meaningful participation in high quality programmes that are effective in making a positive difference in children's lives.

Even when more children access ECD/ECEC services, they enter and participate in very diverse and unequal programmes. Quality of services, as experienced by children, families and communities, varies widely and often continues to be inadequate.

Despite some encouraging developments (e.g. the emerging 'systemic turn' (Urban, Cardini et al, 2018) in most countries, fragmentation at all levels of the ECD/ECEC system remains a major challenge. For historical reasons, policies for the 'care' and 'education' of young children have often developed separately. This remains the *de facto* governance situation in most countries (Bennett, 2008). Hence, ECEC services are structured in different ways, and they embody diverse understandings of children, aims, and approaches (Kaga, Bennett, & Moss, 2010). This effectively prevents integrated service provision, inter-professional cooperation, integrated policy generation, and systemic evaluation of processes and outcomes.

However, ECEC/ECD services are, by nature, multi-sectorial and hybrid. Given the sectorial tradition of social policies, countries face difficulties in achieving coordinated and coherent approaches to ECEC (Cunill-Grau, Repetto, & Bronzo, 2015).

There has been little attention to questions of purpose and content of ECD/ECEC in the context of sustainability. 'Yesterday's solutions' continue to be supported by policy makers and donors alike:

Focus on deficiencies rather than capabilities of children, families and communities

- Focus on (externally) predetermined models and outcomes, rather than culturally and locally appropriate approaches

- Focus on decontextualized and 'borrowed' education practices and approaches (e.g. Reggio, Montessori, HighScope, Project

Zero etc.) rather than culturally appropriate and locally developed sustainable solutions

- Focus on narrowly defined 'early learning' curricula (literacy / numeracy), extending from countries in the global north to the global south; backed up and promoted by the democratically unaccountable 'soft power' of international organisations including OECD, and increasingly extended to and imposed on countries in the global south, e.g. Africa

- Focus on narrow and unsustainable notions of 'development' – at individual, collective, country and global levels – that originate in supremacist and colonialist thinking

- Naïve extrapolation of today's socio-economic contexts into the future, including the taken for granted assumption that, for instance, 'digital', and AI, are both the main challenges and the solution to development and education.

Re-conceptualize ECD/ECEC in the context of existential global crises / develop a roadmap to integrated early childhood development, education and care for sustainable development

The policy measures proposed in this brief address these shortcomings and build on the emerging broad international consensus on the importance of providing access to, and meaningful participation in, high quality early childhood development, education and care programmes and services for all children from birth.

This consensus extends to all countries, in the global south as well as in the global north. It reflects the fact that critical issues facing young children and their families are no longer easily situated in naively

defined 'developed' vs. 'developing' country contexts. For instance, experiences of forced displacement, malnutrition, marginalisation and poverty are, unfortunately, shared by an increasing number of children in the poorest as well as the most affluent countries, with well-documented negative effects on their immediate and future life chances and individual and collective developmental and educational achievement.

This 'blurring of boundaries between the centre and the periphery' (Braidotti, 2011) is taking place despite the fact that marked differences continue to exist between countries, and within countries, in terms of children's access to ECD/ECEC. While country-level figures on access to ECD/ECEC show stark differences between, for instance, countries in Europe and Latin America (*high*) and sub-Saharan Africa (*low*), they tend to mask disparities *within* countries.

Children from vulnerable communities, children growing up in rural contexts, children suffering from forced (internal) displacement, children with special educational needs often have significantly less access to appropriate ECD/ECEC programmes compared to children from more privileged, affluent, or dominant communities.

A particular target group in a number of African countries are children whose communities are affected by HIV/AIDS, growing up without parents or in the care of grandparents or community members.

Taking this context into account G20 governments can and should take concrete action in line with the 2018 Leaders Declaration to initiate, orient and resource a major early childhood development, education and care initiative.

The approach to the initiative should be three-pronged:

1. Continued and increased commitment to increasing access to, and meaningful participation in ECD/ECEC programmes and services of high quality, in order to address unequal access within and between countries and regions

2. Commitment to 'whole-systems' approaches to developing, improving, resourcing and governing early childhood programmes in order to achieve sustainability of programmes and services

3. Reconceptualise early childhood development, education and care across G20 countries as societal, democratic realisation of early childhood as a common good and collective responsibility, and contribution to achieving sustainability on a global scale, i.e. in the context of the 2030 Sustainable Development Goals

Strengthening the emerging international consensus on the need to take whole-systems approaches to policy and practice (*Competent Systems*) is arguably the most effective strategy to overcome persistent, wasteful and ineffective fragmentation of services, and of persistent silo-mentality at the levels of administration and governance.

Reclaiming early childhood as a public or common good entails recognising the key responsibility governments have in relation to effective and sustainable ECD/ECEC provision. This is notwithstanding the indispensible role of a multitude of actors, including civil society actors and local communities in service and programme development and delivery. However, reclaiming government responsibility also requires strategies and concrete action to reduce the influence of large-scale, for-profit provision, privatisation, and corporatisation of programme and service provision. Such a renewed public responsibility also addresses democratically unaccountable exertion of 'soft power' (Morris et al) by actors as varied as international philanthropy or the Organisation for Economic

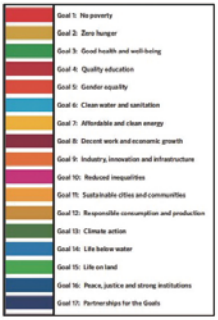
Co-operation and Development (OECD).

A concrete step to be initiated by G20 governments should be the phasing out of all public funding for services and programmes that aim at returning a profit over an agreed time frame of five years.

Reclaiming public responsibility for ECD/ECEC in the context of local and global sustainability requires re-conceptualisation not only of structures and governance of ECD/ECEC, but of the *purpose*, aims, or more concretely *content* of early childhood programmes. Realising the existential crisis facing humanity on a finite planet, the task is to initiate public, democratic debate leading to programme review in the light of critical questions on content, values and ethics, to complement the necessary continued focus on access and participation.

In the context of a global sustainability framework, realising SDG 4 (education) is an important orientation. It will be crucial, however, to align all areas of education, including ECD/ECEC, with the entire range of 17 SDGs: *what should we be educating **for**?*

- Build on and support whole-systems approaches to ECD/ECEC (Competent Systems), in order to overcome persistent, wasteful, and ineffective fragmentation ands silo mentality
- (Re)claim ECD/ECEC as public good and public responsibility – counter privatisation, corporatisation, and phase out for-profit programmes
- Extend the ECD/ECEC agenda from SDG4 to all 17 SDGs
- Initiate programme and policy review with a focus on content, values and ethics rather than access and enrolment only:
    - what should we be developing?
    - what should we be educating for to achieve sustainability on a finite planet?



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2030 AGENDA FOR SUSTAINABLE DEVELOPMENT

Developing National Agendas in Order to Achieve Gender Equality in Education (SDG 4)

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Abstract

Approaches to addressing gender inequality in education are generally based on a one-size-fits-all model that has predominantly focused on girls' education. However, there are growing gender disparities in education impacting boys in regions, such as the Caribbean and Middle East. It is therefore necessary to take a more holistic look at gender and target those children who are most at risk of being unable to access "equitable quality education," (UN, 2018, p. 1). This brief calls for the establishment of baseline data and targeted interventions to benefit the most marginalized girls and boys in order to achieve gender equality in education.

"Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all"- Sustainable Development Goal 4 (UN, 2018, p. 1)

Challenge

Significant progress has been made in global education over the past two decades, in part due to the adoption of the Millennium Development Goals (MDGs) in 2000 which provided a universal framework for tackling educational inequality (United Nations, 2015). Since 2000, key advances have been made towards achieving universal primary education and halving the number of out-of-school children (UNDP, 2018). However, there are still key areas in the education sector, in particular relating to gender, that require continued attention.

While the gender gap in primary and secondary education is closing at the global level, a wide gap remains in tertiary education where only 4% of countries have attained parity (Global Education Monitoring Report [GEM] Report Team, 2018b). The 2018 Gender

Review written by the GEM Report Team found that "66% of countries have achieved gender parity in primary education, 45% in lower secondary [,] and 25% in upper secondary" (p. 11). These figures, however, mask gender differences occurring at the regional levels, in addition to not capturing patterns in gender inequality that exist within the most marginalized groups.

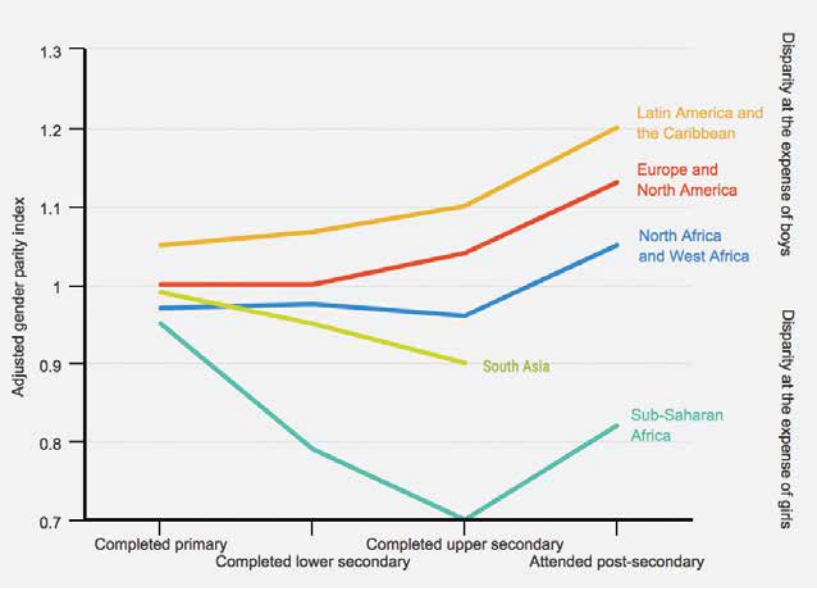
Gender parity statistics vary greatly throughout regions and countries. While sub-Saharan Africa and Southern Asia are still experiencing large inequalities in relation to girls' education, other regions such as North Africa, West Africa, the Caribbean, Latin America, Europe, and North America are currently experiencing gender inequality in relation to boys (see Figure 1).[1]

Research disaggregating the distribution of gender parity statistics has also shown that the per capita income of a country is also a determining factor (GEM Report Team, 2018b). Among low-income countries that have not attained gender parity in education, gender disparity is at the expense of girls, while in upper middle- and high-income countries it is at the expense of boys (GEM Report Team, 2018b; Psaki, McCarthy, & Mensch, 2017).[2]

[1] For example, in sub-Saharan Africa between 2010-2015, 86 females completed lower secondary education for every 100 males while in Latin America and the Caribbean, 93 males completed the level for every 100 females (GEM Report Team, 2018b).

[2] In low-income countries, from 2010-2015, 66 females completed upper secondary education for every 100 males, in contrast to upper middle- and high-income countries where 91 males completed this level for every 100 females (GEM Report, 2018a).

Figure 1: Adjusted gender parity index for selected education indicators, selected regions, 2010-2016.



Source: GEM Report Team analysis based on household survey data, 2018a, p. 3.[3]

Despite significant differences in patterns of gender equality, global agendas often overlook local, regional, and national realities. As such, countries need to develop context-based approaches to achieving gender parity and formulate educational priorities that address specific national (or even sub-national) contexts. These need to not only focus on disadvantaged women and girls, but also on disadvantaged men and boys where needed (see Ridge, 2012). A more nuanced approach to understanding gender disparities with respect to education would benefit the entire sector, as a one-size-fits-all

[3] The Report states that values for North Africa and West Asia refer only to low- and middle-income countries in the region and that the analysis is based on household survey data.

approach risks leaving certain populations neglected and in decline.

Governments should seek first to understand and map education patterns in gender inequality, then look at underlying structural factors, such as poverty, race, cultural norms, and geography. Following this, they can develop bespoke education initiatives for specific populations, in specific places, to achieve gender equality in Sustainable Development Goal 4 (SDG4).

Proposal

Ensuring gender equality around the world remains crucial, and there is an opportunity for G20 member states to take action to address this in the education sector. With modest but strategic investment, the G20 member states can support the development and implementation of the first holistic gender policy frameworks to support more equitable education systems. While there is no exact formula for how to ensure gender equality in education, the hope is that G20 member states consider addressing gender disparities in education by working upwards from the local to the national to the global level.

National-level Recommendations

G20 member states can begin by understanding the specific issues related to gender and education in their own countries. Similar to recommendations at the global level, all countries need to have access to research to better understand their own educational contexts. Only once areas of need are identified and understood can targeted interventions be implemented. As gender equality issues are not confined only to education, there is also a need for multi-sectoral collaboration in terms of research and policy implementation. Governments, education institutions, businesses, philanthropic actors,

think tanks, civil society organizations, youth, and others need to work together if gender equality is to be achieved in and through education. Our recommendations are outlined in more detail below.

Recommendation 1.1: Establish a national research fund to examine issues related to gender in education

Governments have a responsibility to understand the various education landscapes in their own countries, and in order to do so, funds should be allocated to non-partisan research. At the country level, research should focus on mapping and understanding gender disparities, examining barriers, and identifying promising solutions to eliminate gender disparities in education.

Research first needs to map educational issues related to gender in order to better understand what and where the most pressing issues are and determine if these issues are linked to associated underlying structural factors, such as poverty, race, and/or geography. Next, research needs to identify what barriers to success in education exist for marginalized girls or boys. Finally, national-level research should also identify existing promising programs and policies in the local context as well as examine other countries that have been successful in reducing the gender gap in education.

Recommendation 1.2: Formulate and implement targeted policies to address particular gender issues

Using the research, appropriate gender policies should then be designed and formulated to fit country-specific needs. These policies may include addressing issues related to a range of areas, including infrastructure, teacher training and recruitment, curriculum design and development, or parental involvement (see Table 1). For example, policies linked to infrastructure may include developing water and sanitation systems in schools, as girls have been found be absent from

school due to inadequate access to toilets (Birdthistle, Dickson, Freeman, & Javidi, 2011). Similarly, schools can be spaces where boys are exposed to and unprotected from violence (Barker et al., 2012), and as such teachers could be trained on how to identify, respond to, and prevent such issues (Antonowicz, 2010). Child labor also represents a barrier to education for poor girls and boys, and governments could design policies to increase school enrollment and attendance, potentially through initiatives around educating parents on the benefits of education and by introducing legal frameworks to prevent child labor (Sakamoto, 2006: UNICEF, 2006)

Table 1: Areas of educational policy that may reduce the gender gap.

Focus Area	Example
Infrastructure	▪ Provide schools with access to safe drinking water and gender-specific sanitary facilities (e.g., toilets) that offer privacy for students ◦ Found to decrease school absenteeism, especially for girls in developing countries (Birdthistle et al., 2011; Jasper, Le, & Bartram, 2012) ▪ Ensure that schools in the hardest-to-reach communities are easily accessible ◦ Particularly important for girls as they are more vulnerable to physical and sexual violence while making long commutes to school (UNICEF, 2004)
Teacher training	▪ Provide targeted teacher training to eliminate gender bias (GEM Report Team, 2018b; Swedish International Development Cooperation Agency [SIDA], 2017) ▪ Train teachers on how to identify, respond to, and prevent issues afflicting (or affecting) specific genders ◦ In schools, boys are most exposed to school based violence (Barker et al., 2012)
Educator recruitment	▪ Ensure gender equity in the teaching profession ◦ E.g., attract more males to be primary teachers (McGrath & Sinclair, 2013) ◦ E.g., recruit more female instructors to teach in science, technology, engineering, and mathematics (STEM) subjects, where appropriate (Bettinger & Long, 2005)

Curriculum design and development	▪ Ensure that curricula are gender-equitable ◦ Both girls and boys should be presented positively within curricula to prevent and combat gender stereotypes (Global Partnership for Education, 2016; SIDA, 2017). ◦ Curricula should encourage both boys and girls to pursue STEM subjects ▪ Provide all children with the same national curriculum regardless of gender ◦ Found to prevent children of one gender from being channeled into "lower status" subjects and reduce pre-existing teacher prejudices (Akpakwu & Bua, 2014)
Parental involvement	▪ Enact policies designed to encourage quality parental involvement of both fathers and mothers (Guo et al., 2018; NASUWT, 2014; Sosu & Ellis, 2014) ◦ Father involvement reinforces the importance of education and subsequently children's engagement in education, particularly for boys (Kadar-Satat, Szaboki, & Byerly, 2017) ◦ Parents' level of education and their concern for their children's well-being are associated with child labor rates (Sakamoto, 2006)
Extracurricular activities and awareness campaigns	▪ Provide activities outside of school, targeted at reducing gender gaps ◦ E.g., mentorship programs ▪ Implement awareness initiatives tailored to gender issues ◦ E.g., launch campaigns to promote the value of education in areas with high dropout rates for girls or boys (UNICEF, 2005)
Cultural values and societal norms	▪ Develop policies to address cultural norms and harmful practices that keep boys or girls out of school ◦ E.g., address issues such as early marriage, teenage pregnancy, female genital mutilation and breast ironing that negatively impact girls education (Banda & Agyapong, 2016)

Gender-specific programs may also be implemented to support the girls or boys most in need. For example, several Balkan countries introduced the Young Men Initiative (YMI) which targets vocational secondary schools and disengaged boys within them in an effort to redefine manhood and promote healthier masculinities (Namy et al., 2015). Through using educational workshops, residential retreats, and a social marketing campaign, YMI has provided additional support for boys in education outside of the traditional school environment. Research on YMI suggests that boys who participated in the Initiative showed increased gender-equitable attitudes, exhibited reduced levels of violence, and a strengthened sense of civic engagement (Namy et al., 2015). Policymakers should share such success stories, in addition to lessons learned.

Recommendation 1.3: Encourage multi-sectoral collaboration

Gender inequality will not be eliminated without broad support from both within and outside of the education sector. Thus, there should be concerted effort to collaborate across government entities, as well as with education institutions, think tanks, businesses, philanthropic organizations, social welfare organizations, civil society, and other relevant bodies when appropriate. For example, as education has a direct link to the labor market, it makes sense to partner with entities such as ministries of labor to explore the linkages (or lack thereof) between education and the labor market as they relate to challenges for women and men.

Recommendation 1.4: Implement targeted polices to close gender gaps in science, technology, engineering, and mathematics (STEM) fields and in reading

G20 countries must pay close attention to STEM education and reading outcomes in their countries as there are often marked gender disparities related to participation and achievement in these subjects.

At a global level, girls are less likely to study STEM subjects or subsequently enroll or take up career paths in related fields (Chavatzia, 2017; UNESCO, 2018). However, in the case of reading, boys consistently underperform in comparison to girls. In the 2015 Programme for International Student Assessment, in every country, boys scored less than girls on average in reading (OECD, 2016). Domestic narratives and policies around girls pursing STEM and boys' achievement in reading need to better communicate the importance of the ability to be able to, create, think, use and develop innovative solutions to address local and global challenges. At a global level, G20 countries can also commit to supporting international agendas like the Incheon Declaration and Framework for Action (UNESCO, 2016) and the Addis Ababa Action Agenda (United Nations, 2015), both of which call for equality and increased investments in STEM education in order to ensure those entering the workforce are equipped with the skillsets required for jobs of the future

Global-level Recommendations

Globally, education policies need to be designed to better support gender equality in education. While there has been a shift in the global agenda for gender education equality with advent of the SDGs—namely in moving away from a narrower focus on girls' education to a broader appreciation for gender equality more holistically—there is still more to be done to ensure that all girls and boys receive the support they need. Although there should be a sustained effort to target the systematic marginalization of women and girls, there must also be an appreciation of the issues facing men and boys. The two recommendations outlined below focus on ensuring equitable approaches to education; firstly, through forming a global coalition to understand and actively implement relevant policies targeting gender disparities in education and secondly, through mobilizing and pooling resources for the most vulnerable.

Recommendation 2.1: Establish a Global Coalition for Gender Equality in Education

The G20 is in a unique position to establish a Global Coalition for Gender Equality in Education. Three key aims of this body would be to: i) support research on gender disparities in education, ii) hold governments accountable for gender equality in education, and iii) convene key actors to share the latest findings in research and practice.

i) To start, the Coalition would commission research related to developing gender and education indicators, mapping the gender landscape, tracking progress made toward achieving SDG 4 as it relates to gender, and identifying future research and policy areas. Although there is enough data available to report on gender issues in education, the ability to track gender equality is limited. Researchers have found that for many of the global indicators, additional methodological work is needed, and the SDG 4 monitoring framework should be broader (see GEM Report Team, 2018b). Thus, research into existing and new indicators could strengthen the monitoring framework. Expanded areas of focus could include values and attitudes, teaching and learning practices, and laws and policies (GEM Report Team, 2018b; Unterhalter, Exzegwu, Heslop, Shercliff, & North, 2015).

Research commissioned by the Coalition should also examine existing and emerging issues in gender in education as they relate to SDG 4. This should explore cross-cutting issues related to barriers in education for girls and boys, identifying overlapping issues and those that are gender- specific. The Coalition would be responsible for making findings widely available to inform policymakers, academics, and other stakeholders.

ii) Secondly, the Global Coalition for Gender Equality in Education would assist governments with upholding their obligations to the

Education 2030 Framework for Action, the international community's roadmap towards achieving SDG 4 (GEM Report Team, 2018b). In addition, the Coalition would encourage G20 member states to initiate new international treaties on gender in education and create associated formal mechanisms to hold governments accountable. It would also encourage G20 member states to support their counterparts struggling to enact and enforce relevant policies, which may include countries affected by conflicts or natural disasters.

iii) Finally, a third core mandate of the Coalition would be to facilitate the convening of policymakers, academics, practitioners, and other stakeholders in order to exchange information through targeted events and platforms. Some possible avenues to facilitate such exchanges could include symposia, meetings adjacent to pre-existing events, and/or an online sharing portal. Such facilitation would support a sharing of best practices and the adoption of strategic gender education policies at the state, regional, and global levels.

Recommendation 2.2: Increase funding for initiatives in education to address gender needs within vulnerable populations, including refugees

G20 member states can collectively increase support for the most vulnerable populations in education, as these groups are not only in the greatest need but gender issues in education can also be particularly pronounced for them. If policymakers are to advance SDG 4's aim of leaving no one behind, then they should invest more heavily in quality education for those who are most vulnerable, including and especially in countries with refugee populations. For example, in 2011 in Pakistan, the national primary net enrollment rate was 71%; however, for Afghan refugees it was less than half at 29% (GEM Report Team, 2018c). Within that subgroup, 39% of Afghan refugee boys were enrolled in comparison to only 18% of Afghan refugee girls (GEM Report Team, 2018c). While in 2017, USD 450 million was given in

global humanitarian funding to education, this amount was only 2.1% of total humanitarian aid and fell short of the 4% target (GEM Report Team, 2018c). G20 member states can make a united effort to improve provisions and increase funding[4], as many refugee host countries cannot provide the necessary educational provision alone.

Those from low socioeconomic status (SES) backgrounds constitute another vulnerable group, and the intersection of poverty and gender deserves greater attention from policymakers. Gendered labor expectations can pull low SES boys out of school and push them into unskilled labor jobs where secondary school completion is not a requirement, and differences have also been found in terms of academic achievement levels of girls and boys when they come from the poorest segments of the population (David, Albert, & Vizmanos, 2018; GEM Report, 2018b; Ridge, Kippels, & Chung, 2017). Governments can prioritize financing education for such populations. If there is a heightened global effort to invest in the education of vulnerable populations, this would boost development and economic growth at national and international levels (GEM Report Team, 2018c).

Conclusion

Significant advances have been made in education over the past two decades as near universal primary education has been achieved and education is now accessible to many sections of society that were previously excluded, including girls. Moving forward, policymakers must recognize and understand existing gender issues in education in their specific contexts and correspondingly implement evidence-based policies to establish more equitable, quality education systems. Only after this will they develop societies where everyone can be an active and productive citizen.

[4] Two avenues for supporting populations in need include the International Finance Facility for Education (IFFEd) and Education Cannot Wait (ECW).

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2030 AGENDA FOR SUSTAINABLE DEVELOPMENT

Measuring Transformational Pedagogies Across G20 Countries to Achieve Breakthrough Learning: The Case for Collaboration

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Abstract

Given the urgent need to transform traditional teaching and learning practices in order to prepare students with the breadth of skills needed for the future, it is urgent that G20 countries collaborate quickly to develop a breakthrough set of measures to track pedagogical transformation. Currently, no country has the data or assessments it needs to track if these pedagogical changes are happening and whether students are mastering the desired skills. International and national education assessments use metrics that only partially indicate whether a country is headed in the right direction. We recommend the G20 establish a Task Force made up of leading thinkers from the G20 and around the globe to develop these shared measures.

Challenge

A range of global comparative assessments, from PISA to PIAAC to TIMSS and PIRLS[i], have underscored enormous gaps in the performance of students among education systems. Without major policy changes, these gaps will only widen. Projections show that by 2030 more than half of the world's children will not be on track to achieve basic secondary level skills from literacy and numeracy to critical thinking and problem-solving.[ii] And by some estimates if we continue with current approaches it could take students from poor families up to 100 years to catch up to the learning levels of students from wealthy families.[iii] At the same time, the changing nature of the world of work and the advent of artificial intelligence and related technologies means that what will be required to succeed tomorrow may be very different than what is needed today. Beyond basic skills, students need skills for the 21st century such as critical thinking, collaborative problem-solving, empathy and flexibility to respond to a changing world.

All countries, high and low performing, face two equally urgent tasks: accelerating or maintaining their performance to enable their students to compete globally now, while simultaneously attempting to anticipate the skills that will be needed in the future.

Countries within the G20 urgently need to rapidly accelerate progress or leapfrog in order to prepare their students for a global economy and an uncertain future dominated by technology. The key to leapfrogging as outlined in Leapfrogging Inequality: Remaking Education to Help Young People Thrive is a major transformation in teaching and learning from lecture-based to more playful learning approaches, where "learning is driven by student needs and inquiry is meaningfully connected to students' lives, and fosters experimentation and social interaction."[iv]

This is much broader than a curriculum revision: a holistic transformation in teaching and learning that reconsiders how, when and where students learn will be necessary. Transforming how students are taught must be a central part of the transformation. Afterall many 21st century skills are best developed not by introducing separate curricular subjects (e.g. a creativity class or critical thinking class) but by transforming how current subjects are taught (e.g. using experiential, collaborative projects as a way of teaching science concepts).

Despite the evidence that transformational pedagogies make an impact,[v] currently, no country has the data or assesments it needs to track if these pedagogical changes are happening and whether students are mastering the desired skills. This is because international and national education assessments use metrics that only partially indicate whether a country is headed in the right direction of transformational learning. These assessments primarily track two sets of data: performance data (based on student test scores) and education system statistics (enrollment, personnel, funding levels).

No matter how in-depth these assessment programs are, they do not go nearly far enough to illuminate whether innovative, dynamic teaching practices are being employed and to what degree of success.

This information is crucial if education systems are to truly leapfrog towards all children developing broad competencies and skills.

Proposal

Given the enormous disruption to traditional teaching and learning practices that is necessary to prepare students for the future, it is urgent that G20 countries collaborate quickly to develop a breakthrough set of measures to track teaching and learning transformation. These measures must be holistic — spanning the learning interactions between student and teacher, the education system that enables the conditions for learning, and the macrosystem of economy and society that drives education — as well as forward-looking: usable to education decision-makers so they can simultaneously improve their education systems incrementally while planning for the uncertainty of the future.

The process should collaborate and complement existing international assessment programs and should build on the array of existing work that has been done to measure what success looks like today, for student performance, for classroom environments, and for education systems. For example, a number of leading global organizations such as the Brookings Institution, the Center on International Education Benchmarking (CIEB), Yidan, and the OECD have proposed different frameworks for benchmarking the process of transformation of education systems towards the goal of helping children develop a broad set of capabilities and skills. All of these approaches are aligned in terms of the broad vision for success and general policy approach to

transforming teaching and learning to reach that success.

All G20 countries will need some way of measuring transformational pedagogies, and it would be inefficient for countries to tackle this task on their own. Instead, significant cross-border sharing and collaboration will be necessary to develop a unified set of measures appicable across countries. It is the authors' belief that the G20 is the perfect vehicle for this collaboration. Such a pressing and far-reaching task will require the best minds from government, education, NGOs, and the broader society. The G20 is the perfect convener to gather the relevant groups as well as emphasize the need for the new measures.

We, therefore, recommend the G20 establish a Task Force made up of leading thinkers from the G20 and leading experts from around the globe to develop these shared measures. The shared measures would complement existing education data - both performance data such as standardized exams and education system statistics including student participation and enrollment - and provide insight into the educational processes that we know from the OECD's research are strongly linked with the pedagogical changes that develop breadth of skills.[vi]

The Task Force would address four questions, which would guide the proposed phases of work:

1. What existing data is currently regularly collected and can be used for this initiative?

2. What are the gaps in data and how can that data be gathered?

3. What are the most salient measures for countries to track if their shift towards pedagogical transformation is moving in the right direction?

4. What approach should be used to collect, report out and share

this data?

Throughout the process, the Task Force would survey key stakeholders to provide input into the work. Collaboration with existing assessment programs will be a top priority in order to build off the data collection efforts already underway. Broader input will be needed to inform the development of the research and ensure buy-in for the recommendations. To this end, extensive consultations with governments, the private sector, civil society, and other education actors will be undertaken. The specific phases of the Task Force are detailed below:

Phase I: Identify Existing Data

The Task Force would be charged with surveying existing frameworks, tools and research. For example, the OECD collects data on teacher collaboration as part of the TALIS survey that could be a starting point for the proposed breakthrough measures.[vii] The Task Force would provide guidance for G20 countries about the multiple and complementary purposes of existing data and develop guidance and protocols about which sets of data are useful for what purposes.

Phase II: Identify Gaps in Data

After completing the above exercise, the Task Force would identify the gaps in data and what would be required to obtain the data. For example, an existing gap we are aware of is the lack of assessments designed to systematicaly measures pedagogical change from lecture-based to interactive, engaged and student-driven. The Task Force's work is likely to uncover additional gaps.

Phase III: Identify New Measures

The Task Force would work to determine the specific measures that

would give countries actionable data on how they are performing on their path to pedagogical transformation. From existing research, we expect that these measures could include things like:

- the extent to which teachers are collaborating;
- the existence of structures for continuous school and systemwide improvement;
- widespread and thoughtful use of technology as part of pedagogy;
- to what extent teaching and learning are aligned to 21st century skills;
- whether teaching and learning are taking place in a wide range of contexts including outside the school building and day;
- Are systems using a diverse array of metrics to assess student performance that captures their abilities across academic knowledge, skills development, and other 21st century competencies;
- partnerships between schooling and sectors outside education; and
- a policy environment conducive to adapting rapidly to meet the demands of the future.

An essential part of identifying new measures will be to identify the possible methods for collecting data on them. The Task Force will consider a wide range of options including approaches that use more continuous data collection methods, are "lighter touch" than those used by current international assessment regimes, and do not result in

internationally comparable leque tables.

Phase IV: Develop Approaches to Collect, Report Out and Share

Based on the above work, the Task Force would identify approaches to collect and share data among G20 countries. A likely outcome would be the identification of a select group of countries where it would be useful to pilot the new measures. The Task Force would provide guidance on implementation, data collection and rollout in participating jurisdictions.

In closing, having a set of unified measures across countries will enable jurisdictions to compare themselves on common holistic measures that span the linkages between education and the economy and the society of the future. Given the slow pace of change across many education systems towards helping all students cultivate full breadth of competencies and skills they need, there is a need to try new approaches that can help leapfrog progress. With the uncertainty facing countries as they try to prepare students for a world that is constantly evolving, the time has never been more urgent.

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2030 AGENDA FOR SUSTAINABLE DEVELOPMENT

Teacher Professional Skills: Key Strategies to Advance in Better Learning Opportunities in Latin America

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Abstract

It is widely recognized that teaching is a key driver to improve students' learning. The SDG 4 recognizes the importance of teachers and the urgency of having organized systems of pre and in-service training. This policy brief offers policy recommendations related to initial training improvement, introducing highly effective teaching practices, rethinking the use of ICTs and adopting a renewed collaborative approach for teacher professional development from a Latin American perspective. This is particularly relevant in the context of the 2030 agenda, which recognizes teacher shortages across the world (UNESCO, 2016) and the need to address the learning crisis (TALIS, 2014).

Challenge

Latin America, as other developing regions, requires a new wave of policies to address the institutional, economic and cultural barriers to improve the teaching profession. Findings provided by the Inter-American Development Bank (2018) in their publication "Profession: Teachers in Latin America: how was teaching prestige lost and how to recover it?", shows that the teaching profession is one of the least socially valued in the region. Amid several problems, teaching salaries in many Latin American countries have not increased as much as in other areas, although access to teacher training programs is almost guaranteed for anyone.

Although policy solutions are here presented as a set of differentiated recommendations, this policy brief stands on the idea that particular policies and practices must be comprehended in a framework that explains the knowledge, practice and professional engagement required across teachers' careers. This means that beyond specific practices,

policies regarding teachers' professional development must find a common ground in terms of knowing students and how they learn; the content and how to teach it; the plan and implementation of effective teaching and learning; the creation and maintenance of supportive and safe learning environments; assessment, feedback provision and report on student learning; engagement with professional learning, colleagues, parents/carers and the community.[1]

In relation to this common framework, one of the main challenges to be tackled, is the creation of systems that, on the one hand, attract high performing students to the teaching profession, recognizing the social value that teachers play in a rapidly changing world and that, on the other, ensure the quality and pertinence of pre- and in-service teacher training, focusing on the most effective teaching practices. This implies establishing high quality standards to assess pre- and in-service teacher training programs, finding the optimum balance between subject matter knowledge, teacher dispositions and their pedagogical and professional skills. Along with that, it is critical to make use of the advantages that ICTs offer to reach large amounts of teachers that need to develop new critical skills; all of these challenges require adjusting the national institutional frameworks to advance the professionalisation of the teaching career[2].

Proposal

Teacher policies require institutional frameworks with a comprehensive

[1] Australian Institute for Teaching and School Leadership. (2018) "Australian Professional Standards for Teachers". Carlton South, Australia: Education Services Australia.

[2] Cumsille, B. Fiszbein, A. (2015) "Building Effective Teacher Policies: Guidelines for action. The Dialogue. https://www.thedialogue.org/wp-content/uploads/2015/10/EDU-Cumsille-Fiszbein-Spanish-v3.pdf

perspective over particular solutions. In this regard, the following recommendations are understood as an interrelated cluster of solutions where training, collaboration, effective practices and the use of ICTs must be jointly addressed by public policies. In terms of Darling-Hammond, Hyler, Garrner and Espinoza (2017), teacher professional development should be envisioned in a wider systemic view related to curriculum, resources, a shared vision, and assessment, among others.

Introducing highly effective teaching practices

The "what works" literature has identified a set of highly effective teaching practices. These practices can be thought of as fundamental capabilities that teachers should master, if they want to be effective in unleashing the potential of their students. These skills should also orient national frameworks to organize not only training programs, but also the national agencies in charge of providing teacher professional development.

Several initiatives across the world have made progress in identifying the most effective teaching practices to transform the teaching and learning experience in order to increase academic performance, educational equity and inclusion[3]. These practices should be promoted with the objective of finding the optimum balance between subject-matter knowledge, teacher dispositions and pedagogical and professional skills. These skills, understood as critical competencies for the teaching practice, have been identified as very cost-effective, which should induce policymakers to make the best use of them. The

[3] EEF https://educationendowmentfoundation.org.uk/evidence-summaries/teaching-learning-toolkit; SUMMA, https://www.summaedu.org/plataforma-de-practicas-educativas-efectivas/, University of Michigan, Teaching Works Initiative. http://www.teachingworks.org/work-of-teaching/high-leverage-practices

skills teachers need to develop to become effective should include at least these four[4]:

Provide effective feedback: this skill implies giving information (oral or written) to the learner regarding her/his outcomes in relation with the learning objectives. In this sense, feedback should be a compulsory teacher task when performing formative assessment. The teacher must help to align the student's efforts and actions to the goal that has been set. Global evidence shows that students that receive proper feedback from their teachers learn over 65% more - in a given academic year - than their peers who do not receive feedback.

Foster metacognition processes: teachers should help students think about their own learning process more explicitly. To achieve this, teachers must provide students with specific strategies for designing, planning and evaluating their own learning. Teachers require hard training and practice to master this competence because it involves working with students' motivation, disposition and level of development. Academic evidence shows that students trained in metacognition techniques learn over 55% more – in a given academic year - than their peers who do not master metacognition skills.

Cultivate dynamics of collaborative learning: most traditional classrooms lack collaborative learning experiences. Teachers should be able to create working groups, so students can have in-depth interactions and learn from each other on collective tasks. Several didactic strategies can be put in place; however, they share the basic feature of having a common collective task to which every students must contribute and perform multiple activities such as designing, organizing, communicating, deciding and evaluating. Comparative evidence

[4] Contextualized information for Latin America about this strategies is available in https://www.summaedu.org/effective-education-practices-platform/. This platform has been developed in partnership with the Education Endowment Foundation.

shows that students that learn collaboratively perform over 40% more – in a given school year - than their peers who learn in a traditional manner.

Nurture processes of socio-emotional learning: this skill entails improving students' interaction with others in order to have positive relationships, manage their emotions and take responsible decisions with respect to peers, teachers, family and community. This competence demands teachers to pay attention to emotions and social relationships, rather than focusing exclusively on the academic or cognitive elements of learning. Evidence shows that students with better socio-emotional skills learn over 30% more - in a given academic year - than their peers who do not properly acquire these skills.

Setting higher standards for pre-service education

Countries, such as Chile, which have made consistent improvements in learning outcomes for children have implemented rigorous national standards for teachers that inform the curriculum of pre-service teacher training programs. These programs intend to ensure that aspiring teachers master not only content knowledge (what), but also the pedagogical knowledge (how). The latter involves helping aspiring teachers develop effective practices, such as the ones listed in the previous section of this brief. In order to do this, pre-service programs offer residency-style internships in partnership with the public school system, where aspiring teachers will eventually pursue their careers.

Beside informing teacher training curricula, national standards for the teaching profession may also inform certification processes for pre-service programs put in place by education ministries. Ideally, programs that do not meet these standards should be shut down by regulating agencies, increasing the likelihood that all graduating students are adequately prepared to enter the profession. An important

lesson we can learn from the Chilean experience is to implement these reforms gradually, in order to minimize political opposition from powerful stakeholders, beginning by making certification voluntary for a short period, then mandatory and finally making it high stakes (by shutting down non-compliant programs).

A common consequence of the low social status of the teaching profession, in many Latin American countries, is that the least qualified students are the ones seeking teacher training programs. Attracting the most qualified is not an easy task. Countries, such as Chile and Peru have raised the admission standards into teacher programs by requiring a national minimum grade on entrance exams. This needs to be done gradually and in tandem with other measures such as scholarships for pre-service programs and higher teacher salaries.

In summary, there are important measures for elevating the status and quality of future teachers, thereby raising the quality of the system as a whole; these are: establishing national standards for the teaching profession; ensuring pre-service programs are practice-based and that they have a strong school residency component; implementing a certification process for teacher training programs; and raising the admission standards for students into these programs.

Leveraging professional development through ICTs

Improving initial teacher training will only increase the quality of education systems in the long term, but current students in public schools cannot wait that long. To improve the quality of teachers who are currently in public school classrooms, it is necessary to increase the effectiveness of professional development strategies. The Teaching and Learning International Survey (TALIS) defines professional development as the activities that aim to develop an individual's skills, knowledge, expertise and other characteristics as a teacher. As previously mentioned, these activities should be oriented to develop

those fundamental teacher competencies that are more likely to improve learning.

"Collective teacher efficacy", whereby teachers believe their collective work can have a positive impact on students and are able to confirm this belief with evidence of student learning, has been strongly linked to student achievement and needs to be incorporated as a goal of professional development (Eells, 2011; Hattie, 2015). Collective teacher efficacy is achieved through strong collaborative cultures, shared decision-making and by focusing on students' assessments, collective lesson-planning and observations, feedback and reflection for continuous improvement (Brinson and Steiner, 2007; Fullan and Quinn, 2016). Understanding teaching as a collective undertaking shifts the focus of professional development from teachers to schools. Goals change from improving individual capacity to fostering a culture of collaboration in which school leaders, teachers and students are all learning from each other and growing continuously.

In Latin America, Unesco's Third Regional Comparative and Explanatory Study (TERCE) shows that only 26.7% of teachers participated in a professional development activity of at least sixty hours and associated with the school subjects taught, during the two years prior to the survey. This accounts for a low participation of teachers in these training activities (TERCE, 2013). Many of these activities might be delivered through ICTs technologies. Some initiatives across the globe are advancing in this area[5]. There is still a debate about how to provide effective Teacher Professional Development at scale, while ensuring key principles such as quality, equity and cost-effectiveness. (Lim, Tinio, Smith, Bhowmik, 2018).

[5] Digital Learning for Development (http://dl4d.org/), TPD@scale coalition (https://tpdatscalecoalition.org/), Alianza para la Digitalización educativa en Latino América (ADELA).

ICTs provide an effective and efficient platform to train a large number of teachers in those new competencies. In order to achieve this, previous research has identified a group of key principles to deliver effective teacher training (TPD@scale Coalition Secretariat, 2019; Avalos, 2011). Among them, digital technologies need to be focused on pedagogy rather than technology itself; this means that multiple modes of delivery (offline/online/blended) are more likely to be effective. In this sense, a critical factor is to develop high quality materials to be adapted locally and provide incentives for teacher participation. To increase the chances of having an impact, collaborative networks should be formed with national government, local authorities, governmental agencies dedicated to teacher training, universities and NGOs. This approach seeks to make training programs scalable and sustainable.

Ensuring policy coherence

One of the greatest challenges to improve learning outcomes in Latin American, as in other developing regions, is guaranteeing continuity of successful policies. Continuity is essential to reach SDG 4. A promising means of ensuring continuity is to adopt Fullan and Quinn's coherence framework for promoting a whole system change (2016). This framework is conformed by four components: i) focusing direction (having a set of clear goals and strategies), ii) cultivating collaborative cultures (capacity building and collaboration vertically and horizontally within and across systems), iii) deepening learning (new pedagogical partnerships with technology as the accelerator), and iv) securing accountability (internally responsible and externally accountable). According to this framework, leadership needs to connect these four components throughout all levels of the system, within classrooms, schools, districts and systems. Effective leaders "use the group to change the group by building deep collaborative work horizontally and vertically across their organizations" (Fullan and Quinn, p. 47).

Professional development efforts by school systems which apply this framework will have a greater chance of improving students' learning in a sustainable way. By ensuring broad and meaningful participation in improvement efforts, collaborative processes are a promising antidote to the discontinuity that often hinders reform efforts.

Moving forward, the greatest challenge for Latin American countries might be to ensure that teachers work as agents of "deep learning"; this is truly transformational education – one that places the learner as someone who can make a positive impact in his own community and the world, as Paulo Freire envisioned (Freire, 1974; Fullan et al, 2018).

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Sustainable Financing for Development

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Abstract

Developing countries face challenges in using cross-border capital flows to fund investments in sustainable development. International financial institutions have a key role to play in minimizing risks to developing economies while ensuring more efficient allocation of public and private capital. However, the global financial architecture is not yet fit for the task. To advance sustainable financing, we recommend that the Japanese G20: (i) agree on measures to catalyze and mobilize private capital in support of the SDGs; (ii) promote measures to improve the allocation of development finance; and (iii) establish, and encourage commitment to, funding approaches for global public goods.

Challenge

It is increasingly difficult for developing countries to use international capital flows to fund investments that would help achieve the SDGs without risks of capital flow reversals, debt crises or other forms of market instability.

International financial institutions have a major role to play in opening up opportunities for greater use of cross-border capital flows for sustainable development, but their governance must be changed to make them fit for this purpose.

The G20 has taken up this agenda in a number of working groups. Most recently, the G20 Finance Ministers and Central Bank Governors formed an Eminent Persons Group (EPG) to recommend reforms to the global financial architecture. This group has presented its recommendations which will now be taken forward by the international financial architecture Working Group.

The terms of reference of the EPG report, however, were focused. The overall challenge at this stage is to combine the recommendations with other elements into a systematic program for advancing sustainable financing.

The Japanese G20 can advance the agenda in three ways.

First, it can agree on measures to increase the level of cross-border capital flows going towards sustainable development, and, specifically, on how to crowd-in greater volumes of private finance through judicious use of public concessional and non-concessional finance.

Second, it can promote measures to improve the composition and allocation of financing to maximize development impact, by building a G20 consensus on creditworthiness analysis, debt transparency and registry, country platforms to coordinate, pool and scale up financing, and greater use of risk mitigation and risk sharing instruments.

Third, it can agree on approaches towards burden sharing and the funding of global public goods to the benefit of all countries, including through innovative financing mechanisms.

Proposal

Despite all the talk about moving from "billions to trillions," that first surfaced in the Addis Ababa Action Agenda (United Nations, 2015), the empirical reality is that developing countries, net, do not use cross-border capital flows to their full extent. Taken as a group, emerging market and developing economies will have a zero current account deficit in 2019, implying that any capital inflows they receive are matched by an equivalent amount of capital outflows.

This pattern more or less holds across all regions, although there are slight differences. Developing countries in Asia, where infrastructure needs and investment rates are largest, have large enough domestic savings to match their investment rates. Developing countries in Latin America do run small deficits, on average (1.8% of GDP), but have relatively high debt ratios and debt service burdens. Developing countries in sub-Saharan Africa are running current account deficits of about 3.4% of GDP, but much of this is financed through concessional funds.

Paradoxically, globalization has inverted traditional economic views of the desired direction of international capital flows. Rather than encouraging capital to flow to places where it is scarce, globally-mobile capital flows to places where it is most secure. This pattern is creating distortions in the efficiency and equity of investment around the world, especially of government investment.

Recent academic work (Lowe et al. 2018) presents new insights in the relationship between public and private capital which helps to better understand efficient allocation of public capital in particular. Public capital appears to have a higher rate of return than private capital and, indeed, the return on private capital is higher in countries where the level of the public capital stock is higher. They are complements not substitutes. However, the variance of returns is also much higher for public investment compared with private investment. About half of all developing countries seem to significantly underinvest in public capital while half overinvest and invest inefficiently, perhaps because of corruption (Knack and Keefer, 2007).

It is time for the G20 to take stock of upcoming opportunities to promote a more efficient allocation of public and private capital. Here, we recommend G20 actions in three areas: measures to catalyze and mobilize private capital; measures to improve the allocation of development finance; and measures to improve international

collective action in financing goods with global spillovers.

Measures to catalyze and mobilize private capital

The G20 Eminent Persons Group report, welcomed by Leaders in the Buenos Aires communique, has already identified one key challenge for the international financial system as the creation of a large-scale asset class [principally for infrastructure] and the mobilization of significantly greater private sector participation through system-wide insurance and diversification of risk. A number of concrete measures are detailed in the report, starting with a renewed focus on market and creditworthiness fundamentals of good governance and improved human capital, and continuing with ideas about how to reorganize the instruments and work arrangements of the international financial institutions to enable them to work as a unified ecosystem (G20 Eminent Persons Group on Global Financial Governance, 2018).

Implementation details have been delegated to the International Financial Architecture Working Group. In addition, the Buenos Aires meeting catalyzed a number of voluntary commitments to give momentum to the growing groundswell to catalyze private sustainable financing through reporting and information sharing on sustainable investment outcomes, that would in turn permit the creation of more sustainable investment vehicles in capital markets and in private equity and venture capital circles.

G20 countries have the ability to shape a new global social impact investing ecosystem. In a first ever Investor Forum at the G20 Summit in Buenos Aires in November 2018, public and private business leaders agreed to scale up sustainable investments, especially in infrastructure. The call to action identified 7 areas for follow-up that G20 governments can promote through regulations and their own activities, including harmonization of operating principles, ESG disclosures, and long-term sustainability policies, as well as evidence-

based risk profiles. Three specific action areas for infrastructure focus on use of public financial instruments to shift risk, preparation of bankable projects, and creation of country platforms.

The experience of the initial implementation of the ODA private sector window, as laid out in the IDA 18 mid-term review, provides some salutary lessons about the difficulties that are likely to be encountered. There are several windows that have been created to facilitate greater private sector financing in low income countries. While off to a solid start, it seems that the blended finance facility and local currency facility have the most rapid uptakes, while risk mitigation is more complex and requires greater project preparation lead time. Small and medium enterprise financing and agribusiness have been dynamic sectors. The early experience also suggests that private financing in low income countries and fragile states is feasible (International Development Association, 2018). Healthy mobilization ratios (total cost of investment per unit of IDA resources) of 8:1 have been realized.

The G20 should be encouraged to deepen the agenda and monitor its implementation. One important quantitative metric is the degree to which long-term institutional capital from G20 countries is flowing into SDG related investments. For example, the EU has an action plan to reorient capital flows to sustainable investment, to manage financial risks from environmental and social causes, and to foster transparency and long-termism in financial and economic activity.

The Japan G20 Leaders' meeting can serve to:

- Reinforce Leaders' support to the timely implementation and follow-up to the Eminent Persons Group report;

- Identify and share good experiences with expanding sustainable finance, especially by large institutional investors and national and international development banks in G20 member countries;

- Encourage other international financial institutions to study the IDA experience to determine if they too can facilitate greater volumes of private financial flows to developing countries, including to low income countries and fragile states;

- Pursue actions to shape and invigorate social impact investing and sustainable financing investment vehicles to build momentum around private financing for social good;

- Review and monitor the growth in sustainable private financing from each of their countries.

Measures to improve the allocation of development finance

There is a major unresolved dilemma in the allocation of development finance. On the one hand, the estimates of financing needs are very large (hence, "from billions to trillions"). Some countries face particular issues, in particular low income countries, fragile states and selected Least Developed Countries (LDCs). For example, there are 12 LDCs that will graduate from this group in the next few years with consequent loss of duty-free, quota-free preferential market access and aid for trade under the WTO window. They may need special attention for financing to manage the current account deficits during this transition.

Another allocation issue is to match finance with sectoral needs. As a matter of practice, most infrastructure financing would be debt rather than equity. For infrastructure financing, where the volumes are largest, debt would often exceed 80 percent of total project costs. The problem, of course, is that from a macro point of view, many developing countries cannot afford to take on too much debt too quickly—their absorptive capacity is limited. The default is to continue with the current approach that gives pre-eminence to macro debt considerations over micro assessments of the returns to capital.

One proposal is to try to shift financing towards more equity. This would relieve some of the debt pressures but creates problems with affordability. Because equity is far more expensive than debt financing, infrastructure services would need to be priced higher, thereby reducing accessibility.

A balance is needed between macro, micro and affordability/access concerns that should be based on detailed country considerations. Rules-of-thumb are not good proxies in these debates. The costs of erring on the side of too much caution can be very high in terms of foregone opportunities for accelerating SDG related investments. Against that, the costs of erring on the side of too much debt can also be high if this precipitates a crisis.

G20 members are the principal providers of international development finance, but they do not hold similar views on how to strike the best balance. Efforts to forge a consensus on the various economic and political issues are unlikely to prevail; but there can be progress on the overall ecosystem. The G20 can:

- Assist in generating a more comprehensive international debt registry. If each G20 country requested (and then published in aggregate form) information from its own financial firms on the extent of cross-border flows of debt going to governments and public agencies in developing countries, it would be a common basis on which all creditors could make judgments as to country creditworthiness.

- Reinforce the emphasis on improving governance and the rule of law. Although imperfectly measured, existing metrics of governance are the most significant determinant of creditworthiness of developing countries. All G20 members

have an interest in helping countries if they choose to improve institutions that support the rule of law.

- Support developing countries in the creation of sector-specific platforms to generate coherent and high-quality project proposals, linked to national development plans, with capacity for troubleshooting on implementation, harmonization of procedures and pooling of finance and risk mitigation instruments. Such platforms could be used by MDBs and UN agencies to pool their funds in pursuing common goals.

- Encourage international institutions to do more with the private sector, and encourage the private sector to be more responsive to public concerns such as ESG reporting. For example, the Multilateral Investment Guarantee Agency (MIGA) has only paid out 10 claims since its inception in 1988, because it has been proactive in resolving disputes. MIGA has a plan for growth, but, with a level around $5 billion per year in guarantees, it is too small to have a transformative impact on international development finance. MIGA's country and project size limits could be expanded with support from its G20 shareholders.

Measures to fund global functions

Although there is much talk about the funding of global public goods, this term is too narrow when taken literally as an economic concept, and often too broad when used expansively for any global action. Across a range of sectors, however, there is a strong case for international collective action to fund non-rival and non-excludable functions, like research and knowledge sharing, functions with significant potential spill-overs such as control of pandemics and mitigation of global warming, and global norm setting, visioning, convening and advocacy on policies, such as FAO's principles for responsible investment in food and agriculture (Yamey et al. 2018).

Importantly, the latter includes funding of participants from the Global South in norm setting to ensure inclusive agency.

Aid replenishments

A number of important international agencies are starting negotiations to replenish their funds in 2019 and 2020. Typically, these negotiations are handled on a case-by-case basis; each agency, often using an external facilitator, makes its case independently of others to each of the donors on the basis of a program of work that details the results the agency hopes to achieve.

In 2019/2020, however, the sheer number of agencies and the volume of replenishments suggests that an approach based on a set of core principles would be useful. The replenishments involved are: the Global Fund (6th), African Development Fund-15, IDA-19, GAVI (3rd), Asian Development Fund-13, Green Climate Fund, the Global Partnership for Education (4th) and the International Fund for Agricultural Development-12. In addition, there are calls for additional funding of the Global Agriculture and Food Security Program and for launching the International Financial Facility for Education.

The funds fall into two categories: multisector funds, focused on the poorest countries (IDA and regional bank funds); and vertical funds focused on health, education, climate and food security.

In the last cycle, these funds required about $65 billion, sufficient to support new spending of about twice that amount (the higher number for new spending is because some funds are now able to borrow in capital markets to on-lend to countries, and significant repayments are falling due on past credits).

Many of these funds face the same sets of issues: ensuring additionality in the face of budget pressures, especially at a time when market access is feasible for many countries (and indeed for many funds); ensuring appropriate focus on low-income and lower middle-income countries; and expanding the base of contributors to enhance the multilateral characteristic of the funds.

G20 members constitute the largest economies in the world, and hence will be the dominant contributors to these and other potential funds. It would be useful if they approached the negotiations in a systematic way. They could learn from the experience of the UN in its new Funding Compact which strives to rectify the imbalance between stagnant core contributions and rising non-core, voluntary contributions that have to be continuously renegotiated. One approach is to make more use of innovative finance mechanisms that can be more stable and predictable than budget-funded ODA. Interesting new ideas include the international finance facility for education (IFFEd).

Negotiations for replenishments of existing funds would be significantly helped if G20 members committed to:

- Maintain commitment levels in national currencies in aggregate to these 9 agencies at least at the level of the last replenishment, thereby allowing donors to reallocate among agencies while keeping constant their overall commitment to the global agenda;

- Support a minimum allocation of concessional funds to low income and lower middle-income countries of 75% (in grant equivalent terms);

- Develop a formula for burden sharing on these and other multilateral agencies with emerging and developing economy

members of the G20, taking into account income levels and size of their economy, to be phased in over time;

- Encourage balance sheet optimization by agencies, including authorization for market borrowing within agreed upon prudential limits.

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2030 AGENDA FOR SUSTAINABLE DEVELOPMENT

Scaling Up Business Impact on the SDGs

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Abstract

Achieving the Sustainable Development Goals (SDGs) requires redefining the purpose of business and scaling up their impact. However, there are challenges such as the gap between good intentions and real actions; conflict between the current economic system and SDG thinking; limited understanding of how business is embedded in society; and capacity constraints in developing countries to take full advantage of emerging business opportunities. We propose that the leaders of the G20 take necessary action in four areas: a) encourage corporates to embed SDGs into their core business strategies and operations; b) reshape the economic system around the common good; c) create a "sustainable ecosystem" for shaping a beneficial environment for all stakeholders; and d) upgrade the enterprises and policy/regulatory capabilities of developing countries to maximize the potential benefits of their participation in Global Value Chains.

Challenge

Three years have passed since the adoption of the Sustainable Development Goals (SDGs) by all 193 United Nations (UN) member states in September 2015. However, according to the latest SDG Index research, not a single country is on track to achieve all SDGs by 2030.[1] We must renew our commitment and reinvigorate efforts to implement effective and feasible measures to accelerate progress on the SDGs.

The SDGs mark a departure from the Millennium Development Goals (MDGs) in two important ways. First, the SDGs are universal and applicable to *both* developed and developing countries. Second,

[1] See *Berteslmann Stiftung and Sustainable Development Solutions Network* (2018), viii.

business is increasingly regarded as a key player in driving sustainable inclusive development for several reasons. First, business contributes financially to SDG achievement (by filling the annual investment gap estimated at USD 2.5 trillion (UNCTAD 2014)). Second, business is good at applying innovations to societal needs and diffusing them and thus contributes to improving our quality of life in novel ways. Third, business activities can have significant impacts on society and the environment, for better or worse. Lastly, the SDGs provide a big opportunity for business. It is estimated that fully embracing the goals could generate 12 trillion USD a year in sustainable and inclusive business opportunities (the equivalent of 10% of global GDP by 2030) (BSDC 2017).

The role of the G20 countries is crucial because they produce 86% of global GDP (IMF 2017), 87% of outward Foreign Direct Investment (FDI) flows (UNCTAD 2018), and support two-thirds of the world's population. However, there are four main challenges that restrain their corporates from making full-fledged contributions to SDG acceleration:

- **The gap between good intentions and the real actions by business.** While SDG awareness is rising in the business community and enlightened corporate leaders are emerging, the majority remain unaware of the SDGs and of the societal challenges they aim to address. Even many of the enlightened are yet to convert their SDG awareness into concrete actions or make them part of their core strategy. It is important to encourage and support those companies with good intentions and new business cases to embed the SDGs into their core business strategies, operations, and performance indicators;

- **Conflict between the current economic system that values short-term profit maximization and shareholder returns and the SDG focus on long-term societal purpose.** Even accounting

for a handful of enlightened corporate leaders, the fact remains that all organizations will struggle to deliver on the SDGs because they operate in a system that prioritizes short-term financial performance rather than social progress. Systemic change is urgently needed. Consistent reporting across much broader indicators is needed to understand progress against the SDGs;

- **Limited understanding among corporates, citizens, and other stakeholders of how their interactions impact sustainable development.** Because business is embedded in society, the connection between it and various stakeholders should be addressed as a two-way relationship. Business can affect and influence stakeholders to do more to advance the SDGs. At the same time, stakeholders can influence the way businesses operate and contribute to sustainable development; and

- **Capacity constraints in the developing countries affect their ability to take advantage of opportunities emerging from Global Value Chain (GVC) participation and to avoid the risk of inappropriate supply chain management by FDI companies.** While GVCs offer new prospects for growth, competitiveness and job creation at all levels of development (APEC 2014), the expansion of GVCs by multinational corporations into developing countries can bring negative social and environmental consequences to the host countries, unless they are managed in a responsible and sustainable manner (UNIDO 2015; Kaplinsky 2016). Furthermore, developing countries need to upgrade their industrial capacity so that they can attract quality FDI in the light of changing economic, social, and environmental standards.

Proposal

The 2030 Agenda demands a new way of doing business aligned with social progress and sustainable development. Contributions should go beyond Corporate Social Responsibility (CSR) practice, or mere financing. In this light, we present four proposals to the leaders of G20 countries, calling for action to facilitate the scaling up of business impact on the SDGs.

Proposal 1: Embedding the SDGs into core business strategy and operations

1.1 Converting SDG awareness into concrete business actions

A survey on inclusive growth shows that while 92% of business executives support the SDGs, only 17% have plans or policies to achieve them (Deloitte 2018).[2] Another recent survey indicates that although 72% of global companies mention the SDGs in their annual corporate or sustainability reports, only 50% had undertaken the crucial process of prioritizing which SDGs were most relevant to their business (PwC 2018).[3] Thus, there is a need to convert SDG awareness into concrete business action. Companies must embed the SDGs into their core business strategy and operations. This requires each company to establish a coordinated and well-sequenced SDG strategy, by reassessing its business and the value it brings to employees, shareholders, and society, and also by taking account of the local

[2] This is based on the 2018 Deloitte Global Inclusive Growth Survey which surveyed 350 company executives.

[3] This is based on the 2018 PwC SDG Reporting Challenge that surveyed 729 global companies.

country context which the company operates (Figure 1).[4]

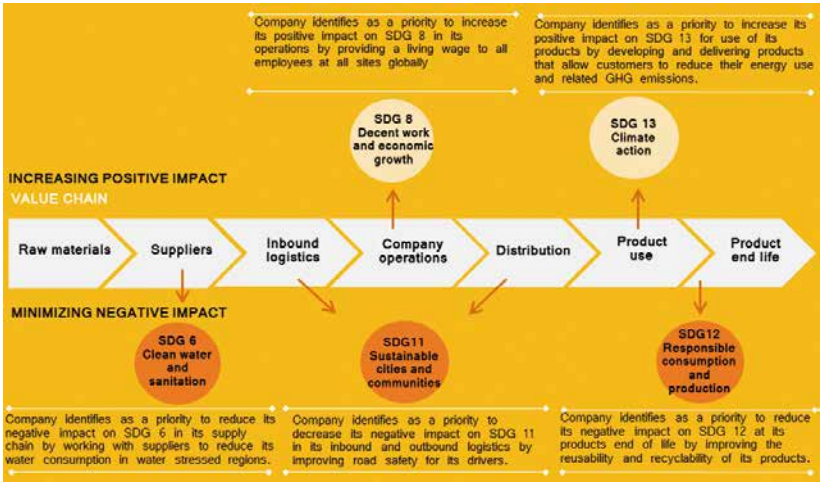
More specifically, companies must prioritize the SDGs based on their relevance given their countries and sectors of operation. Companies must strike a balance between business growth and societal and environmental impact, by considering all three dimensions of sustainable development (social, ecological, and economic). In doing so, they have to understand interconnectivity of the goals and targets and evaluate which ones they can best use to realize inclusiveness, ensuring that "no one is left behind." They must identify business risks in relation both to core products and activities, and more broadly across the supply chain on a country by country basis. They have to target potential opportunities (where business activities could help significantly more) in relation to core products and activities and the wider supply chain.

It should also be noted that the vast majority of businesses remain unaware of the SDGs and their role in delivering social progress; this is the case in Japan[5] but probably also elsewhere. Hence, it is important to raise corporate awareness of their responsibility and potential for contributing to the achievement of the SDGs.

[4] In this regard, the Mars Corporation's initiative is notable. This company is experimenting with a new business model based on the concept of the "Economics of Mutuality," which incorporates long-term sustainability and responsibility to people, planet, and performance (see Appendix (1)). In the latest corporate strategy, Mars is committed to sustainable sourcing, a healthy planet, thriving people, and nourishing wellbeing through the value chain process (MARS 2015).

[5] According to a survey commissioned by a regional bureau of METI (METI Kanto 2018), 84.2% of SMEs are not familiar with the SDGs, and only 2% of the 500 respondents answered that they are planning to take or have already taken specific actions in relation to the SDGs.

Figure 1: Mapping the SDGs against the Value Chain



Source: GRI, UN Global Compact, and WBCSD (2015), 12.
https://sdgcompass.org/wp-content/uploads/2015/12/019104_SDG_Compass_Guide_2015.pdf

In this regard, it is worth noting the recent initiative by Keidanren (the Japan Business Federation) to revise its Charter of Corporate Behavior with the aim of leading the realization of a sustainable society, and also to formulate related Implementation Guidelines.[6] More than 1,000 large member companies are expected to use the Charter and guidelines. This initiative could serve as reference for G20 governments to motivate and encourage their respective business organizations and companies to follow suit.

[6] See Appendix (2) for more detail.

1.2 Linking corporate reporting to the SDGs, by using the common framework and standards

As stated in Goal 12 [7], corporate reporting is important for concerned stakeholders, such as investors and consumers, to monitor corporate performance. Although many companies have pledged commitment to the SDGs, their Key Performance Indicators (KPIs) do not necessarily reflect SDG thinking. The existing survey shows that only 7% of companies link KPIs to societal impact (PwC 2018). Corporations need to improve the quality of their reports by linking KPIs to the SDGs more directly.

A range of international frameworks, indices, and standards to prepare sustainability reports (e.g., Global Reporting Initiative (GRI), Social Progress Index (SPI), UN Global Compact, International Organization for Standardization (ISO)) are available to corporations. Moreover, each G20 country has its domestic reporting guidelines. In Japan, the Ministry of Environment introduced Environmental Reporting Guidelines, and the Government Pension Investment Fund (GPIF) calls on companies to further disclose their CO2 emissions. However, due to multiplicity and inconsistency of these standards and guidelines, not a few companies seem to face difficulties in following them. This is particularly so for small and medium enterprises (SMEs) (METI Kanto 2018) and those of developing countries, which have capacity constraints and limited access to information (Sommer 2017).

Evidence shows that consumers are increasingly trustful of—and loyal to—products or brands that contribute to society (Deloitte 2017).

[7] The Goal 12 (Responsible Consumption and Production) states: "Encourage companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle. It also specifies the corresponding target (12.6) of "number of companies publishing sustainability reports."

Therefore, the use of common standards for corporate reporting should be encouraged so that consumers can make accurate comparisons and informed choices.

1.3 Promoting joint business action for the common good, utilizing major international events as showcases

International events and symbolic momentum provide good opportunities to promote business alliances toward the common good as well as to increase corporate awareness of the SDGs. Such occasions can be used to solicit new and innovative ideas and engage enlightened corporates to jointly act for sustainable business. For the G20 Japanese Presidency, the 2020 Tokyo Olympics and Paralympics, as well as the 2025 Osaka EXPO, could serve as excellent opportunities to demonstrate business leadership in this regard.

For example, sustainable food supply chain management can be promoted by urging a business to observe Good Agricultural Practice (GAP)[8] at major events such as the 2020 Tokyo Olympics. Similarly, the provision of inclusive and fair services to handicapped persons can likewise be promoted at the Paralympics.

Proposal 2: Reshaping the economic system around the common purpose of sustainable development

2.1 Developing a sustainable capital market[9]

Investment and disinvestment that incorporates environmental, social

[8] GAP is a collection of principles promoted by the UN's Food and Agricultural Organization (FAO) in relation to on-farm production and post-production processes, in order to realize safe and healthy food and non-food agricultural products, while taking into account economic, social and environmental sustainability.

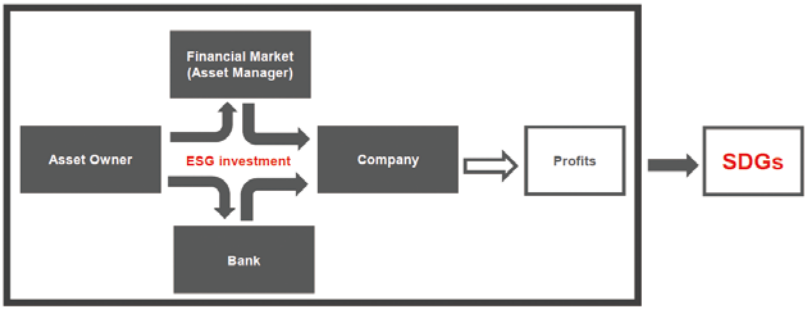
[9] A separate Policy Brief will be prepared on sustainable finance for development. See also Zadek and Kharas (2018) for a Policy Brief submitted to T20 Argentina.

and governance (ESG) factors into decision-making can significantly change corporate behavior toward the SDGs (Figure 2). Recent years have seen the adoption and implementation of major international initiatives to promote ESG investments. These include the UN Principles for Responsible Investment (PRI) and the Task Force on Climate-related Financial Disclosures (TCFD). Encouragingly, ESG investment has increased in G20 countries, as well as divestment of environmentally and socially harmful projects. However, the degree of interest and acceptance of ESG investment varies across countries and regions, with Asia (including Japan) scoring lower than the global average.[10] Much needs to be done to develop a sustainable capital market.

Therefore, it is vitally important to devise measures to further promote ESG investment and mainstream it in the capital market. We urge the governments of G20 countries to adopt policy measures which properly incentivize investors to pay due attention to the agenda of sustainable development, and to increase ESG investment. Such measures could include preferential tax treatment, training and fostering asset managers specialized in ESG investment.

[10] According to the Global Sustainable Investment Alliance (GSIA), in 2016, the proportion of Sustainable Responsive Investment relative to total managed assets was highest in Europe (52.6%), followed by Australia & New Zealand (50.6%), Canada (37.8%), and the United States (21.1%). Asia was the lowest at 0.8% with Japan scoring at 3.4%. The global average was 26.3%.

Figure 2: ESG Investment and Sustainable Capital Market



Source: Financial Services Agency of Japan (modified by the author).

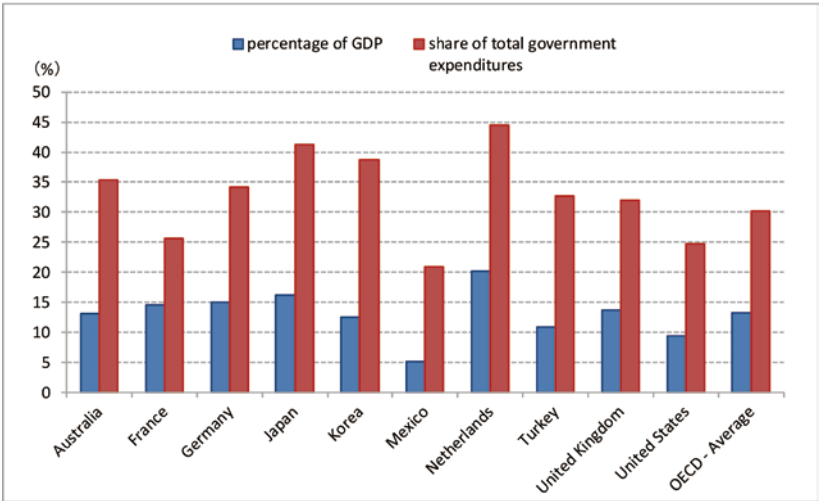
2.2 Promoting sustainable procurement in the public sector

Procurement occupies 20-30% of total government expenditures in developed countries (OECD 2018, see Figure 3). Hence, sustainable procurement by the public sector can facilitate sustainable development. Wellbeing indices like the Social Progress Index are being used by local authorities in the UK to compel firms bidding for government contracts to compete not just on price or services offered, but also on the social and environmental impact they will create for the community. Governments at every level can build similar requirements into their procurement procedures to encourage sustainable business practices by ensuring firms awarded public contracts are also generating societal good. We urge that leaders in G20 member countries, in particular, take the lead in promoting sustainable procurement.

As global leaders that serve as models for the rest of the world, governments of developed countries can facilitate the adoption of sustainable procurement in developing countries. International cooperation can support capacity development for sustainable public

procurement in developing countries.[11]

Figure 3: Government Procurement Spending as a percentage of GDP and Total Government Expenditures



Source: OECD (2017) Government at a Glance 2017 edition.

Proposal 3: Creating a "sustainable ecosystem" for shaping beneficial environment for all stakeholders

3.1 Promoting the understanding and the notion of a "sustainable ecosystem" among all stakeholders

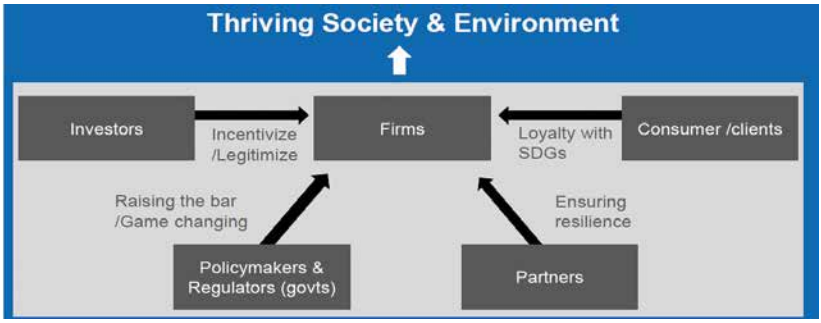
For business to thrive, it needs a thriving economy, society and environment. This is the essence of a "sustainable ecosystem," where

[11] United Nations Environment Programme (UNEP) has been supporting sustainable public procurement in developing countries, in collaboration with the Swiss government. http://www.unep.fr/scp/marrakech/pdf/SP2pager_eu.pdf

all actors in the system are incentivized to behave in a concerted manner to make social progress (Figure 4). In order to mobilize the potential of corporates toward the achievement of the SDGs while minimizing their negative impacts, it is necessary to create a sustainable ecosystem. Governments, citizens, corporates, and other stakeholders have key roles in this.

One way to create and maintain such a sustainable ecosystem is by ensuring that activities undertaken by businesses do not hinder the potential of other actors such as governments, civil society, or other businesses to achieve the SDGs. It is important that the leaders of G20 member countries acknowledge the importance of creating a sustainable ecosystem, promote this notion to the broad segments of the society, and encourage the corporate sector to make their interests compatible with wider societal and environmental interests, particularly those of consumers.

Figure 4: Sustainable Ecosystem



Source: Elaborated by the author.

3.2 Raising consumers' awareness of sustainable development

Corporates are key actors supporting the delivery of the 2030 Agenda.

Likewise, the SDGs represent an opportunity for them to rethink their approaches to sustainability. But corporates are yet to respond to this challenge adequately. Nevertheless, growing demand for production that considers social and environmental factors has been creating market incentives for corporations to respond to. General awareness of the importance of sustainability throughout the supply chain has the potential to increase the number of responsible consumers.

More fundamentally, for a sustainable ecosystem to work, there is a need to create a virtuous cycle where consumers' perspectives and needs are effectively transmitted to businesses, inducing corporate behavioral changes toward greater sustainability. In this regard, the experiences of consumers' co-operatives (these originated in the UK and are now spread widely) are notable because they connect consumers' needs with businesses. For example, the Japanese Consumers' Cooperative (JCCU) collaborates with members and manufacturers, and manages the process of development, production, supply chain and distribution of ethical products with the CO-OP brand.[12]

3.3 Building accountability frameworks

Corporates are also market competitors and can compete with each other on achieving sustainability. In this regard, the existence and use of common standards in each industry allows consumers to make accurate comparisons and informed choices between similar goods and services. Similarly, independent, third-party analyses can improve

[12] JCCU has about 320 consumer co-ops and consumer co-op unions, with total of 28 million members. Each consumer co-op is an autonomous association of consumers uniting voluntarily to meet their common needs and aspirations. They cover retail, insurance, healthcare, and welfare businesses. JCCU collaborates with members and manufactures, and manages the process of development, production, supply chain and distribution of 4,500 ethical products with the CO-OP brand. They received the 2nd Japan SDGs award in December 2018 from the Japanese government.

accountability when used to assess the social and environmental impact of firms. By making the social impact of different types of economic activity more visible, indices like the SPI or the SDGs Index empower regulators, consumers, and civil society organizations to hold corporates accountable and encourage sustainable business practices.

Proposal 4: Upgrading the enterprise and policy/regulatory capabilities of developing countries to maximize the potential benefits of their participation in GVCs

4.1 Promoting "Quality FDI" to developing countries, which gives due attention to the sustainable management of entire value chains (including people and companies in the host countries)

From the perspective of developing countries, the expansion of GVCs led by multinational corporations provides both opportunities and challenges to their economies and societies. According to the Business and Sustainable Development Commission, 380 million new jobs will be created by SDG-related business opportunities by 2030, with almost 90% in developing countries (BSDC 2017). Nevertheless, unless multinational corporations give due attention to sustainable and responsible management of their supply chains, there is a risk that host countries face negative consequences in terms of fair labor, environmental damages, safety, etc. There is also the risk that developing countries' domestic firms will be excluded from participating in GVCs (Dolan and Humphrey 2000; UNIDO 2015; Kaplinsky 2016).

Therefore, G20 countries should urge their respective corporate sectors to be engaged in "Quality FDI," which embraces the Triple Bottom Line of sustainability (satisfying economic, social, and

environmental standards) throughout their entire value chains.[13] G20 governments are also requested to embrace the SDGs and to translate that relationship into policy measures that enable greater corporate action. Also, lead firms can facilitate the inclusion of low-income country producers in GVCs by providing skill upgrading and technology transfers, as well as monitoring their effective implementation of regulations and standards. There is a well-known story that the local human resources trained by a Korean lead firm in the late 1970s made critical contributions to developing today's garment industry in Bangladesh. [14]

In this regard, it is also worth noting an emerging public-private partnership for building an eco-industrial park in Ethiopia (Hawassa Industrial Park (HIP)). Here, PVH Corp.—one of the largest global apparel companies based in the US, and a lead firm in HIP—has been playing a key role in advising the Ethiopian government on the importance of social and environmental sustainability at the time of HIP establishment (World Bank Group 2017).[15]

4.2 Supporting the capacity development of host country governments to upgrade their GVC industrial policy and improve their business environments

[13] "Quality FDI" may be characterized as contributing to the creation of decent and value-adding jobs, enhancing the skill base of host economies, facilitating transfer of technology, knowledge, and knowhow, boosting competitiveness of domestic firms and enabling their access to markets, as well as operating in a socially and environmentally responsible manner (Gorg et al. 2017).

[14] A Korean lead firm, Daewoo, trained the staff of Desh Garments Ltd (local partner) in Bangladesh, sending 130 workers and management trainees to its Pusan plant in 1979. After six-months training, Desh started to operate six lines with 600 workers, giving a 5 million pieces per year capacity in its modern factory in line with Daewoo's specifications. While 115 of Desh's 130 initial workers left to establish or join newly set-up local garment firms, they contributed to the expansion of the ready-made garment sector in Bangladesh (Rhee 1990; Yunus and Yamagata 2012).

[15] See Appendix (3) for further information.

Attracting Quality FDI requires vigorous efforts by both the public and private sectors of host countries to enhance their policy, human and enterprise capabilities. To become reliable partners of lead GVC firms, local companies must improve the quality, productivity, and competitiveness of their products and services so that they can meet international standards[16] and continue upgrading their position in GVCs. Moreover, the host country government needs to embrace strategic industrial and FDI policies to attract Quality FDI. Typical measures include: identifying and directly interacting with critical global companies, maximizing collaboration with them to create strong linkages with local firms, upgrading local enterprise capabilities to meet standards requirements and implementing outreach programs for small-scale producers (JICA and GRIPS Development Forum 2016; Fessehaie and Morris 2018).

The governments of G20 countries and international agencies should provide various support programs for value chain inclusion of local companies, with the above capacity development measures. In this respect, the East Asian experience is a useful reference because one-by-one, countries in different development stages have participated in the dynamic production network created by private multinational corporations. With strong trade, FDI, and aid linkages and technology transfer, a regional division of labor with a clear order and industrial structure has emerged. This is how East Asia has become the global factory for manufactured goods (often called the 'Flying Geese' pattern of development) and achieved inclusive growth (Shimomura & Wang 2013; Ohno & Ohno 2019). More recently, new opportunities are emerging for a developing country to participate in GVCs by becoming part of a particular chain where the country has comparative advantage—regardless of the existence of the Flying Geese pattern.

[16] These normally include satisfying both QCD (quality, costs, delivery time) and sustainability standards.

The Mexican automobile industry is a promising case of the growth and integration of local car parts makers into automobile value chains. Here, international cooperation has played a facilitating role in upgrading capabilities of local enterprises and linkages with FDI.[17]

***

The SDGs need business, and business needs the SDGs, too. We believe that political leadership has a critical role to play in driving our world toward a thriving economy, society, and environment.

We urge the leaders of G20 countries to call for the following actions to scale up business impact on SDG achievement:

- Urging business to embed the SDGs into core business strategy and operations;

- Taking supportive measures to reshape the current economic system around common goals and to create a beneficial ecosystem for all stakeholders; and

- Supporting the industrial and social upgrading of developing countries so that they can benefit from inclusive and sustainable GVC participation.

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[17] During 2012-2017, Mexico's annual car production increased from 3 to 4 million, while Japanese car manufacturers' production in Mexico expanded by 66%, from 800,000 to 1,330,000. This increase was accompanied by a rapid expansion in car parts production in Mexico, with international cooperation playing a key role in facilitating this process. In the case of Japanese auto firms in Mexico, the Japan External Trade Organization (JETRO) collaborated with Mexico's trade promotion agency, ProMéxico and provided direct capacity building for local SMEs. In 2012, JICA initiated a program with the help of Japanese firms, to increase the productivity of potential Mexican suppliers, through training in Japan's Kaizen management practices. In addition, the two governments established a "Committee on the Improvement of the Business Environment" in the context of the EPA, which meets regularly to discuss issues arising in the operations of Japanese firms in Mexico (IDB 2016; Hosono 2018).

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Appendix

Appendix (1)

Mars: The Economics of Mutuality as Innovative Management Concept

The Mars Corporation, with $35 billion annual revenues and known for such products as M&Ms and Snickers, has been experimenting a new business model based on the concept of "Economics of Mutuality (EoM)" since 2010. This concept was developed by Catalyst (the internal think-tank for the Mars Corporation), and the Said Business School at Oxford University and adopts the idea that when sharing (Mutuality) drives business performance, greater value can be created than through profit maximization. EoM is a major corporate measurement initiative that incorporates long-term sustainability and responsibility to people, planet, and performance in a company's business model, affecting accounting and valuation. Thus, it differs from CSR (Corporate Social Responsibility - mostly charity) and CSV (Creating Shared Value) which is *ad hoc* in nature and is a customized consulting solution to determine the best alignment of profits and social impact.

Source: MARS 2017

Source: MARS Corporation 2017, Mars Catalyst, and Said Business School, University of Oxford 2015.

Appendix (2)

Keidanren - The Charter of Corporate Behavior and the Implementation Guidelines

In November 2017, Keidanren revised its Charter of Corporate Behavior with the primary aim of proactively delivering on the SDGs ("The Charter of Corporate Behavior: For the Realization of a Sustainable Society"). The Charter is a code of conduct composed of 10 principles that member corporations pledge to observe in taking the lead in the realization of a sustainable society:

1. Sustainable economic growth and the resolution of social issues;
2. Fair business practices;
3. Fair disclosure of information and constructive dialogued with stakeholders;
4. Respect for human rights;
5. Relationships of trust with consumers and customers;
6. Reform of working styles and enhancement of workplace environments;
7. Engagement in environmental issues;
8. Involvement in community and contribution to its development;
9. Thorough crisis management; and
10. The importance of the role of top management and the implementation of the Charter.

Keidanren also formulated a set of *Implementation Guidelines* for the use of member corporations, specifying 49 key implementation items under the 10 principles. These documents encourage corporate behavioral change not only within their own companies, but also in their group companies and supply chains, and, by fostering partnerships with various organizations, help them act toward the realization of the SDGs.

Source: Keidanren 2017.

Appendix (3)

A Public-Private Partnership for Building an Eco-Industrial Park in Ethiopia

The Hawassa Industrial Park (HIP), inaugurated in July 2016, is a flagship eco-industrial park developed and supported by the Ethiopian government and specializing in textile and garment production. Faced with rising production costs and wages in Asia, the US-based PVH Corp. decided to invest in Ethiopia and bring its Asian suppliers to HIP. As an apparel giant, PVH Corp. attaches high importance to building responsible and sustainable supply chains, and the company's executives advised leaders of the Ethiopian government on concrete measures to be taken on environment, safety, and sustainability standards to make HIP compatible with international standards, and the government seriously put them into action. These actions included: (i) A Zero-Liquid-Discharge Common Effluent Treatment Plant; (ii) Renewable Energy; (iii) Compliance with Relevant Fire and Building Standards; (iv) Compliance with the Customs-Trade Partnership Against Terrorism (C-TPAT); and (v) the creation of a Tenant's Association.

Source: Elaborated by the author, based on World Bank Group (2017). Photos by the author

2030 AGENDA FOR SUSTAINABLE DEVELOPMENT

Leveraging Science, Technology and Innovation for Implementing the 2030 Agenda

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Abstract

Global technology regimes and international organisations have played a significant role in facilitating Science, Techology and Innovation (STI) cooperation to cater to diverse needs in the areas of development and sustainability. However, the existing technology transfer models are found to be inadequate to meet the needs of developing countries. In this context, this Policy Brief examines the significance of Science and Technology (S&T) and availability of innovation driven solutions, to address sustainability challenges. Additionally, the Brief highlights role that G-20 may play in promoting the Sustainable Development Goals (SDGs) through supporting the best practices adopted for technology cooperation. It also puts emphasis on building technological as well as financial capacities, facilitating intellectual property regimes for fostering STI partnerships.

Challenge

The Third Conference on Financing for Development (FfD3) in Addis Ababa, by prioritizing Science, Technology and Innovation (STI) delivery, indicated the importance and support to addressing STI issues. There are challenges in Technology Cooperation, including capacity to absorb technologies, poor financial capacities of the governments and private firms in developing countries, and managing intellectual property rights (IPR) regimes. Majority of countries are yet to integrate STI policies with the Sustainable Development Goals (SDGs), and countries that have tried to do so have varied experiences (IATT 2018).

There is a need to assess how STI policies can be synergized with the SDGs. Concerns as regards lack of effectiveness of existing models and mechanisms have led to slow delivery of the expected results. The

risks and costs of creating and adopting new mechanisms need to be addressed. Historically, STI cooperation has been confined to quantifiable, economic outcomes.

Although technology transfer is part of many conventions such as Convention on Biological Diversity, in general, these conventions have not been successful or effective in inducing technology transfer. A major factor has been lack of a mechanism that couples finance with technology transfer and incentivizes technology transfer. The Fund under Montreal Protocol has been successful because finance and technology transfer were linked. The United Nations Framework Convention on Climate Change (UNFCCC) and the Paris Agreement are using multiple solutions including creating institutional mechanisms, to address technology transfer. More needs to be done in this.

Proposal

The importance of STI and availability of innovation driven solutions, particularly to address sustainability challenges has been a key theme in many initiatives including the Rio+20 process that led to the 2030 Agenda for Sustainable Development, the Addis Ababa Action Agenda (AAAA), the UNFCCC and the Paris Agreement.

A large part of the technology requirements by developing countries to meet the SDGs are related to their needs in energy, agriculture and health sectors. Bridging knowledge gaps particularly in technical and scientific domains has been a core agenda of many interventions. The work at the United Nations Educational, Scientific and Cultural Organization [UNESCO] Institute for Statistics (UIS) on SDG 9.5 is to be strengthened further. The environmental effectiveness of the Montreal Protocol Fund has been substantial. The Global

Environmental Facility (GEF), a joint initiative of the United Nations Development Program (UNDP), United National Environment Program (UNEP) and the World Bank, has facilitated developing countries to obtain new technologies and project financing at a low cost.

The Paris Agreement has elaborate provisions on technology development, transfer and financing for technology transfer. Climate Technology Centre and Network (CTCN) is envisaged as its implementation arm. According to Coninck and Sagar "Unfortunately, however, the CTCN, which is tasked with providing implementation support to developing countries, has not been supported commensurately with the needs and still suffers from a funding shortfall" (Coninck and Sagar 2017). So coupling funding with technology transfer is essential.

Digitalization and integration into digital economy can play a key role in meeting the SDGs as they enable leapfrogging and enhance access to goods, technologies and services. Emerging opportunities in FinTech including adoption of blockchain for governance and use of cloud computing and other digital technologies can make a positive impact. They can make a significant difference in sectors like agriculture (Tripoli and Schmidhuber 2018). Many developing countries are investing in digital infrastructure and upgrading their capabilities in managing information and communication technologies and digital technologies for enabling better access and inclusion (Chaturvedi et al. 2019). The role of S&T and Innovation policy frameworks in this is obvious, and there should be a synergy between S&T and innovation policy for the SDGs and policies in these emerging applications and technologies.

We make three specific proposals that harness the potential of STI for achieving the 2030 Agenda: 1) to establish a Technology Facilitation Mechanism (TFM), including a technology bank, for the

implementation of the 2030 Agenda; 2) to adopt new models for incentivizing innovations for global public goods and enhancing access to them; and 3) to integrate STI cooperation into strategies for the achievement of the SDGs. These are briefly discussed below.

1. Establish a Technology Facilitation Mechanism (TFM) as althernative mechanisms

Several developing countries held an unambiguous position in support of the establishment of a TFM which they consider as one of the most transformative means to implement sustainable development. India, through its successive submissions, has highlighted the point that immediate and urgent delivery of technology development, deployment, dissemination and transfer to developing countries require suitable responses. Current institutional arrangements are not equipped to meet the genuine needs of developing countries in technology development and transfer.

The international technology oriented mechanisms to address climate change are oriented towards: 1) knowledge sharing and coordination; 2) research, development and demonstration; 3) technology transfer; and 4) technology deployment mandates, standards, and incentives (Coninck and Sagar 2017). The United Nations (UN) has undertaken several initiatives over the years to address the challenge of technology gap between developed and developing countries for environmentally sound technologies. The most prominent initiatives in the area of technology transfer are: 1) the Multilateral Fund under the Montreal Protocol; 2) Green Climate Fund, 3) GEF; and 4) the Climate Technology Centre and Network of the UNFCCC. These are necessary and are not sufficient as more is needed in terms of Research and Development (R&D), funding, technology transfer and adoption and in terms of synergy amomg them.

The 2030 Agenda, prima facie, has only produced a rough skeleton of

the proposed TFM. The structure proposed consists of UN Inter-Agency Task Team (UN IATT), Multi-stakeholder Forum on Science, Technology and Innovation for the SDGs (STI Forum) and Online Platform.

While over the years, the UN, through its various specialised agencies with sector specific niches, has been mapping capacity gaps in the developing countries, there is a new and emerging need to identify systemic deficiencies that can be identified and addressed through TFM. These include capacities for technology assessment, particularly in the domains of development and sustainability in the first place in tune with the SDGs.

Next would be in terms of ecosystems so that individual countries can come up with specific (cost effective) technology solutions in these domains and contribute to the global repository. And finally, to have relevant capacities to absorb and use technologies that are being transferred. Effectively, capacity building would entail overcoming both institutional and resource constraints.

Inspired by the already established Technology Bank for the least developed countries (LDCs), a key outcome of the Istanbul Programme of Action for the Least Developed Countries for the Decade 2011-2020 (IPoA 2011-2020), we propose that a universal technology bank be created as the core institution of the TFM. The activities around the TFM technology bank and dissemination of technologies require careful policy design to mitigate informational asymmetries and address market failures and other systemic challenges. The technology bank will enable LDCs to meet their needs in technologies relevant to achieve the SDGs. It will facilitate technology transfer, help in capacity building and will assist in identifying reliable and suitable technologies. It can house patent pools, clearing houses and other information and technology sharing initiatives.

The design of the technology bank itself would require mechanisms to facilitate technology acquisition overcoming institutional bottlenecks like IPRs and lack of capacity. Finally, the TFM also has to develop a template for financing both ends of the activities. This further suggests timely delivery and could mean customization in response to user needs. The users in many cases, we expect, would be national governments or private parties (mostly mediated through national governments or relevant UN agencies). We propose Technology Needs Assessment as an important activity in this.

The needs of the LDCs and graduating LDCs should be given special attention in the work of the proposed technology bank. The TFM should visualize a complete scheme of activities that brings on board the regional UN agencies which could work together with the IATT, technology bank, other UN bodies on the ground and national governments in facilitating transfer of relevant technologies and enable their adoption.

Novel models and modes for incentivizing innovation such as, open source, open innovation, crowd sourcing and innovation prizes, can be explored and adopted. By now there are many successful examples in this regard and there is an ever growing literature on these models and their adoption in different sectors, ranging from agriculture to drug discovery. India launched Open Source Drug Discovery project for developing drugs for Tuberculosis (TB).

In case of emerging technologies, the Synthetic Biology Strategic Research Initiative at the Cambridge University is promoting open source approach to development of synthetic biology based processes and products and has also developed an open source based Material Transfer Agreement. In addition to these, it is initiating many schemes to promote low cost innovations and competitions to fund research and development in synthetic biology that will meet specific challenges. The emphasis on open source and responsible innovation

makes this a good model to study, adopt, and make relevant for developing countries and LDCs.

There is substantial literature on alternative mechanisms to share innovations through novel licensing mechanisms that emphasis on maximizing social good than enhancing revenue from licensing. These mechanisms, often based on General Public License, can be tailor made for different types of needs and arrangements in sharing IP and innovation (Bogers, Bekkers and Granstrand 2012).

2. Adopt new models of innovation for global public goods

Addressing technology related issues from a public goods perspective will enable finding workable solutions. Non-rivalrous consumption and non-excludability are important features of public goods. Global public goods are the ones for those, international community has collective responsibility to provide as they benefit people, irrespective of country.

Stiglitz had argued that knowledge is a global public good. Scholars have pointed out that knowledge can be a public good while S&T itself can be considered as a public good and they have underscored the challenges in translating this into practice (Stiglitz 1999: 310). According to Archibugi and Fillippetti, transfer of knowledge is not sufficient to make productive use and users have to spend time and energy for assimilation. They point out that normative implication of knowledge as a global public good is it needs greater public investment and global co-operation (Archibugi and Filippetti 2015).

Global public goods can be produced and adopted for finding cures to communicable diseases, enhance productivity in agriculture, protect environmental commons, and enable access to information and knowledge. Successful examples of such co-operation in S&T include the Consultative Group on International Agriculture (CGIAR) (for

green revolution and further) and the European Organization for Nuclear Research (CERN) (for research in basic sciences).

However, there are greater challenges in accessing knowledge (including data and information) and applying it for S&T and for production of public goods. Access to scientific and technical knowledge is hindered by many factors, including intellectual property, lack of capacity and underinvestment in human development. Democratizing internet and liberal open access policies can facilitate better flow and utilization of S&T, and more efforts are needed in this (Garcia 2018).

While there are many initiatives to promote open access, there are limitations with them as they are too inadequate or often limited to addressing issues relevant to developed countries. We urge that there should be a global action plan on Open Access to S&T information and data, to meet the needs of developing countries and LDCs.

3. Integrate STI and the SDGs in development cooperation

STI cooperation has been a successful component in Development Assistance Programs. This has resulted in significant capacity building, bi-lateral collaborative R&D and joint research in themes/topics of mutual interest. Developed countries and emerging donors such as India, China and Brazil have assisted many developing countries and LDCs through development cooperation based on the donors' capabilities and needs of the recipient countries.

S&T cooperation under India, Brazil and South Africa (IBSA) and Brazil, Russia, India, China and South Africa (BRICS) had resulted in collaboration in such areas as health, water and sanitation, Information and Communication Technologies (ICT) for development and in technologies like nanotechnology, advanced materials, biotechnology (for health) and ICTs. However, integrating the SDGs in STI cooperation

has not happened and there is a disconnect between STI cooperation and strategies for the SDGs.

There is a strong case to use STI cooperation to meet the SDGs by developing specific programs and mechanisms. For example, STI cooperation can be linked with specific goals of the SDGs. The current frameworks and agreements in STI cooperation can be analyzed from a SDG perspective, and institutions that facilitate STI cooperation can be asked to integrate meeting of relevant SDG targets as an objective for STI cooperation.

Selected good practices

<Japan : Integrating STI, the SDGs and development cooperation>

Prior to policy developments for amalgamating STI with the SDGs, Japan initiated its revival. The Organization for Economic Co-operation and Development reported that Japan has made steady progress in solving traditional environmental problems, notably air emissions, water pollution, and waste management (OECD 2010). Japan's STI policy is embedded in its SDG model, which reflects on promotion of Society 5.0, regional vitalization and empowering women and future generations (PMO Japan 2017).

The objective is integration of cyber-physical system and development of key technologies to transform socio-economic structure, including business and government services, production, healthcare, energy, food, traffic, infrastructure, disaster, finance (UNCTAD 2018). The 1st SDG award, instituted at the Third SDGs Promotion Headquarters meeting in June 2017, showcased technological interventions to cure infectious diseases, build smart cities, supporting maternal and child health in Japan as well as in developing countries (MOFA 2017).

Japan, the 5th Science and Technology Basic Plan (2016) lays the roadmap for addressing issues related to sustainable growth, by S&T interventions. Japan is committed to make every effort both domestically and internationally to achieve the SDGs. Japan has established the "SDGs Promotion Headquarters" as well as the "SDGs Promotion Roundtable Meeting" under the multi-stakeholder framework in May 2016. The Headquarters formulated the "SDGs Implementation Guiding Principles" and held 4th meeting on December 26, 2017 (UNESCAP 2018).

Japan's collaborative efforts towards the SDGs are manifested through various programmes and projects in developing countries. For instance, Graduate School of Bioagricultural Sciences, Nagoya University and Kenya Agricultural and Livestock Research Organization (KALRO) created rice varieties and cultivation technology for Kenya to address SDG 2 (JST 2018a, b); in South Asia, the Japanese enterprise, Sompo Holdings, Inc. offers agricultural insurance products to reduce climate related risks in agriculture (SOMPO 2018). Similarly, the diagnostics technology developed by Nagasaki University is being used to produce affordable and rapid diagnostic kits including point-of-care (POC) test kits for local communities in African countries, to treat malaria, Flu and other Neglected Tropical Diseases (NTDs) (Nagasaki University 2015).

Other interventions to promote research and education for creating a sustainable society include Gender equality schemes in Science, Technology, Engineering and Mathematics (STEM) education, water desalination systems, clean energy sources, disaster risk reduction (2015-2030), waste management mechanisms and others (JST 2018b). In June 2018, The "Extended SDGs Action Plan 2018", on the lines of "SDGs Action Plan 2018" was released signifying the systematic efforts underlined by Government of Japan towards SDG implementations (MEXT 2018). The aforementioned plans acknowledged the role of STI in mitigating socio-economic issues of

the country. It aims in reshaping national development plans, in the light of STI strategies for SDGs (UNCTAD 2018).

<Some examples of global solutions from the South>

Healthcare – Vaccine Development: India's success relating to domestic production of low cost drugs and pharmaceuticals is unparalleled in the developing world and has earned it the eulogy 'pharmacy of the world'.

Vaccines are among the greatest scientific achievements in modern medicine that have helped in saving humanity from the scourge of microbial infections. However, the available vaccines are far less in number than the target diseases, and the efficacy of those available is being continuously worked upon. India has emerged as a hub of vaccine research both in the public and the private sectors and has been successful in commercializing a host of candidate molecules (hepatitis B, typhoid, anti-rabies, DTP-HB, DTP-HB-Hib, mOPV type 1, leprosy, hepatitis A, etc.).

Renewable Energy – International Solar Alliance: India is working towards increasing renewable energy capacity by more than 5 times from 32 GW in 2014 to 174 GW by 2022. India's focus and efforts at solar energy generation is well acknowledged. Under the solar mission India targets deploying 20,000 MW of grid connected solar power by 2022 and aims at reducing the cost of solar power generation in the country through aggressive R&D and domestic production of critical components.

India now hosts the International Solar Alliance of 121 partner countries along the Tropics of Cancer and Capricorn that received plentiful of sunlight. This platform is meant to address the special needs of these countries and generate larger quantum of investment and resources. India was joined by France in launching this alliance

during COP 21 in 2015.

South-South Collaboration in Health Biotechnology: Cuba, Brazil and India have used South-South collaboration to develop vaccines, affordable diagnostics and drugs for enhancing access in developing countries and in ensuring that these are affordable (Thorsteinsdóttir 2012).

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Appendix

The Addis Ababa Action Agenda (AAAA) documents final decision on part of world leaders to establish a Technology Facilitation

Mechanism – TFM. This was officially adopted at the UN Sustainable Development Summit in September 2015 for the implementation of the 2030 Agenda for sustainable development. India (along with Brazil) has been enthusiastically promoting the cause for TFM under the Post 2015 Development Agenda.

African Union (AU), under vision of AU Agenda 2063, adopted Science, Technology and Innovation Strategy for Africa 2024 (STISA-2024). The strategy was developed with the support of a Working Group that had representatives from, inter alia, African Academy of Science, African Union Commission, New Partnership for Africa's Development (NEPAD) Agency, International Science Council (ICSU), United Nations Economic Commission for Africa (UNECA), and UNESCO. The Strategy identified 6 areas of priorities including, eradication of hunger, and, prevention and control of diseases and ensuring well-being.

Organizations like PIPRA (Public Intellectual Property Resource for Agriculture) are promoting capacity building in IPR management and licensing and are helping innovators and the users to use IPRs so as to balance the need to incentivize innovation and enhance affordable access.

Mechanisms like patent pools, clearing houses, patent commons enable technology sharing and the literature shows that they are effective in many cases. For example, the Medicines Patent Pool (MPP) has demonstrated that it can enhance affordable access in developing countries and by negotiating with innovators and producers in developing countries, it has created mechanisms for technology transfer, licensing and sharing of royalties.

2030 AGENDA FOR SUSTAINABLE DEVELOPMENT

A Gendered Perspective on Changing Demographics: Implications for Labour, Financial and Digital Equity

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Abstract

The demographic transition has been one of the greatest phenomena affecting development worldwide and its effects on gender equity are undeniable. Lower fertility and ageing populations create both challenges and opportunities for gender equity, while women still face obstacles towards labour, financial and digital inclusion. G20 countries are at very different stages of the process, yet most have birth rates below replacement levels and population is ageing. Adopting a comprehensive and intersectional approach to women's economic empowerment that contemplates age- and gender-specific rights, priorities and needs is crucial to both fulfilling women's rights and facing the challenges associated with demographic change.

Challenge

The **demographic transition** has been one of the greatest phenomena affecting development around the world: it **has transformed the structure of societies**. Demographic change **can affect and be affected by gender relations** through different channels.

Demographic transitions are triggered by a decline in mortality while fertility remains high, sparking a process of natural increase that leads to an increasing dependency ratio and population growth. Then, fertility falls; augmenting adult cohorts before ageing takes place. This critical period is called the window of **demographic opportunity or dividend**, with dependency rates at their lowest. As time advances, fertility remains low and population ages, increasing dependency ratios.

For development benefits to materialize during the transition, drops in fertility must converge among different socioeconomic strata; new

cohorts need to be educated to be productive; and employment opportunities must exist, especially for women and youngsters. Fulfilling these requirements can lead countries to profit from the demographic bonus and eventually lengthen it. The implications of the transition on women remain less analysed. While **the process can certainly bring improvements in female status**, the connection is not straightforward.

The **fertility decline can bring health benefits** for women and their families. As parents have fewer children, they have more time and money available to invest in the ones they have. This translates into better health and educational status for each child (Dyson, 2010).

Lower fertility is also associated with **reduced care responsibilities**, which traditionally fall on women. By women's increased reproductive choice and later fertility, reduced and planned childbearing and childrearing relax constraints on women's time and allow them to pursue activities such as employment and education (McNay, 2005). Nonetheless, women do not necessarily reach decent work opportunities and the unequal gender distribution of unpaid work creates a double burden of work. In advanced economies like Japan, Spain, Korea and Italy, difficulties to reconcile work and caring contribute to very low birth rates.

Declining fertility can provoke **adverse gender consequences**. Major transformations in family arrangements imply that marriage rates decrease while divorce rates, out-of-wedlock childbearing and single-parent families increase. Moreover, low fertility can trigger coercive policies and societal pressure to limit women's reproductive rights. In societies with son preferences, families may give up girls for adoption, use gender-selection technologies or carry out sex-selective abortions, leading to a demographic masculinization with undetermined effects (Guilmoto, 2009). State regulations become critical to provide adequate protection for women and children in these cases.

Ageing also impacts gender relations. People live more healthy years and can be economically active for longer. Yet increases in longevity also boost care demand, which affects women's burden of unpaid work. Moreover, ageing, a falling family size and differential life expectancies by gender can be problematic for older women, especially due to gender gaps in labour participation, social security and savings. Typically, older women display higher poverty rates than men.

While G20 countries are at very different stages of the demographic transition, most societies experience below-replacement fertility levels, which bring rapid ageing and population decline in the long run. As the **G20** represents 86% of the global economy and two-thirds of the world population, it **holds a huge role in leveraging the demographic transition to reduce gender gaps**, promote women's economic empowerment and foster inclusive and sustainable development.

Proposal

The demographic transition is an **inevitable phenomenon** that will, sooner or later, affect all societies, going from high birth and death rates to a severe decline in both (Dyson, 2010). This process has been a **key factor underneath the transformation of gender relations and women's empowerment** during the last century (Davis & Van de Oever, 1982; Dyson, 2010), as it impacted on women's working and education opportunities, care responsibilities and health, among others. Given impending demographic change, a life-course approach to gender equity becomes critical to both fulfilling women's rights and facing the challenges associated with this transition.

G20 countries are at very different stages of the transition. Europe, Oceania, North America and some Latin American countries have

already achieved an ageing population, with average birth rates almost as low as death rates. Africa, Middle East, Asia and other Latin American countries are still in the midst of the process, with natural increase happening at a decreasing rate (Dyson, 2010).[1]

At different stages, **the demographic transition creates diverse challenges and opportunities for gender relations** and for women's labour, financial and digital inclusion. This section will present policy recommendations in these fields to promote gender equity and women's rights.

Cross-cutting policies

While there are policies that help to specifically address labour, financial and digital equity from a gendered and demographic perspective, several cross-cutting initiatives can contribute to the three goals.

First, **social norms** create gender roles and stereotypes that shape behaviours since childhood. These constructions are internalised by men and women and affect their decision making and opportunities throughout their lives. **No policy is gender neutral**: social norms are embedded in institutions and technologies, and these biases must be considered to avoid compounding existing inequalities. A gendered analysis of the demographic transition stresses the need to confront these norms. Gender norms limit women's agency and perpetuate the sexual division of labour, which needs to be addressed in coming generations. To fulfil women's rights, **it is crucial to design policies and campaigns that bust discriminatory norms and promote equality of opportunities between men and women**, through displaying more egalitarian gender roles.

[1] See appendix for country-level demographic information

Second, **it is paramount to design social protection systems that guarantee decent standards of living over the life cycle, accounting for gender and age considerations.** Typically, older women receive lower pensions than men, compounded by obstacles to work, discriminatory laws and lack of knowledge of their rights (Samuels et al, 2018). Women also depict higher levels of poverty and unemployment throughout their lives, especially when they have children. Therefore, social protection floors should guarantee access to health, education and income security, by providing universal childhood grants, unemployment insurance and universal pension coverage. Additionally, it is necessary to socialize the cost of care and ensure universal access to quality care over the life-cycle. These policies can potentially alleviate poverty, promote quality livelihoods and foster development.

Comprehensive reproductive health services are associated with lower maternal mortality, lower adolescent pregnancies and fewer unsafe abortions. Improved access to sexual education and to sexual and reproductive healthcare can enable women and girls to make their own informed decisions regarding marriage and childbearing. Reproductive empowerment enables economic empowerment, and recognizing this is key in the context of the demographic transition and for women's health and rights.

Third, **collecting and analysing gender- and age-disaggregated data along the life cycle is crucial to interrogate evolving and intersecting inequalities and to design, deliver and evaluate policies tailored to the specific needs of different groups**, such as youth, women in reproductive age and the elderly. Engendering data and policy systems will assist in diagnosing the current position and setting a coordinated plan for change. By taking this gender-lens approach, barriers can come into sharp focus and appropriate initiatives be identified, implemented and tracked, setting a framework for success. Impact evaluations become also imperative to better understand the

link between gender equity and the demographic transition.

Labour inclusion

The burden of **care and domestic unpaid** work is one of the main deterrents for women's labour participation. As described above, the transition's effect is twofold: declining fertility diminishes the burden of care, yet an ageing population increases care demand. Additionally, the unequal gender distribution of paid and unpaid work may further decrease birth rates.

The recognition, reduction, redistribution and representation of unpaid care work is critical for women's economic empowerment (Gammage et al, 2018) **and to profit from the demographic bonus**, requiring an integrated set of policies. First, initiatives must recognize the social and economic value of care, by promoting **measurement of time use and providing compensation** through social protection. Second, reducing the burden of care is possible by developing quality, affordable and accessible care infrastructure for children, the sick and the elderly, as well as by implementing time-and-labour-saving equipment to reduce workloads. To redistribute unpaid work between women, men and the State, **providing universal high-quality care services and advancing coverage and length of paternity leaves is essential**. Finally, it is necessary to support carers and promote their representation in collectives, the policy environment and the labour market. Raising awareness of and seeking to shift norms around the gendered division of care must underpin this 4R approach. Additionally, there is a need to generate further knowledge about intersecting inequalities (gender, age, ethnicity) and to use these insights to inform policy development, monitoring and evaluation.

While reduced care responsibilities free women's time to participate in the labour market, **decent work and education opportunities** are far from guaranteed. Women have lower access to paid work across

the life course and higher likelihood of being in low-paid or informal work, resulting in low lifetime savings and higher economic insecurity.

Active labour market policies are vital to foster skill acquisition and improve women's employability (Díaz Langou et al, 2018). These initiatives need to mainstream gender and contemplate age-specific needs to address the barriers that women face, such as care work. **Training programmes** can help the youth get their first job and re-skill older women, while preventing the reproduction of horizontal segregation, especially in a changing world of work. Additionally, as gender biases hamper gender labour equity, encouraging **gender-neutral job advertisements and blind recruitment** processes can foster women's employment.

Furthermore, women also perform most paid care and domestic work: these are highly feminized sectors with high informality. States must design strategies to **monitor informality and promote workers' registration**. Creating non-contributory basic pillars for pensions and cash transfers can help reduce the costs of formalization for low-skill jobs.

In a context of increasing life expectancies, women tend to live longer than men on average, and so account for the majority of older persons, shift known as the **'feminization of ageing'** (Greengross, 2015). Hence, women are in the labour market for longer healthy years. Gender-and-age-based discrimination at the workplace can be widespread, due to stereotypes are that older workers are less productive, less physically capable and slow to learn or adapt to change (UNFPA and HelpAge International, 2012). The **un-recognition and undervaluation of older women's contribution** leaves them unsupported by policy - with many falling through the gap in initiatives aimed at supporting women (ignoring age) and older

people (ignoring gender).[2]

These trends will become more acute given ageing populations worldwide, including G20 countries. **Adopting a comprehensive and intersectional approach to women's economic empowerment which fully responds to the rights, priorities and needs of older women** requires specific, tailored policy responses.

Older women's income security needs to be strengthened by ensuring access to comprehensive social protection (including universal pensions), assets, property and financial services, and supporting their labour participation. Creating decent paid work and supporting entry into high-value and high-return economic sectors through skills (re)development, life-long learning and tackling barriers to (re)entry –including discrimination– are critical.

Tackling the asymmetric gender revolution in the changing world of work

During the last decades, gender gaps have bridged in the world of work. Women have massively entered the labour force and traditionally male-dominated fields. Nonetheless, progress has been uneven: globally, men have not increased their participation in unpaid work nor have they entered feminized sectors.

This becomes more relevant in the changing world of work. An ageing population increases demand for care and health services, nowadays mostly provided by women. Additionally, the digitalization and automation of work will imply greater demand for STEM-related skills, which predominantly men

[2] Adapted from Samuels et al (2018)

acquire. Hence, as both care and STEM sectors register increased labour demand, to avoid reinforcing horizontal segregation by gender, it is necessary to foster men's inclusion in care and women's participation in STEM. Addressing social norms on gender roles again becomes paramount.

Financial inclusion

Meaningful financial inclusion is vital to tackle poverty and inequality and to stimulate inclusive and sustainable economic growth and development (Suri and Jack 2016; Allen et al 2016; ADB 2018). For these effects to materialize, **enhancing financial literacy and access to financial services such as credit, loans, savings and payments from banks and formal providers, especially for women, is paramount.**

Limited financial inclusion is a global problem that affects women disproportionately. The gender gap is clear: 72% of men and 65% of women worldwide have access to an account (Trivelli et al, 2018). Men are 65% of bank customers, hold 75% of deposits and manage 80% of total loans (Global Banking Alliance for Women, 2018). In developing countries, 70% of women-owned small- and medium-sized enterprises are underserved by financial institutions (UN Foundation and Bank of NYC Mellon, 2018). This situation worsens for older women, who may have limited knowledge of financial products and lack income security.

Women's financial inclusion can nurture development by enabling their economic autonomy and better resource management within households, which could in turn foster savings, smooth consumption, facilitate business opportunities and provide income security (Trivelli et al, 2018). **A potential two-way relationship between financial and labour inclusion could create a virtuous cycle** that can bolster the global economy. Policies need to consider women's special needs at

different ages[3].

First, **providing digital IDs for all and guaranteeing data privacy** is essential to promote access to the financial system. This is a bigger challenge for developing countries. In India, an initiative fostering account ownership through biometric ID cards helped significantly reduce the gender gap in account ownership (Demirgüç-Kunt et al, 2018).

Second, **interventions must foster women's access to financial services and also reduce usage costs**. No-cost, basic financial instruments that can be easily accessed (e.g. through mobile phones) can serve this purpose. The intersection of financial and digital inclusion is critical: digital solutions can address barriers such as elder women's mobility, restrictions on women's freedom of movement or interactions with men outside their family (World Bank, 2018). Additionally, governments can provide incentives for usage granting discounts when paying with electronic means or by making government cash transfers through the financial system, especially those for women recipients. **Financial education is imperative** in this context, as lack of familiarity and knowledge about the financial system can hamper usage, particularly for the elderly.

Additionally, financial inclusion can boost profit from the youth bulge for countries in the demographic window of opportunity. Using affirmative action to target young entrepreneurs could assist in improving labour market inclusion in addition to financial inclusion. Financial literacy should be part of schools curricula to close the gap in new generations and to allow early financial inclusion.

Finally, due to lower earnings and higher participation in unpaid

[3] Recommendations based on Trivelli et al (2018)

work, women usually face difficulties to build credit records, save and raise collateral. Governments must **abolish all laws that hinder women's property and inheritance rights and promote non-discriminatory legal systems.** Moreover, allowing alternative sources of collateral, such as movable assets, and credit records based on non-financial information can contribute to women's financial inclusion. Fostering income security throughout the life course can also contribute to building collateral and encourage savings.

Digital inclusion

Participation in the digital world is essential to improve livelihoods, foster social integration and develop one's potential and opportunities. Nonetheless, digital gaps persist. Around the world, women fall behind in access to information and communication technologies (ICTs): 250 million fewer women than men use the internet and 200 fewer women have access to a mobile phone (Equals Global Partnership). The elderly also lag behind in technology access, literacy and usage. The intersection of these divides exposes older women to higher vulnerability.

Digital inclusion can potentially provide services such as health-care, education and employment matching for all. Therefore, **the digital gender divide could worsen gender inequalities in several fields** and these are likely to grow due to the increasing omnipresence of technologies in the digital age. Digital gaps can turn into welfare gaps unless governments address the barriers that the digitally excluded face.

Fertility decline can have a positive effect on young women's education. Thus, **digital literacy must be included in schools' curricula to bridge digital gaps since early ages**. In this vein, government must devote resources to develop stronger gender-sensitive initiatives in STEM. Older women should not be left behind,

for they are the most disadvantaged in using ICTs: **initiatives to acquire digital skills must consider age-specific needs**. Digital education must also contemplate the risks for sexual harassment, stereotyping and exploitation that new technologies allow with expanded access.

More jobs are set to become digitally-mediated (e.g. crowdwork, gig economy) and there is an urgent need to **ensure equal access to economic opportunities and quality work in the digital economy**. Evidence shows that the gig economy – consisting of digital platforms that connect workers to service providers – is growing fast globally particularly in feminized sectors. In the European Union, on-demand household services are set to be the fastest growing gig economy sector, with revenues projected to expand at roughly 50% yearly through 2025 (Vaughn and Davario, 2016; Hawksworth and Vaughn, 2014). Gig economy jobs may provide workers with more flexibility and freedom to choose the place and time to work, allowing for better balance between work and family[4].

Nonetheless, while the gig economy exhibits some new features, on the whole it represents the continuation (even deepening) of long-standing structural, gendered inequalities existing in 'traditional' labour markets. Significant gender divides in participation, earnings and retention prevail, as well as sectorial segregation. Additionally, marginalised groups – e.g. those experiencing intersecting inequalities based on gender, race, age or class – are concentrated in the lowest paying forms of gig work. Public policies must guarantee access to social protection and labour rights for gig workers, especially women and the elderly, to ensure decent livelihoods.

Policymakers also consider the gig economy as an option to support

[4] Adapted from Hunt and Samman (2019)

access to jobs, particularly among youth given the high rates of unemployment. This draws attention to the pressing need to ensure that digital jobs are open and accessible to all, as well as providing decent working opportunities. Additionally, it is critical not to lose sight of the elderly. Older women are set to stay longer in labour market as populations age, and may face a double exclusion due to a lack of appropriate skills or access to adequate digital infrastructure, and due to gendered digital divides. (Re)training older people is needed, as is ensuring a gendered and life course approach which takes the specific needs of people of all ages into account in policy focused on the digital economy, which will span economic, labour, technology and social policy domains.

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Appendix

G20 countries: stage in the demographic transition and gender gaps

As mentioned above, G20 countries are at different stages of the demographic transition. This section describes the current process for different groups of countries and displays graphs and data for this, together with illustrations on gender gaps.

Advanced, developed economies with high human development have already transited the transformation of their population structure, migration apart. These societies currently have small young cohorts and a large old population, while many countries have birth

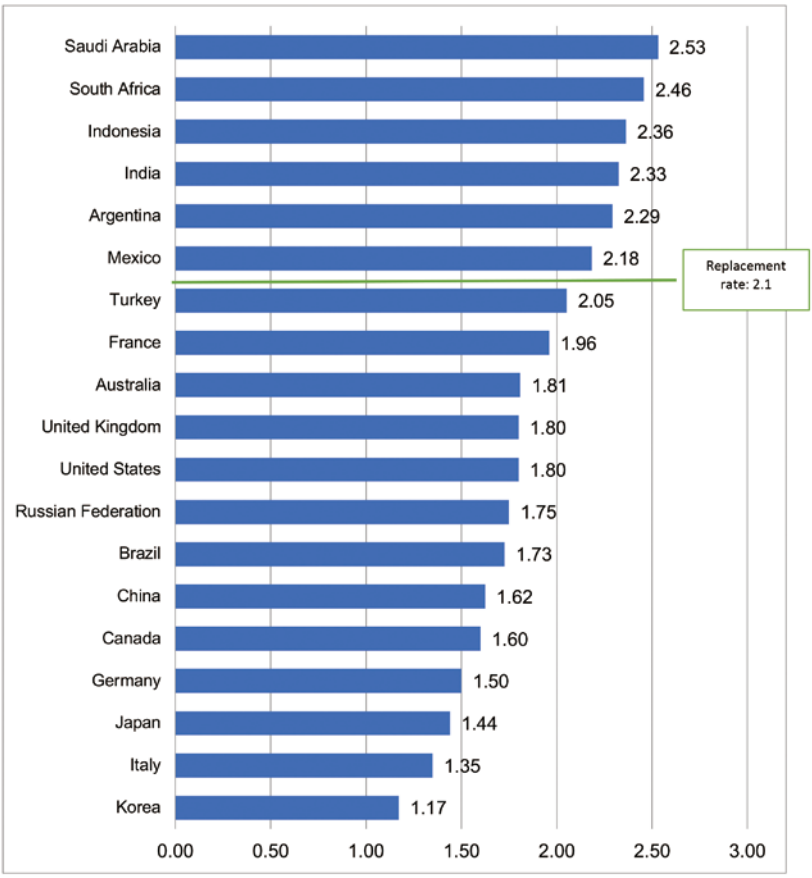
rates below the replacement level and high dependency rates. Reforming care towards the elderly without neglecting childcare results a key policy implication for countries going through this stage, like Japan, Korea and the Mediterranean countries.

Many Western, high-income countries with high human development experience low aggregate fertility but no convergence among different socioeconomic strata. This situation leads to large gender gaps in labour force participation and employment, urging for investment in social protection and care regimes. The cases of Latin America high-income countries are the clearest examples. In Chile, Uruguay and Argentina, women's labor force participation has increased on average, yet for lower income groups it has remained almost stagnant for the last 15 years (Gasparini et all, 2015).

In middle-income countries, with considerably high level of human development, such as Latin America or East Asia, fertility has declined near the replacement rates, yet countries still experience population growth, to a varying degree. The process of urbanization is advanced, yet still going, and social protection and care systems need to be developed.

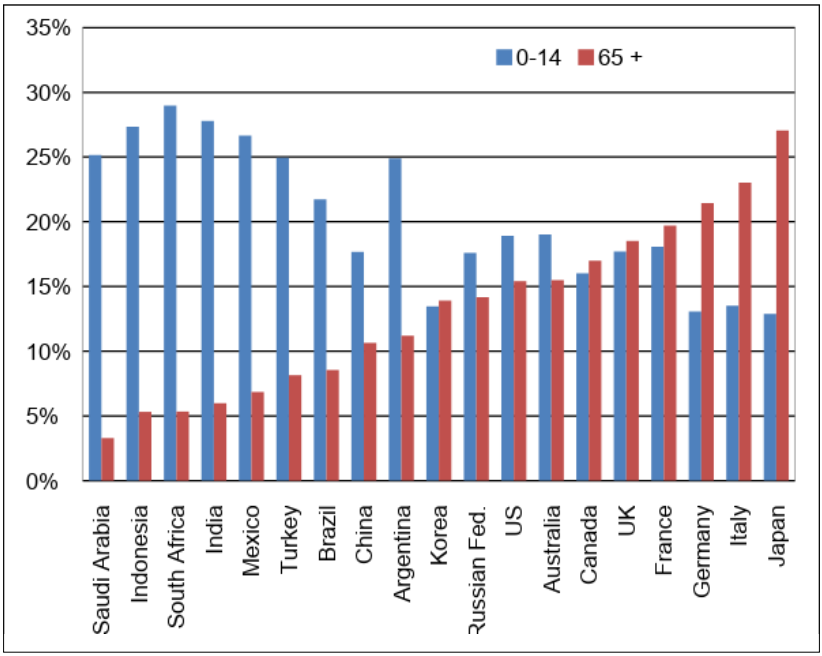
Finally, some societies are still experiencing a process of high fertility, which leads to fast population growth, called population momentum, and a youth boom. These countries are mostly located in Sub-Saharan Africa and, while many have already started the mortality decline, in others mortality has almost stagnated due to the high incidence of infectious diseases and low life expectancy low.

Total fertility rate by country. 2010-2015.



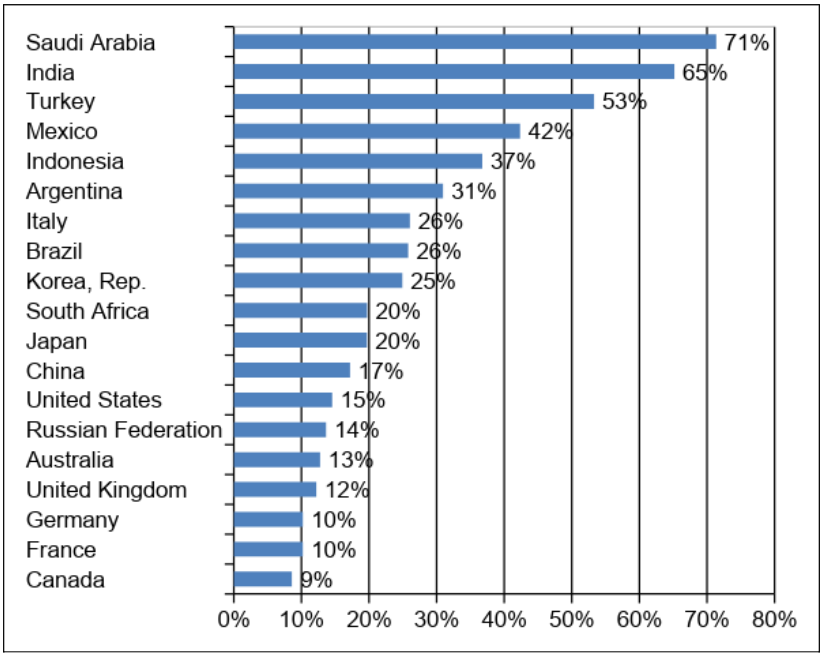
Source: World Development Indicators, 2016

Age structure of societies: young and elderly cohorts as percentage of total population by country. 2016.



Source: World Development Indicators, 2016

Gender gap in labour participation by country. 2016



Source: World Development Indicators, 2016

2030 AGENDA FOR SUSTAINABLE DEVELOPMENT

Women's Economic Empowerment: Strengthening Public and Private Sector Impact through Accountability and Measurement (SDG 5)

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March 31, 2019

Abstract

Women around the world face a wide array of economic realities, and live in varied social, cultural and political contexts. But they are also bound by common experiences which shape the ways that women interact with the economy differently from men. Efforts to advance the measurement of women's economic empowerment must highlight the systemic barriers that women face using standard objective indicators and highlight the economic value of women's unpaid work. Moreover, it is equally important to measure and account for subjective dimensions of 'empowerment' using proxy indicators that can be measured objectively (Buvinic, 2017).

This Policy Brief proposes mechanisms for measuring WEE going beyond the standard measures of legal and pay equity. It makes recommendations outlining the need to work towards common definitions and targets for WEE, as well as key actions which public and private sector actors can begin to implement immediately to have a positive impact on WEE and build robust monitoring and evaluation systems to track objective and subjective aspects of WEE. In addition, this brief outlines specific areas of measurement of WEE for both public and private sectors, recognizing that countries should measure their level of progress against their own starting points rather than comparing against other countries.

"Women's economic empowerment is at the heart of the 2030 Agenda. We will not achieve the Sustainable Development Goals if there is no accelerated action to empower women economically. We know that women's participation in all spheres of life, including in the economy, is essential to sustainable and durable peace and to the realization of human rights." United Nations Secretary-General, António Guterres, March 2017

Challenge

MEASURING WOMEN'S ECONOMIC EMPOWERMENT

Women's economic empowerment (WEE) is women's independent ability to participate in, contribute to and make economic decisions which have the potential for economic advancement (Golla *et al.*, 2011; OECD, 2011). With the growing recognition that gender equality promotes economic stability and growth, under the respective 2018 Presidencies of Canada and Argentina, members of the G7 and G20 committed to an increased focus on gender economic equity. This commitment is largely driven by the growing body of evidence that points to WEE boosting economic growth and productivity, enabling greater equality of overall income distribution, supporting higher corporate profits, increasing economic resilience, supporting bank stability and contributing to other development outcomes such as improved health for women and children (IMF 2018). However, as noted by the IMF (2018) there is much work to be done since, "Despite progress, women and men do not have the same opportunities to participate in economic activity, and when women do participate, they do not receive the same recognition, wages, or benefits as men."

WEE and the SDGs

WEE is a prerequisite for sustainable development that cuts across all 17 Sustainable Development Goals, in particular:

- **Goal 1**: End poverty in all its forms, everywhere
- **Goal 2**: End hunger, achieve food security and improved nutrition, and promote sustainable agriculture
- **Goal 3**: Ensure healthy lives and promote well-being for all ages
- **Goal 4**: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all
- **Goal 5**: Achieve gender equality and empower all women and girls
- **Goal 8**: Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all
- **Goal 10**: Reduce income inequality within and among countries

Source: UN Women

Moreover, based on the World Economic Forum's estimates, at the current rate of progress it will take 217 years to close the overall global gender gap in female labor force participation and equal economic

opportunities.

This brief recognizes that issues of WEE are complex, requiring cultural and contextual sensitivity, and recognition of the fact that women do not constitute a homogenous group and, as a consequence, 'one size' economic policies, initiatives and measures do not 'fit all.' Moreover, although empowerment itself is transversal across economic, political, social and psychological domains (Fox and Romero, 2016) and is often perceived at the level of the individual, it can and should be measured at the household and community levels as well to capture the ripple effects of WEE (Buvinic, 2017; Scott, 2016). Hence the challenge in defining and measuring the empowerment of women as economic actors is to establish a common framework that works at different levels of analyses, given variations in context.

Challenge 1: Accountability and impact on WEE will look different in different contexts

To advance WEE, multiple stakeholders must assume and be held accountable for impact through measurement and corresponding governance mechanisms. Accountability and impact on WEE will look different for the public and private sectors, for economies with large informal sectors versus those that are predominantly formalized, those that rely on agriculture versus those that are driven by the services or industry. Varied cultural, social and political contexts also make setting goals that enable cross-country comparability a challenge. This brief takes the approach of outlining broad policy areas for major stakeholders (public and private sectors) that should be considered to ensure that WEE is achieved and has the desired impact on labour (wage and salaried employment), farming and entrepreneurship, distribution of unpaid work, and digital and financial equity.

Challenge 2: Paucity and quality of data compromise measurability and accountability

Interventions to improve WEE may be directed at one or a number of the following: direct outcomes such as knowledge, skills or acquiring productive assets; intermediate outcomes such as changes in women's decision-making roles in their businesses/ farms; or final outcomes such as business income, employment, asset ownership, gender norms, and women's self-confidence (Buvinic and Furst-Nichols, 2015). Some indicators have more established methodologies than others however.

Much of the focus in measurement of WEE to date has been on economic outcomes rather than the process through which women become economically empowered (Buvinic, 2017). In addition, even for measures that have been widely agreed, data collection to support these measures is low and there are significant gaps on issues such as occupational safety and health (OSH) conditions. As a result, related policy and decision making has been correspondingly weak. Moreover, as the world of work evolves, coverage and measurement issues that already existed may become exacerbated and new gaps in data on women's economic lives may emerge. Specific data challenges include:

- Data on individuals in informal jobs (both as employees and in self-employment), which in some developing countries accounts for the majority of employment, is particularly difficult to capture. As women are more likely than men to be in the most vulnerable informal jobs (ILO 2018b), data on this group is crucial to ensure that countries can move towards formalization in a gender-sensitive way.

- Data on work, pay and working conditions at an individual level, i.e. pay or profit, is also low in developing country contexts.

- The conceptualization of the household has to be de-constructed to better estimate women's contribution to the economy since

current concepts of the household makes women invisible.

- WEE is shaped by both paid and unpaid work, the majority of which is done by women. However, coverage of data on unpaid work is currently low and failure to deal with this issue hampers our understanding of WEE (Scott 2016) at the national and sub-national levels.

- Measurement of access to and ownership of assets, including physical assets like land, as well as notional assets such as financial and digital assets, for men and women separately is also a challenge that must be met.

Challenge 3

Governance Mechanisms and Measurement of Progress:

a. Public Sector

Mechanisms and measurements of progress need to take account of the public sector's role in WEE on three levels: public sector as employer; public sector as shaper and implementer of policy that can enhance or slow WEE; and public sector as compiler of official statistics on WEE and as user of these statistics to define and monitor progress in public policies regarding WEE. As noted by Thomas et al. (2018):

"The collection and dissemination of robust and consistent sex-disaggregated economic and social data to inform and support evidence-based policy making poses a significant challenge. Therefore, the integration and implementation of a gender focus on data collection, disaggregation, analysis and publication all demographic, social and economic statistics are critical for designing, implementing and monitoring gender-informed policies".

b. Private Sector

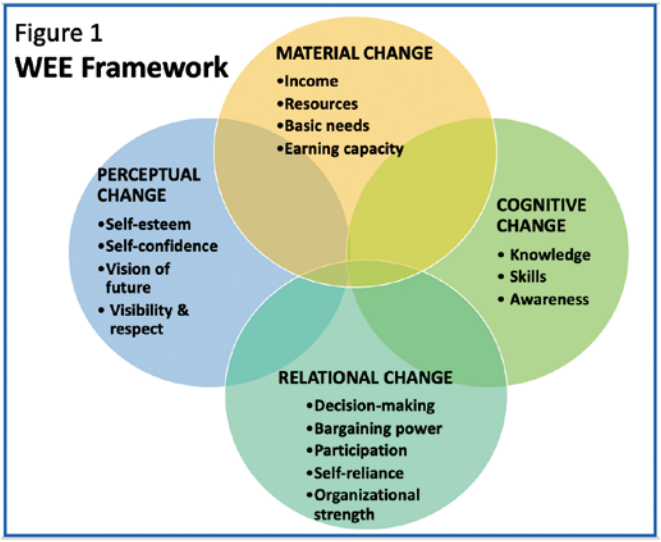
Accountability mechanisms are challenging in the private sector as they must deal with the private sector's role as employers, i.e. directly influencing WEE, but also in terms of the goods and services they produce and how these directly or indirectly impact WEE, and the data they generate that can be useful to measure and monitor WEE. Access to and sharing of meaningful data on WEE is a key challenge for private sector organizations which the proposals below are designed to address.

Proposal

Proposal 1

Agree a definition and framework of women's economic empowerment (WEE) to facilitate the setting of clear goals and targets for labor, farming and entrepreneurship, digital and financial equity

A number of frameworks for and definitions of WEE have been devised, including the framework shown in Figure 1 below. There is general agreement that key areas of focus for the measurement of WEE include (a) women's economic outcomes, e.g. labour market outcomes; and (b) subjective aspects such as increases in women's agency. However, a universally adopted definition/ framework has not been arrived at. The first proposal therefore, is for countries to work together to establish a common definition and measurement framework on WEE process and outcomes that will apply across cultures (Scott 2016). This would enable agreement on goals and targets.



Source: Women's World Banking, 2018.

Proposal 2

Strengthen the public sector's direct (policy-making and budgeting) and indirect (data compilation) role in bringing about WEE

Accountability mechanisms to hold public sector actors accountable as employers, policy makers, and statistics compilers, will necessarily involve civil society actors, self-reporting between government arms, and the electorate prioritizing and following activities on WEE.

With regard to the public sector's policymaking and implementing role, we recommend the following (Thomas, et al, 2018):

- Design and implement policy processes to systematically include a gender focus on the determinants of gender

inequities by requiring, implementing, and resourcing impact assessments to assure inclusivity, transparency, consistency and accountability.

- Implement gender budgeting at national and sub-national levels, placing implementation and accountability at the political center of fiscal decision-making on the ministries of finance.

Box 1.
Commentary on the Importance of Sex Disaggregated Data

"*When we don't count women or girls, they literally become invisible*," says Sarah Hendriks, director of gender equality at the Bill & Melinda Gates Foundation.

"*The dearth of data makes it difficult to set policies and gauge progress, preventing governments and organizations from taking measurable steps to empower women and improve lives*." Mayra Buvinic, Data2X/ U.N. Foundation Senior Fellow

Source: New York Times, 2015

Recognizing that data constitute essential inputs for quality policy design, benchmarking and measuring progress on implementation, and accountability (Thomas, et al, 2018), we recommend that governments take the following steps to improve WEE data availability and quality:

- Provide resources to national statistical systems to close gender data gaps.

- Give priority to the following categories of statistical data collection: labor, digital and financial inclusion; measurement of unpaid work; participation in the agricultural and agri-business sectors; and, access to care support and social protection.

- Develop robust reporting and communication mechanisms to share this information with stakeholders for analysis, policy design, impact assessments, monitoring and evaluation, and advocacy.

Supporting gender-based research initiatives such as the work of the Global Women's Entrepreneurship Policy research group, which examines existing policies on a comparative basis across countries using a gender lens, is also recommended (Henry et al., 2017).

Recommendations under proposal 3 below also pertain to the public sector's role in collecting data from the private sector and as employers in their own right.

Proposal 3

Build robust public-private data sharing mechanisms to enable monitoring and evaluation of key areas of WEE in employment and enterprise and farming.

Employment (wage and salaried). Standardized measures of rank and pay should be mandated for reporting on an annual basis.

- Pay, in particular, should be reported according to a set formula, such as was done by the U.K. government in spring of 2018, in order that differences cannot be hidden and sources of pay inequity are made clear.

- A national survey, similar to the one conducted by the World Economic Forum's 2010 Corporate Gender Gap Report, should be undertaken to monitor availability of supportive programs, such as mentoring or maternity leave, as well as perceptions of barriers and women's career progress within firms.

- Public disclosure of board and senior management composition by gender should be mandated.

- Governments should collect data from small and medium firms, not just from large corporations, as the majority of every

population is employed by firms with fewer than 250 employees.

- These data will only capture individuals employed in the formal sector however. Individuals in the informal sector or working informally in formal sector jobs and the 'gig economy' should be enumerated through improved labour force surveys, in line with new guidance from the ILO (ILO 2018a).

Enterprise and Farming.

- Existing data collection on enterprise should include a gender marker to identify female owned or operated businesses, with a standardized definition so that cross-national comparisons can be made.

- Similarly, female-owned or operated farms should be identified and measured. Equally important is to better measure women's participation in farming, both subsistence production and cash cropping (UNFAO 2017; ILO 2018a).

- Existing laws barring collection of gender data by banks and other financial sector providers should be lifted where they are in operation, and

- Sex-disaggregated financial data on account ownership and usage, credit levels and interest, savings, insurance, pensions etc. should be reported regularly in an anonymized format to financial regulators in-country and to the IMF Financial Access Survey.

- Sex-disaggregated digital data on ownership and use of digital communication technologies and on mobile banking should be encouraged and made available on an anonymized basis to monitor digital and financial inclusion.

Mechanisms of accountability in the private sector require strengthening. Often, unless a regulation gives government bodies the ability to mandate information, voluntary or self-reporting mechanisms are used. However, voluntary and self-reporting schemes are not sufficient. In some cases these schemes are used to ward off mandatory reporting and limit oversight. Public-private sector collaborations should be pursued to increase access to and mine private sector data for public good WEE purposes.

CONCLUSION

Women's economic empowerment (WEE) is a complex issue. It is influenced by myriad social, cultural and political factors, and will always be a context-dependent phenomenon. This Policy Brief has outlined the key challenges associated with the measurement of WEE and has offered a number of proposals for its enhancement. However, the success of these proposals is contingent on the following:

1. Acknowledgment and understanding of both the systemic barriers and contextual differences involved in WEE;

2. Concerted efforts to address the data gaps;

3. Application of a gender lens to all areas of economic empowerment, including policies and support initiatives designed to promote same; and

4. Commitment from all stakeholders to play their part in enhancing WEE globally.

Finally, meeting the measurement challenge to assess not only the outcomes but the process of WEE as a means to WEE outcomes and a valued end in itself, should also be prioritized.

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Appendix

The Sustainable Development Agenda and Gender Equality

The post-2015 development agenda, led by UN Member States with broad participation from a range of stakeholders, has targets agreed under Goal 5 on gender equality and women's empowerment. Goal 5 also has links to Goal 8 on sustained, inclusive economic growth, full and productive employment and decent work for all and Goal 10 on reducing inequalities between and within countries.

SDG 5 aims to achieve gender equality and empower all women and girls by 2030. It has nine associated targets, all with links to economic empowerment.

- End all forms of discrimination against all women and girls everywhere
- Eliminate all forms of violence against all women and girls in the public and private spheres, including trafficking and sexual and other types of exploitation.
- Eliminate all harmful practices, such as child, early and forced marriage and female genital mutilation.
- Recognize and value unpaid care and domestic work through the provision of public services, infrastructure and social protection policies and the promotion of shared responsibility within the household and the family as nationally appropriate.
- Ensure women's full and effective participation and equal opportunities for leadership at all levels of decision making in political, economic and public life.
- Ensure universal access to sexual and reproductive health and reproductive rights.

- Undertake reforms to give women equal rights to economic resources, as well as access to ownership and control over land and other forms of property, financial services, inheritance and natural resources, in accordance with national laws.
- Enhance the use of enabling technology, in particular information and communications technology, to promote the empowerment of women.
- Adopt and strengthen sound policies and enforceable legislation for the promotion of gender equality and the empowerment of all women and girls at all levels.
- Addressing gender disparities is recognized in SDG 8 for decent work and economic growth through "full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value" (Target 8.5) and to "protect labour rights and promote safe and secure working environments for all workers, including migrant workers, in particular women migrants, and those in precarious employment" (Target 8.8). SDG targets 1.3 and 10.4 underline the importance of social protection, with fiscal and wage policies, in addressing inequalities.
- Addressing gender disparities is also recognized in SDG 10 for reduced inequalities, by ensuring "equal opportunity and by reducing inequalities of outcome, including by eliminating discriminatory laws, policies and practices and promoting appropriate legislation, policies and action in this regard" (Target 10.3)—and in the revitalization of the Global Partnership for Sustainable Development in Goal 17.

Source: Box 1.1. Leave No One Behind: A Call to Action for Gender Equality and Women's Economic Empowerment. UN Secretary-General High Level Panel on Women's Economic Empowerment Report, 2016.

SDG Goal 5 Targets and Indicators

Targets	Indicators
5.1 End all forms of discrimination against all women and girls everywhere	5.1.1 Whether or not legal frameworks are in place to promote, enforce and monitor equality and non-discrimination on the basis of sex
5.2 Eliminate all forms of violence against all women and girls in the public and private spheres, including trafficking and sexual and other types of exploitation	5.2.1 Proportion of ever-partnered women and girls aged 15 years and older subjected to physical, sexual or psychological violence by a current or former intimate partner in the previous 12 months, by form of violence and by age 5.2.2 Proportion of women and girls aged 15 years and older subjected to sexual violence by persons other than an intimate partner in the previous 12 months, by age and place of occurrence
5.3 Eliminate all harmful practices, such as child, early and forced marriage and female genital mutilation	5.3.1 Proportion of women aged 20-24 years who were married or in a union before age 15 and before age 18 5.3.2 Proportion of girls and women aged 15-49 years who have undergone female genital mutilation/cutting, by age
5.4 Recognize and value unpaid care and domestic work through the provision of public services, infrastructure and social protection policies and the promotion of shared responsibility within the household and the family as nationally appropriate	5.4.1 Proportion of time spent on unpaid domestic and care work, by sex, age and location
5.5 Ensure women's full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life	5.5.1 Proportion of seats held by women in national parliaments and local governments 5.5.2 Proportion of women in managerial positions

5.6 Ensure universal access to sexual and reproductive health and reproductive rights as agreed in accordance with the Programme of Action of the International Conference on Population and Development and the Beijing Platform for Action and the outcome documents of their review conferences	5.6.1 Proportion of women aged 15-49 years who make their own informed decisions regarding sexual relations, contraceptive use and reproductive health care 5.6.2 Number of countries with laws and regulations that guarantee women aged 15-49 years access to sexual and reproductive health care, information and education
5.a Undertake reforms to give women equal rights to economic resources, as well as access to ownership and control over land and other forms of property, financial services, inheritance and natural resources, in accordance with national laws	5.a.1 (a) Proportion of total agricultural population with ownership or secure rights over agricultural land, by sex; and (b) share of women among owners or rights-bearers of agricultural land, by type of tenure 5.a.2 Proportion of countries where the legal framework (including customary law) guarantees women's equal rights to land ownership and/or control
5.b Enhance the use of enabling technology, in particular information and communications technology, to promote the empowerment of women	5.b.1 Proportion of individuals who own a mobile telephone, by sex
5.c Adopt and strengthen sound policies and enforceable legislation for the promotion of gender equality and the empowerment of all women and girls at all levels	5.c.1 Proportion of countries with systems to track and make public allocations for gender equality and women's empowerment

Source: https://sustainabledevelopment.un.org/sdg5